

samtec

THE CATALOG

50 YEARS OF **SUDDEN SERVICE®**

Powell®

A DIFFERENT BREED OF CAT

INNOVATIVE TECHNOLOGIES • SUDDEN SERVICE®

Founded in 1976, Samtec is much more than just another connector company. We put people first, along with a commitment to **exceptional service**, **quality products** and **innovative technologies** that take the industry further faster. This is enabled by our unique, **fully integrated business model**, which allows for true **collaboration and innovation** without the limits of traditional business models.

We believe that taking care of our customers and our employees is paramount in how we approach our business, and this belief is deeply ingrained throughout Samtec worldwide.

INNOVATIVE TECHNOLOGIES

At Samtec, integration leads to innovation. We are leading the way in high-performance system design and support for complete system optimization from **SILICON-TO-SILICON™.** Samtec is positioned to produce solutions quickly, with higher densities, faster speeds and smaller footprints to meet the demands of next generation systems.

From standard cataloged products to unique high-performance design, Samtec's **SOLUTION BLOCKS** are designed to support any interconnectivity need, regardless of application, performance requirements or environment.

Silicon-to-Silicon™ Solutions



HIGH-SPEED BOARD-TO-BOARD | **HIGH-SPEED CABLE** | **OPTICS** | **RF**

Core Board-to-Board



RUGGED/POWER | **FLEXIBLE STACKING**

SUDDEN SERVICE®

Samtec is the service leader in the industry, offering unmatched technical support, free product samples and access to online resources, and innovative online tools to help streamline the design process.



QUICK REFERENCE

Company, Product & Service Overview. 2-7
Integration Leads to Innovation 8-9
Sudden Service® 10-11
Online Tools. 12-13
Express Modifications & Engineered Customs. 14
Flyover® Technology & Eye Speed® Cable 96-97
Testing (SET, E.L.P.™, DQT) 202-203
Power Services. 204
Rugged Features & Contact Systems 343
Industry Standards 344-345
Evaluation & Development Kits 346-347
High-Speed Channel Performance Metric 348
General Specifications 349
Index by Brand 350
RF Product Index 351
Index by Series 352-353

HIGH-SPEED BOARD-TO-BOARD

High-Speed/High-Density Arrays
NovaRay® Extreme Density/Speed Arrays 16-17
AcceleRate® HP High-Performance Arrays. 18-19
AcceleRate® HD Slim Body Arrays 20-21
AcceleRate® mP Signal/Power Arrays 22-23
SEARAY™ High-Density Arrays. 24-27
SEARAY™ 0.80 mm Pitch Arrays 28-29
LP Array™ Low Profile Arrays 30-31
SUPERNOVA™ Low Profile Compression Interposers. 32
SureWare™ Rugged Hardware 34-36

High-Speed Mezzanine
Q Strip® Ground Plane Strips. 38-41
Q2™ & Q Rate® Ground Plane Strips. 42-44
High-Speed Signal & Power Combinations 45
Edge Rate® Contact Strips 48-54

Ultra Micro Interconnects
Razor Beam™ Hermaphroditic Strips 56-58
Micro Blade & Beam Strips 59-60

High-Speed Edge Card Connectors
0.60, 0.80 & 1.00 mm Pitch Generate® Edge Cards . . . 62-69
Micro & Mini Edge Cards 70-77
PCI Express® Edge Cards 78-80

High-Speed Backplane
NovaRay® Micro Rugged Backplane 82-85
ExaMAX® High-Speed Backplane 86-88
ExaMAX® Backplane Flyover® Cable Systems 89-90
XCede® HD High-Density Backplane 92-94

HIGH-SPEED CABLE

Flyover® Panel Assemblies
Flyover® SFP/QSFP/OSFP Cable Systems 98-103
NovaRay® I/O Extreme Performance System 104-107
ExaMAX® I/O Shielded Cable System. 108-109

Flyover® Mid-Board Cable Assemblies
NovaRay® Extreme Speed/Density System 112-113
AcceleRate® HP Extreme Density System 114-115
AcceleRate® Slim Cable System 116-117
AcceleRate® Mini Small Form Factor System 118-119
Si-Fly® LP Low Profile Cable System 120-121
Si-Fly® HD Co-Packaged & Near Chip Systems 122-124
Generate® Edge Card Systems 125-126

High-Speed Cable Assemblies
Micro Coax & Twinax Cable. 128-129
SEARAY™ High-Density System 130-131
PCI Express® 4.0 & 5.0 Systems 132-133
Additional High-Speed Cable Assemblies 134

OPTICS

Optical Systems
FireFly™ Mid-Board Optical Transceivers. 136-142
Halo® Next Gen Mid-Board Optical Transceivers . . . 144-145

RF

RF Systems
50 Ω Precision RF (18 GHz to 110 GHz) 150-180
Nitrowave™ Microwave Cable Assemblies 151-154
Magnum RF® Ganged Solutions 164-165
Bulls Eye® Test Point Systems 174-177
Rugged Blind Mate Modules to 110 GHz 178-179
Flexible Waveguide Technology (V-band) 180
50 Ω and 75 Ω Solutions (3 GHz to 12 GHz) 181-195

RUGGED/POWER

Ultra Rugged
Ultra Rugged Systems & Features. 198-201
Ultra Rugged Testing (SET, E.L.P.™, DQT) 202-203

High Power
mPOWER® Ultra Micro Power Systems. 206-211
PowerStrip™ Systems. 212-221
Mini Mate® & Power Mate® Systems 222-224

Rugged I/O
URSA® I/O Rugged Cable Systems 226-231
AccliMate™ Sealed I/O Systems 232-234

Tiger Eye™ Board-to-Board
.050" Pitch Tiger Eye™ Systems 236-241
0.80 mm Pitch Tiger Eye™ Systems 242-243
2.00 mm Pitch Tiger Eye™ Systems 244-246

Wire to Board
1.00 mm Pitch Micro Mate™ Systems 248-253
Tiger Eye™ Systems 254-258
Power Mate® & Mini Mate® Systems 259-261
PowerStrip™ Systems. 262-264

FLEXIBLE STACKING

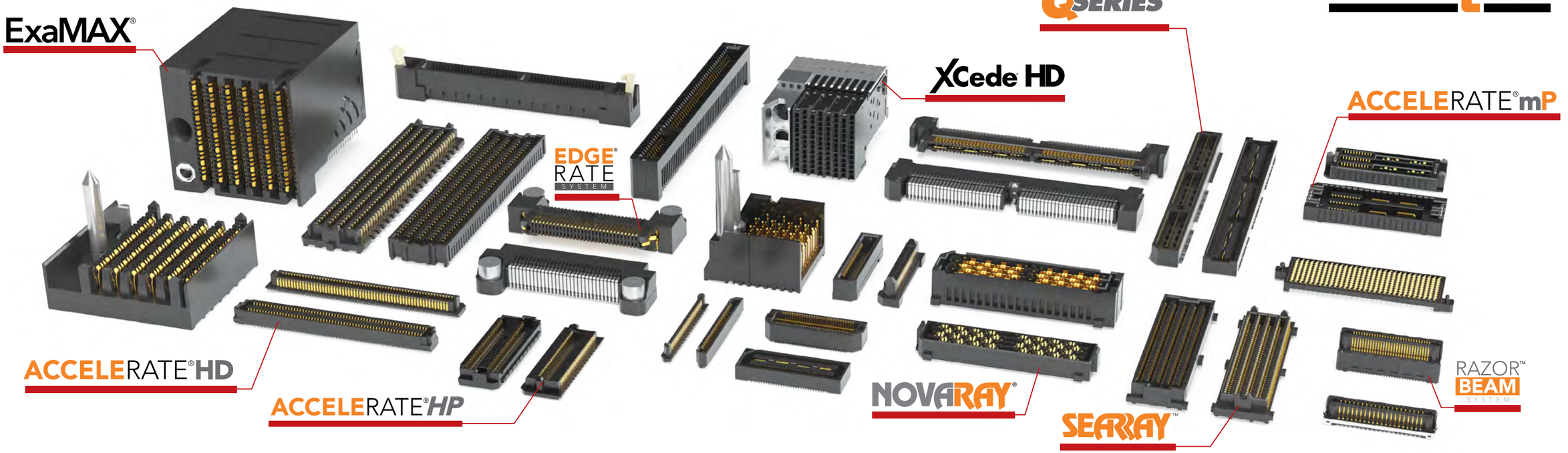
Board Stacking
Flexible Stacking. 266-269
One-Piece Interfaces 270-271
0.50 mm, 0.635 mm, 0.80 mm Pitch Blade & Beam . 272-277
0.80 mm & 1.00 mm Pitch Pin & Socket 278-282
.050" Pitch Strips 283-294
2.00 mm Pitch Headers & Stackers 295-302
2.00 mm Pitch Sockets & PC/104-*Plus*™. 303-308
.025" (0.64 mm) SQ Post Headers, Stackers 309-319
.025" (0.64 mm) SQ Post Sockets & PC/104™ 320-327

IDC/Flat Cable Systems
.100" Pitch IDC Systems. 330-333
Tiger Eye™ IDC Systems 334-341
FFC Jumpers & Interfaces 342

General Policy Statement: Unless otherwise agreed by Samtec in writing, all sales of Samtec products are subject to Samtec's Terms and Conditions of Sale located at **https://www.samtec.com/about/legal#samtecterms.** Federal Supply Code: 55322

HIGH-SPEED BOARD-TO-BOARD

OPEN-PIN-FIELD ARRAYS | GROUND PLANE & EDGE RATE® STRIPS | EDGE CARDS | ULTRA-MICRO | BACKPLANE



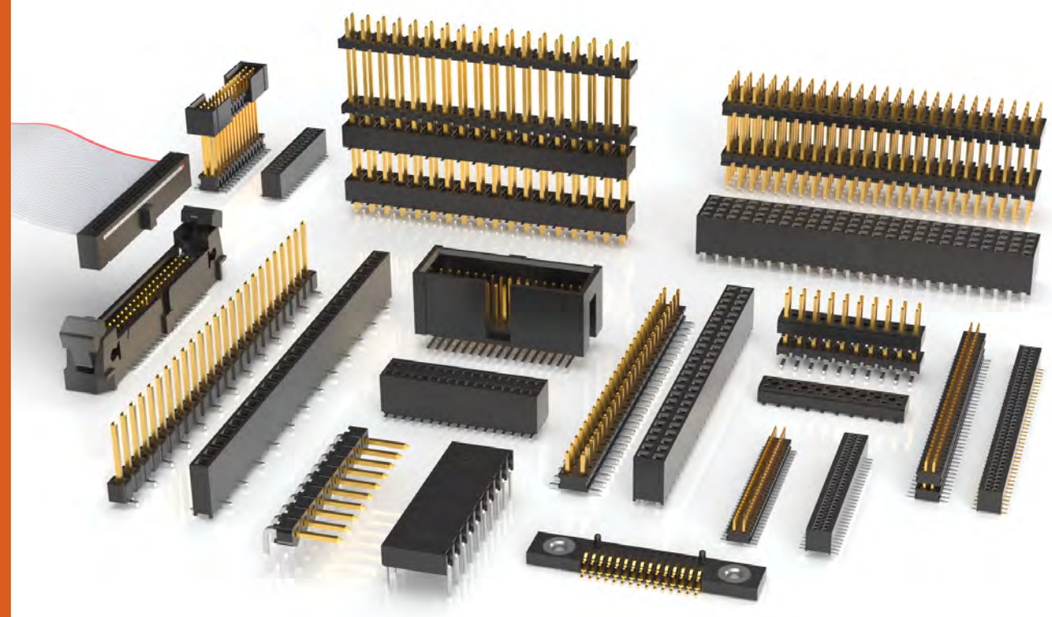
RUGGED/POWER

ULTRA RUGGED | BLADE POWER | RUGGED I/O | BOARD-TO-BOARD | WIRE TO BOARD



FLEXIBLE STACKING

LOW PROFILE | PASS-THROUGH | ONE-PIECE | SKYSCRAPERS | SHROUDED HEADERS | IDC SYSTEMS



HIGH-SPEED CABLES

FLYOVER® & EYE SPEED® TECHNOLOGY | PANEL, MID-BOARD & BACKPLANE | MICRO COAX & TWINAX

samtec

GENERATE

ExaMAX®

SEARAY™

FLYOVER®

ACCELERATE®

SI-FLY® HD

ACCELERATE® mini

ACCELERATE® HP

NOVARAY®

OPTICS

MID-BOARD TRANSCEIVERS | EXTENDED TEMP/RAD HARD | PCI EXPRESS®-OVER-FIBER | NEXT GEN

FIREFLY™

HALO™

FIREHAWK™

RF

CONNECTORS, CABLES & ORIGINAL SOLUTIONS | PRECISION RF | LOW FREQUENCY

NITRO™ WAVE CABLE

MAGNUMRF® GANGED RF ASSEMBLIES

BULLSEYE® TEST POINT SYSTEM

INTEGRATION LEADS TO INNOVATION

Samtec's integrated business model facilitates high-level design and development of advanced interconnect systems and **TECHNOLOGIES**. Along with industry-leading expertise, this allows us to offer effective strategies and support for **optimizing the entire signal channel of high-performance systems.**

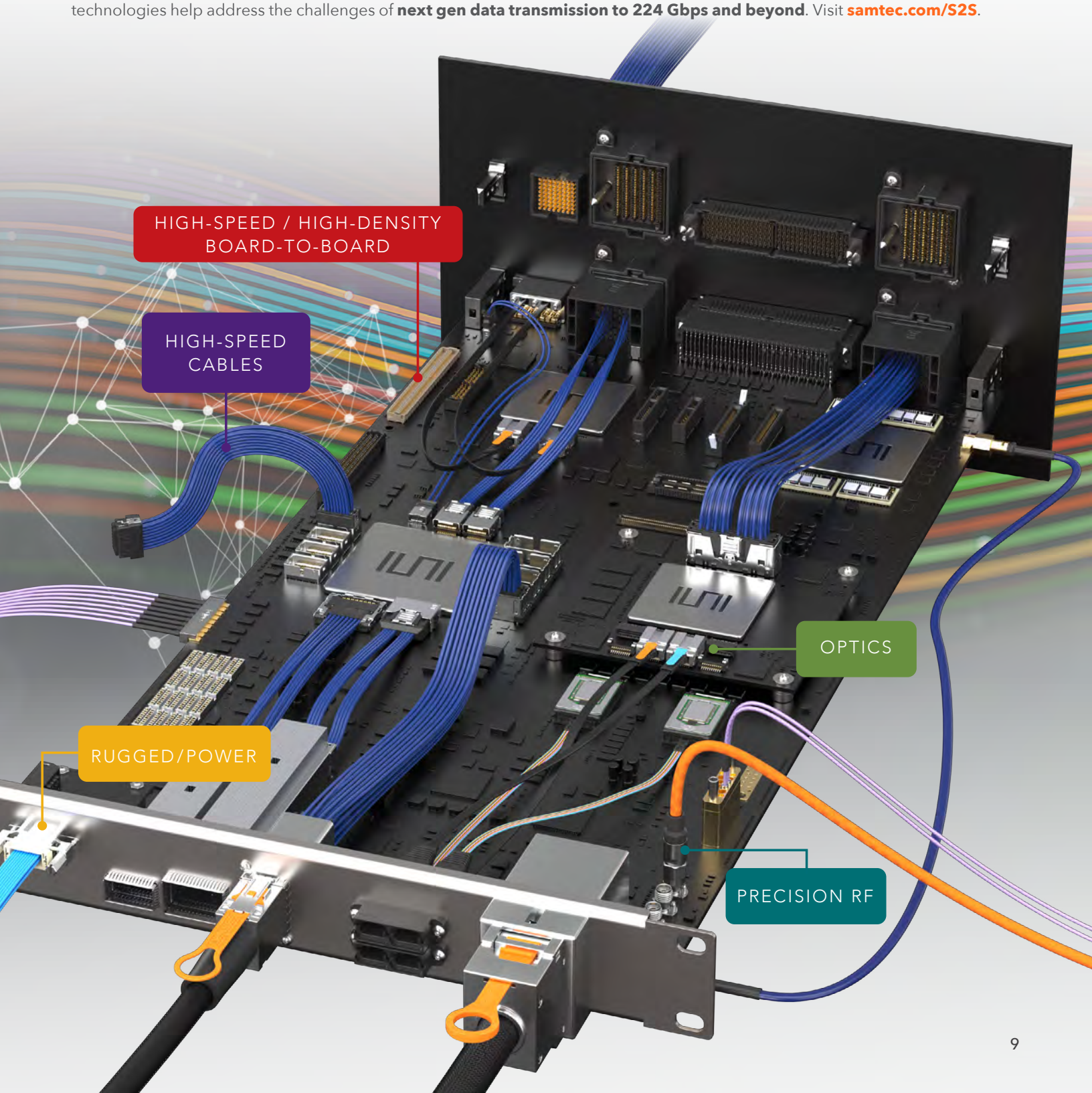
Samtec is structured like no other company in the interconnect industry. We work in a fully integrated capacity that enables true collaboration and results in uniquely innovative **PRODUCTS** because **our technology teams are not limited by the boundaries of traditional business units.**



SILICON-TO-SILICON™ SOLUTIONS

As bandwidth, scale and power requirements continue to challenge conventional engineering methods, Samtec strives to help **optimize the landscape of your entire system** – and develop solutions, together.

Samtec's industry-leading signal integrity expertise, full system optimization strategies, and innovative products and technologies help address the challenges of **next gen data transmission to 224 Gbps and beyond**. Visit **samtec.com/S2S**.



SUDDEN SERVICE®

Samtec's Sudden Service® provides unmatched global service, free access to data and industry leading tools, along with engineering support, to help you design, develop, test and deliver the best solution for any complex application.

Our unique business model encourages flexibility and innovation, allowing us to quickly make adjustments, offer a variety of options and strategic solutions to best meet your specific needs – all while maintaining competitive pricing and the industry's best lead times.

GLOBAL OPERATIONS & SUPPORT NETWORK



2DAYS WORLD DIRECT™

WORLD DIRECT™

- Seamless global direct shipping
- Products ship factory direct to our customers and channel partners, without any unnecessary consolidation points
- Manufacturing flexibility without increased cost or lead times

FREIGHT COLLECT DIRECT

- Customers outside the US can receive shipments directly from a Samtec facility, reducing lead times & tariff exposure
- Customers inside the US that operate an FTZ, utilize a freight forwarder, or prefer to act as the IOR, can select a customized solution to meet unique business needs

REDUCING TARIFF EXPOSURE

- Dual-Operations model provides flexible options for manufacturing country of origin (COO)
- Less than 7% of Samtec's imports to the US are COO China
- Strategic US and Singapore distribution centers support our global customer base
- Flexible invoicing options for tariff-related charges
- For current tariff and part-specific tariff information, please visit samtec.com/tariff

PRICE COMPETITIVENESS

- Redundant manufacturing (Dual-Operations model) helps optimize labor and shipping costs, facilitates low-cost options, competitive pricing and fast lead times

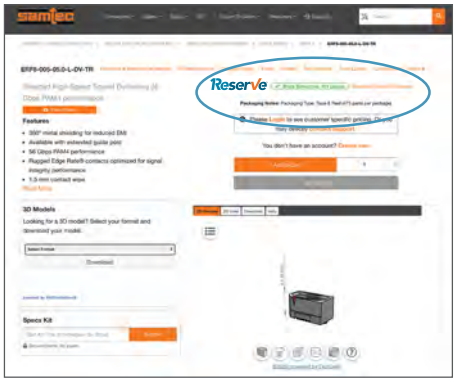
- **Volume Application Specific Pricing** (VASP) – a new program offering competitive pricing for large volume, core board-to-board production orders; for additional details, visit samtec.com/vasp

- Cost-efficient materials and components (e.g. lower-weight gold plating options to help offset the rising price of gold); learn more about Samtec's gold cost savings efforts at samtec.com/gold

UNMATCHED LEAD TIMES

ReserVe® SHIPS TOMORROW

- Strategic global work centers enable maximum flexibility
- **Samtec Reserve®** – a new program with more than 200k parts that are guaranteed to ship in 1-day; for details, visit samtec.com/reserve
- Non-Reserve® build-to-order lead times start at 5 days for most products
- Ongoing facility expansions and additions, process optimizations; ability to quickly add capacity as needed



24HOUR SUDDEN SAMPLE™

Free product samples, shipped in 24-hours or less have been a cornerstone of Samtec Sudden Service® since the company was founded. Visit samtec.com to quickly request your sample.



24/7 WORLDWIDE ACCESS

Technical Support

Signal Integrity Group: sig@samtec.com

Application Support Group: asg@samtec.com

Interconnect Processing Group: ipg@samtec.com

Supply Chain Support

MySamtec™ Real-Time Account Access: account.samtec.com

Personal Account Managers & CSRs: ecustomerservice@samtec.com

Upfront, Aggressive 24-Hour Quotes: pricing@samtec.com

www.SAMTEC.com

ONLINE TOOLS

Find, Design & Validate Your Solution

PICTURE SEARCH

Browse through a highlight reel of Samtec's most popular products to find the ideal solution for your application, view specifications, check availability, order samples and more. Visit **samtec.com/picturesearch**.



SOLUTIONATOR®

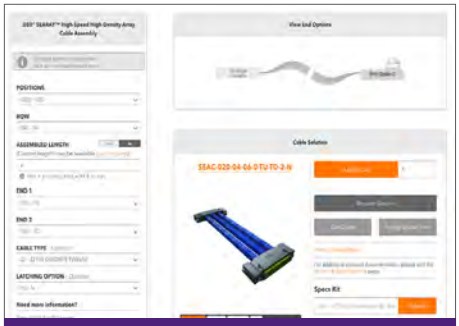
Quickly build mated connector sets or design full cable assemblies using a wide variety of user-defined search parameters and filters, view specs and order samples.

Solutionator HS GET A MATED SET IN SECONDS BOARD-TO-BOARD



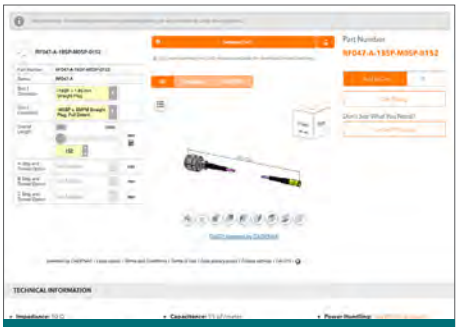
samtec.com/hsb2b-solutionator

Solutionator HS DESIGN IN A MINUTE CABLE



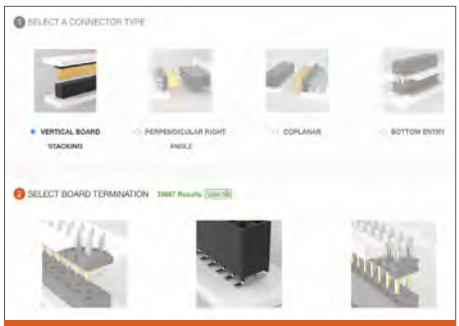
samtec.com/cablebuilder

Solutionator RF DESIGN IN A MINUTE CABLE



samtec.com/rf-cablebuilder

Solutionator FLEX GET A MATED SET IN SECONDS STACKING



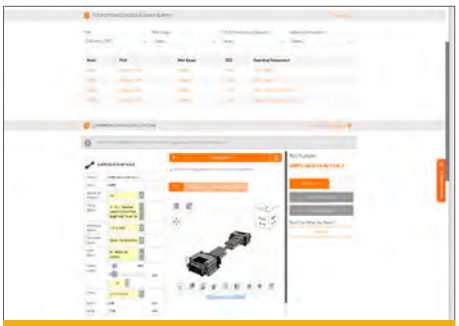
samtec.com/flex-solutionator

Solutionator ACTIVE OPTICS DESIGN IN A MINUTE



samtec.com/optics-solutionator

Solutionator DISCRETE WIRE DESIGN IN A MINUTE



samtec.com/discrete-cablebuilder

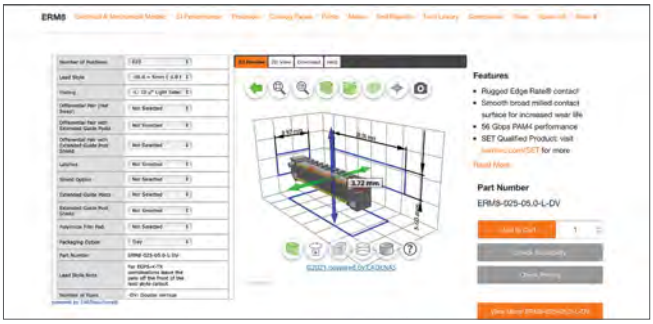
Samtec is committed to the continuous evolution of our award-winning website, providing customers with innovative design tools, technical resources and support needed to make **finding, designing and ordering** the right product as easy and streamlined as possible. Visit **samtec.com/digital-tools**

DOWNLOADS

3D Models, Specs, Prints & More

3D Models

Quickly configure, preview and download models in more than 150 different formats, including AutoCad, Solid Edge, Inventor and many more.



Test Reports

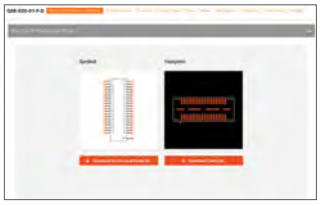


Samtec provides immediate access to a variety of testing and qualification reports for our products, including high-speed characterization, thermal, frequency and time domain, Extended Life Product™, Severe Environment Testing, and others.

10 YEAR MFG EXTENDED LIFE PRODUCT HIGH MATING CYCLES

SET SEVERE ENVIRONMENT TESTED

PCB Footprint / eCAD Models

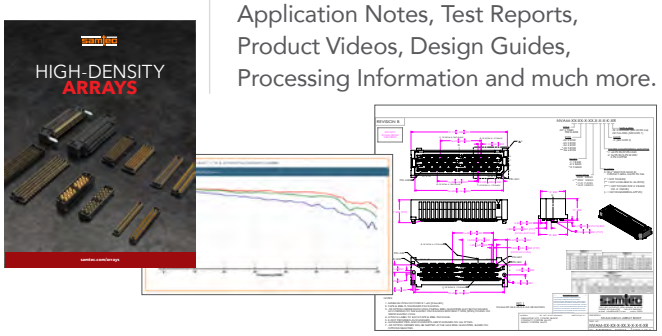


Instantly view, download and design with over 200,000 ready-to-use eCAD models.

These detailed models have been formatted to work with leading schematic captures and include accurate assembly, silkscreen and 3D features.

Technical Library

Samtec's online Technical Library contains a wealth of resources, including Prints & Specifications, White Papers, Application Notes, Test Reports, Product Videos, Design Guides, Processing Information and much more.



mySamtec™
account.samtec.com

Samtec's user-friendly eCommerce platform allows you to quickly and easily check product availability and pricing, as well as place and manage your orders online.

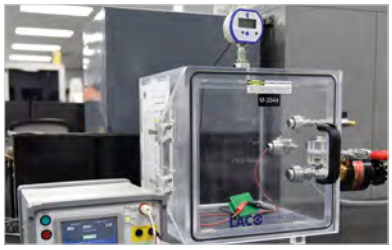
MODIFIED & CUSTOM SOLUTIONS

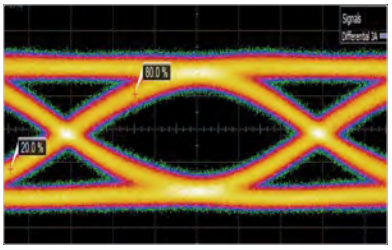
With dedicated Application Specific Product engineers and technicians, Samtec is open to customizing interconnects spanning every product category we offer, which includes both simple modifications as well as completely new and custom designs.

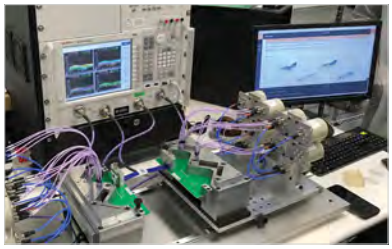
INDUSTRY-LEADING SUPPORT & EXPERTISE

Visit **samtec.com/custom** for details.

- Full engineering, design and prototype support
- Design, simulation and processing assistance
- Dedicated Application Specific Product engineers and technicians
- Industry-leading Customer Service
- Quotes and samples turned around in 24 hours
- Flexible, quick-turn, in-house manufacturing
- Customer specific testing - AS9102 FAIs available
- ITAR compliant with U.S. based manufacturing
- Contact the Application Specific Products Group at **asp@samtec.com** to discuss your application



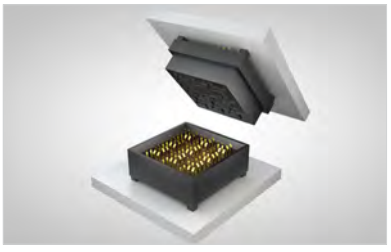






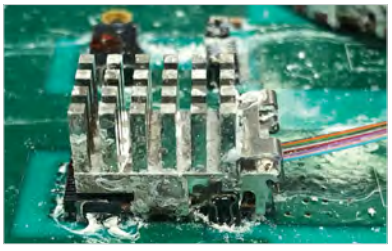
EXPRESS MODIFICATIONS & ENGINEERED CUSTOMS

- Up to 50 µ" Gold and Tin Lead plating available
- Polarized positions
- Modified stack heights, latching and screw downs
- Modified contacts, bodies, stamping, plating, wiring, molding and much more
- Ruggedizing features including strain relief, plastic housings, screw downs, latches, locks, etc.
- Mix-and-match cable end options for application specific requirements
- Many non-cataloged cable standards available, including 75 Ω micro coax & high-density twinax solutions
- Solutions for Optics in extreme environments: parylene conformal coating, mitigation for tin whiskers, fungal resistant, extreme shock and vibration, full support for liquid immersion cooling









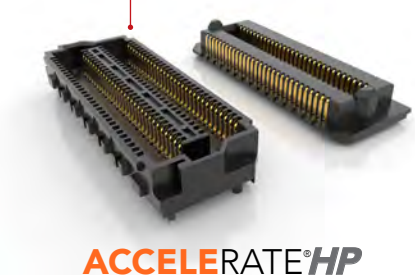
HIGH-SPEED HIGH-DENSITY ARRAYS

EXTREME DENSITY • HIGH-PERFORMANCE • MAXIMUM DESIGN FLEXIBILITY

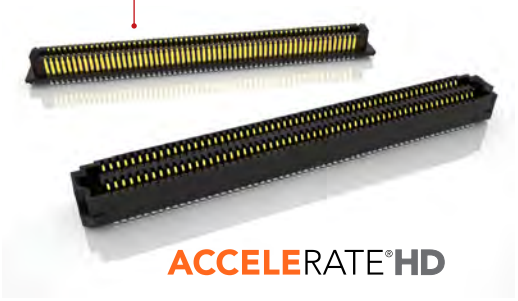
16-17 NOVARAY® EXTREME PERFORMANCE ARRAYS (NVAM, NVAF)



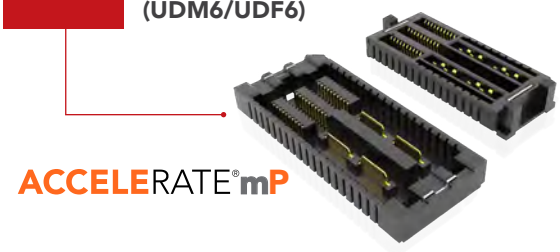
18-19 ACCELERATE® HP HIGH-PERFORMANCE ARRAYS (APM6, APF6)



20-21 ACCELERATE® HD HIGH-DENSITY ARRAYS (ADM6, ADF6)



22-23 ACCELERATE® MP POWER/SIGNAL ARRAYS (UDM6/UDF6)



24-27 SEARAY™ 1.27 mm PITCH OPEN-PIN-FIELD ARRAYS (SEAF, SEAM)



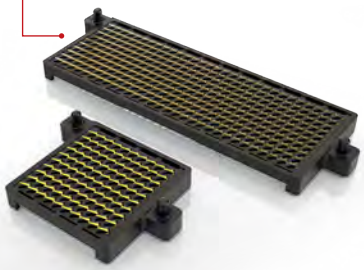
28-29 SEARAY™ 0.80 mm PITCH OPEN-PIN-FIELD ARRAYS (SEAM8, SEAF8)



30-31 LP ARRAY™ LOW PROFILE ARRAYS (LPAM, LPAF)



32 SUPERNOVA™ LOW PROFILE COMPRESSION INTERPOSERS (GMI)



224 Gbps PAM4 Solutions In Development 33

SureWare™ Ultra Rugged Hardware (GPSO, GPSOM, JSO, SO) 34-36

NOVARAY®

EXTREME PERFORMANCE HIGH-DENSITY ARRAYS

(0.80 mm) .0315" x (1.80 mm) .071" PITCH



FEATURES & BENEFITS

- 128 Gbps PAM4/PCIe® 7.0 capable
- 48 fully shielded differential pairs per square inch
- 4.0 Tbps aggregate data rate - 9 IEEE, 400G channels
- Extremely low crosstalk beyond 40 GHz
- Incredibly tight impedance control
- Minimal variance in data rate as stack height increases
- Utilizes 40% less space with the same data throughput as compared to traditional arrays
- Analog over Array™ capable

PAM4
128
Gbps



High-speed mezzanine connector and cable in one product family



BGA attach to board for greater density and optimized trace breakout region



Two reliable points of contact with a 1.14 mm wipe

KEY SPECIFICATIONS (NVAM/NVAF)

TOTAL PAIRS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
Up to 32 pairs	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.1 A per pin (signal) 9.6 A per pin (ground)	200 VAC/283 VDC	Yes

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

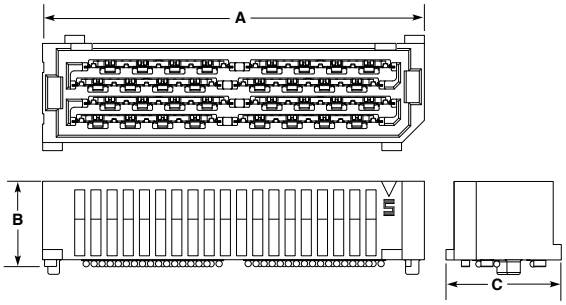
SERIES	STYLE	NO. OF ROWS	NO. OF BANKS	LEAD STYLE	PLATING OPTION	SOLDER TYPE	K	"X"R
NVAM Terminal **NVAF** Socket	**–DP** = 4 pairs per wafer	**–02** **–03** **–04**	**–1** = 1 Bank **–2** = 2 Banks	**–02.0** = (2 mm) .0787" (NVAM only) **–05.0** = (5 mm) .1969" **–07.0** = (7 mm) .2756" (NVAF only)	**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	**–2** = Lead-Free Solder Charge	**–K** = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

NVAM

Board Mates: NVAF

Standoffs: GPSO





NO. OF BANKS	A
–1	(21.75) .856
–2	(37.75) 1.486

LEAD STYLE	B
–02.0	(5.46) .215
–05.0	(8.46) .333

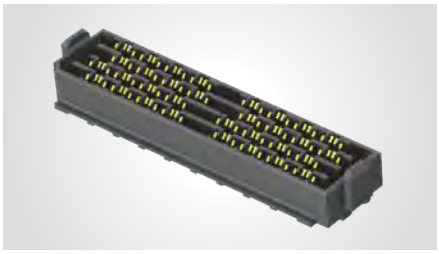
NO. OF ROWS	C
–02	(7.80) .307
–03	(9.60) .378
–04	(11.40) .449

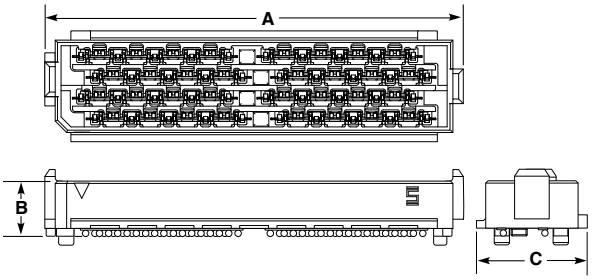
View complete specifications at: samtec.com?NVAM

NVAF

Board Mates: NVAM

Standoffs: GPSO





NO. OF BANKS	A
–1	(20.25) .797
–2	(36.25) 1.427

LEAD STYLE	B
–05.0	(4.80) .189
–07.0	(6.80) .268

NO. OF ROWS	C
–02	(6.00) .236
–03	(7.80) .307
–04	(9.60) .378

MATED HEIGHTS*

NVAF LEAD STYLE	NVAM LEAD STYLE –02.0	NVAM LEAD STYLE –05.0
–05.0	(7.00) .276	(10.00) .394
–07.0	(9.00) .354	(12.00) .472

*Processing conditions will affect mated height.

AGGREGATE DATA RATE (NRZ)

1024 Gbps	1536 Gbps	2048 Gbps	3072 Gbps	4096 Gbps
1 Bank		2 Bank		
2 Row	3 Row	4 Row 2 Row	3 Row	4 Row
8 Pairs	12 Pairs	16 Pairs	24 Pairs	32 Pairs

Notes:
Some sizes, styles and options are non-standard, non-returnable

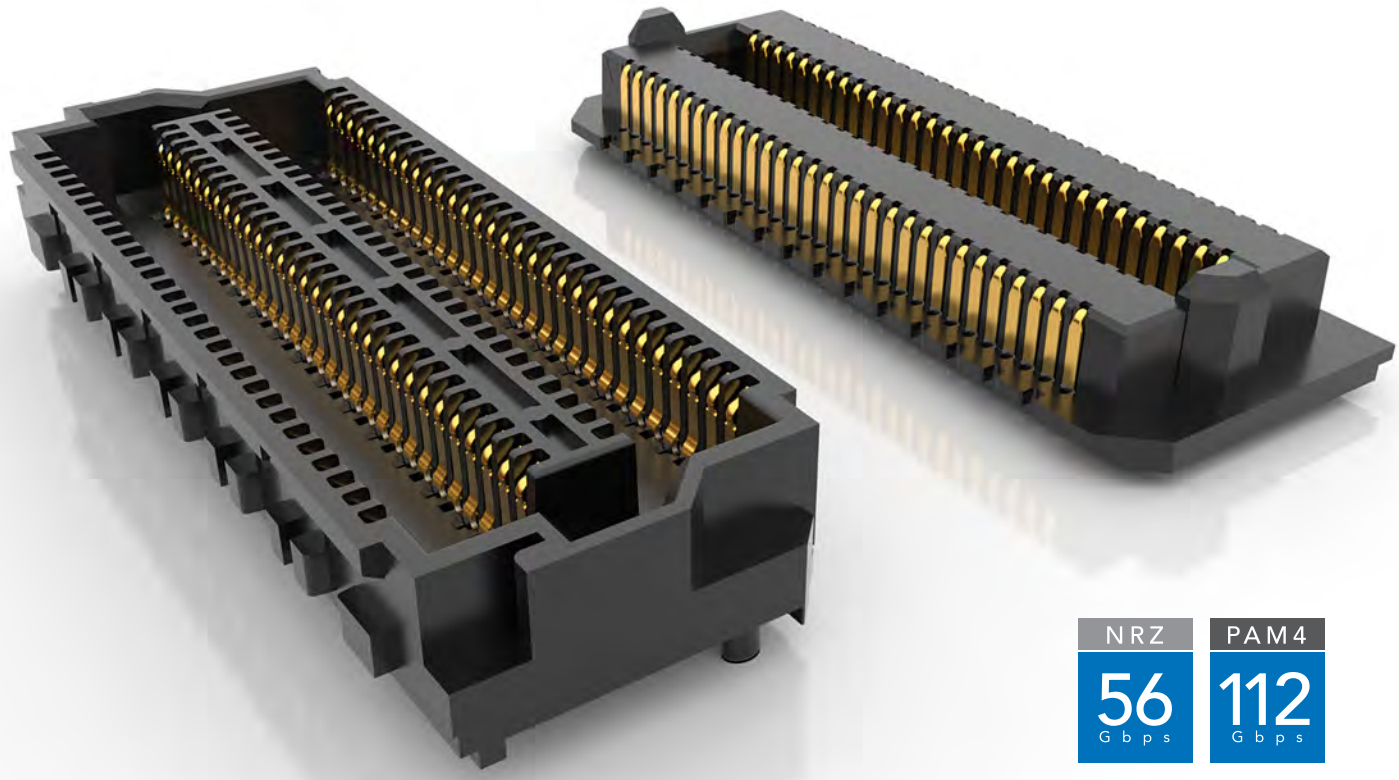
View complete specifications at: samtec.com?NVAF

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCELERATE®HP

HIGH-PERFORMANCE ARRAY SYSTEM

(0.635 mm) .025" PITCH



NRZ 56 Gbps

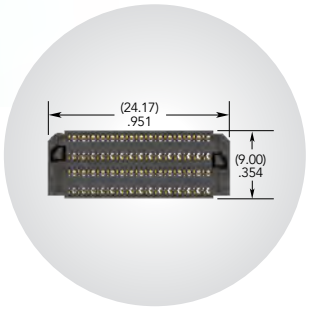
PAM4 112 Gbps

FEATURES & BENEFITS

- Flexible open-pin-field and extreme performance solution
- Low profile 5 mm and up to 10 mm stack heights
- 0.635 mm pitch
- Up to 800 total pins; roadmap to 1,000+ pins
- Data rate compatible with PCIe® 6.0/CXL® 3.2 and 100 GbE
- Analog over Array™ capable
- Road Map: 6 and 10 rows, additional position counts



Right-angle connector
(samtec.com?APF6-RA)



APF6 Series; 120 pins

KEY SPECIFICATIONS (APM6/APF6)

TOTAL PINS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
40 - 800	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	1.2 A (4 pins powered)	150 VAC/212 VDC	Yes

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

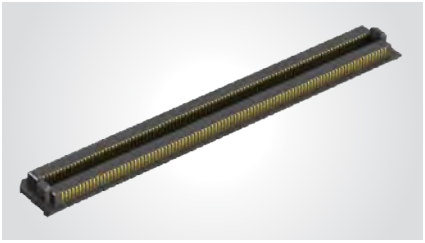
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

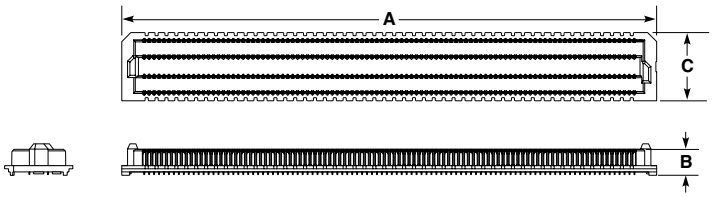
SERIES	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	NO. OF ROWS	0	OPTION	"X"R
APM6 Terminal **APF6** Socket	**–020, –040, –060, –100** (per row)	**–01.5** = 1.5 mm (APM6 only) **–01.9** = 1.9 mm (APM6 only) (Only mates with an APF6-RA) **–06.5** = 6.5 mm (APM6 only) **–03.5** = 3.5 mm (APF6 only)	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail	**–04** = Four Rows **–08** = Eight Rows (Lead Style –01.5 & –03.5 with 100 Positions only)		(Leave blank for no alignment pin) **–A** = Alignment Pin	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

APM6

Board Mates:
APF6, APF6-RA

Standoffs:
GPSO





NO. OF POSITIONS PER ROW	A
–020	(17.82) .701
–040	(30.52) 1.201
–060	(43.22) 1.701
–100	(68.62) 2.701

LEAD STYLE	B
–01.5	(3.33) .131
–01.9	(3.71) .146
–06.5	(8.33) .328

NO. OF ROWS	C
–04	(8.75) .344
–08	(17.95) .707

ALSO AVAILABLE
Contact Samtec

Other platings

View complete specifications at: samtec.com?APM6

MATED HEIGHTS *

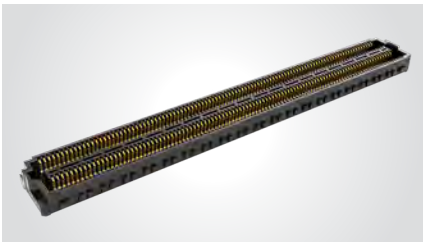
APF6 LEAD STYLE	APM6 LEAD STYLE	
	-01.5	-06.5
-03.5	(5.00 mm) .197"	(10.00 mm) .394"

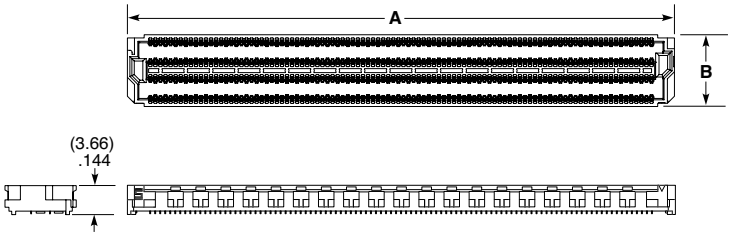
* Processing conditions will affect mated height.

APF6

Board Mates:
APM6

Standoffs:
GPSO





NO. OF POSITIONS PER ROW	A
–020	(17.82) .701
–040	(30.52) 1.201
–060	(43.22) 1.701
–100	(68.62) 2.701

NO. OF ROWS	B
–04	(9.00) .354
–08	(18.20) .717

OTHER SOLUTIONS

Right-angle
samtec.com?APF6-RA

Notes:
Some sizes, styles and options are non-standard, non-returnable

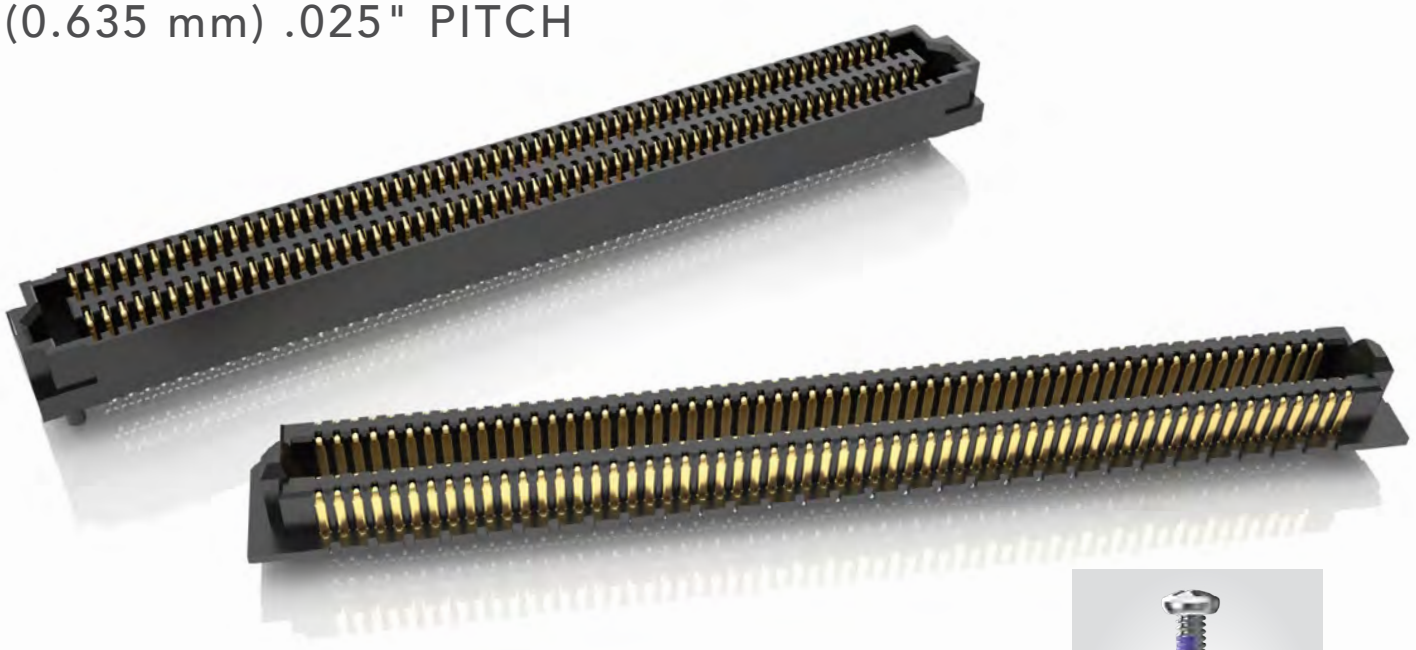
View complete specifications at: samtec.com?APF6

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCELERATE®HD

HIGH-DENSITY SLIM BODY ARRAYS

(0.635 mm) .025" PITCH



PAM4 64 Gbps

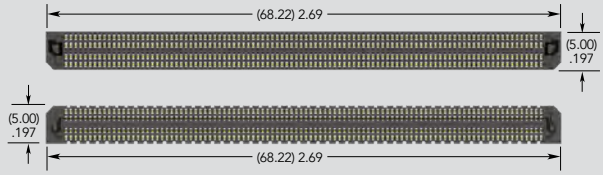
FEATURES & BENEFITS

- Up to 400 positions in a 4-row design
- 5 mm, 7 mm, 9 mm, 10 mm, 11 mm, 12 mm 14 mm & 16 mm stack heights
- Slim 5 mm width body design
- Edge Rate® contact system optimized for signal integrity performance
- Open-pin-field for grounding and routing flexibility
- Supports 64 Gbps PAM4 (32 Gbps NRZ) applications
- PCIe® 6.0/CXL® 3.2 capable



SureWare™ ultra rugged guide post standoffs available (GPSO)

HIGHER DENSITY THAN PREVIOUS GENERATION STRIPS



ADM6/ADF6 Series (400 total positions)

KEY SPECIFICATIONS (ADM6/ADF6)

PITCH	TOTAL POSITIONS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
(0.635 mm) .025"	40 - 400	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	1.34 A per pin (4 pins powered)	155 VAC/219 VDC	Yes

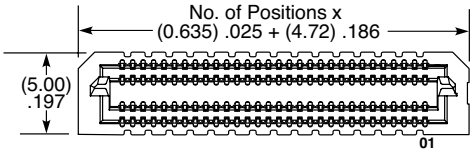
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PCI EXPRESS® 6.0 CAPABLE

(0.635 mm) .025" PITCH • SLIM BODY OPEN-PIN-FIELD ARRAYS

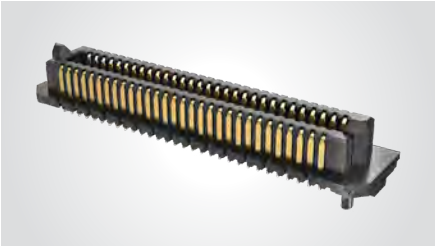
SERIES	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	NO. OF ROWS	0	OPTION	"X"R
ADM6 Terminal **ADF6** Socket	**–10, –20, –30, –40, –50, –60,** (per row) **–70, –80, –90, –100** (ADF6–03.5 & ADM6–01.5, –03.5 & –06.5 lead styles only)	**–01.5** = 1.5 mm (ADM6 only) **–03.5** = 3.5 mm **–06.5** = 6.5 mm (ADM6 only) **–07.5** = 7.5 mm (ADF6 only) **–08.5** = 8.5 mm (ADM6 only)	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on taill	**–4** = Four Rows		(Leave blank for no alignment pin) **–A** = Alignment Pin	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

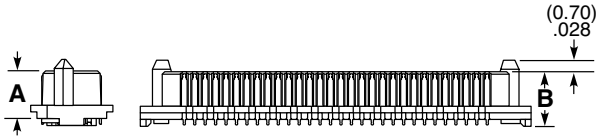


ADM6

Board Mates: ADF6

Standoffs: JSO, GPSO





LEAD STYLE	A	B
–01.5	(2.90) .114	(3.32) .131
–03.5	(4.90) .193	(5.32) .209
–06.5	(7.90) .311	(8.32) .328
–08.5	(9.90) .390	(10.32) .406

ALSO AVAILABLE
Contact Samtec

Other platings

View complete specifications at: samtec.com?ADM6

MATED HEIGHTS *

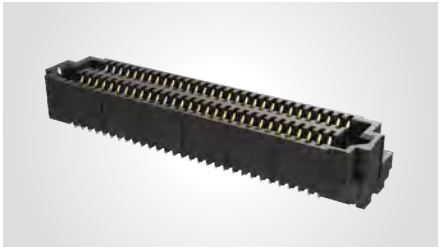
ADF6 LEAD STYLE	ADM6 LEAD STYLE			
	–01.5	–03.5	–06.5	–08.5
–03.5	(5 mm) .197"	(7 mm) .276"	(10 mm) .394"	(12 mm) .472"
–07.5	(9 mm) .354"	(11 mm) .433"	(14 mm) .551"	(16 mm) .630"

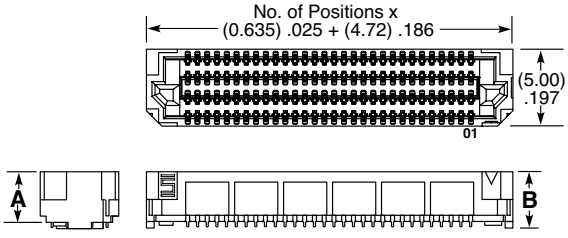
* Processing conditions will affect mated height.

ADF6

Board Mates: ADM6

Standoffs: JSO, GPSO





LEAD STYLE	A	B
–03.5	(3.23) .127	(3.65) .144
–07.5	(7.23) .285	(7.65) .301

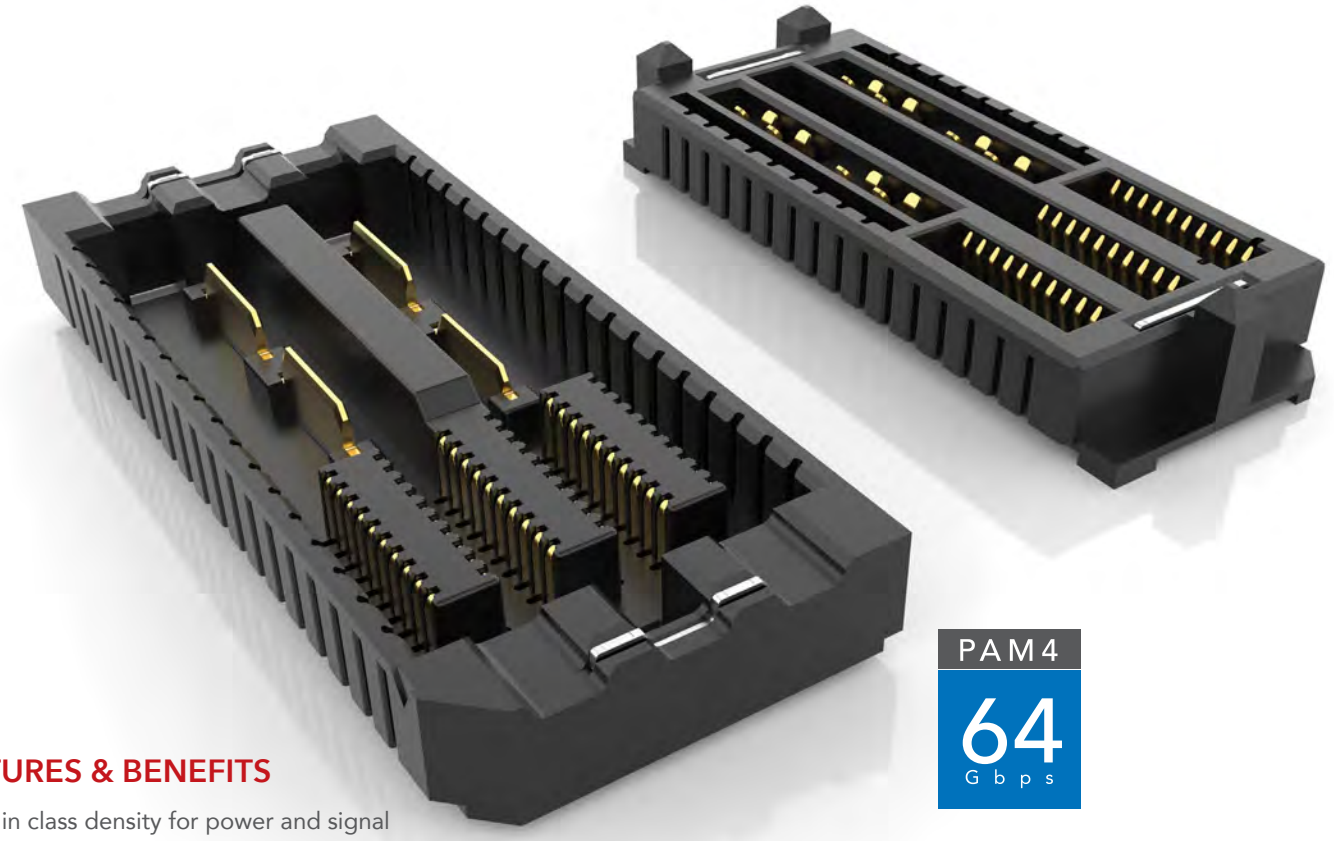
Notes:
Some sizes, styles and options are non-standard, non-returnable

View complete specifications at: samtec.com?ADF6

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCELERATE® mP

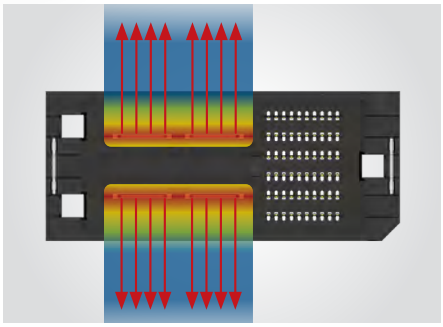
HIGH-DENSITY, HIGH-SPEED POWER/SIGNAL ARRAYS



PAM4 64 Gbps

FEATURES & BENEFITS

- Best in class density for power and signal
- Rotated power blades simplify breakout region (BOR)
- Open-pin-field design for routing and grounding flexibility
- Low profile 5 mm stack height; up to 16 mm in development
- Up to 8 power and 240 signal positions; additional position counts in development
- 0.635 mm signal pitch
- Supports 64 Gbps PAM4 (32 Gbps NRZ) applications
- PCIe® 6.0/CXL® 3.2 capable
- Weld tabs included for a secure connection to the board
- Polarized guide posts for blind mating
- Optional alignment pins



Blades rotated 90° have equal access to heat escape for uniform cooling and simplified breakout region (BOR)

KEY SPECIFICATIONS (UDM6/UDF6)

PITCH	STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
0.635 mm (Signal) 6.00 mm (Power)	5 mm	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	15 A per power pin	200 VAC/ 283 VDC	Yes

PCi-SIG®, PCI Express® and the PCIe® design marks are register trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

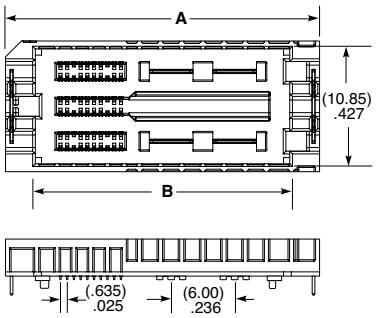
UDM6	–	NO. OF SIGNAL POSITIONS	–	NO. OF POWER POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	OPTION	–	WELD TAB	–	"X"R
		–10, –40 (Per Row)		–2, –4 (Per Row)		–01.5 = 1.5 mm		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on taill		(Leave blank for no alignment pin) –A = Alignment Pin		–TH = Through-Hole		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UDM6

Board Mates:
UDF6

Standoffs:
GPSO





NO. OF SIGNAL PER ROW	NO. OF POWER PER ROW	A	B
–010	–2	(29.68) 1.168	(24.42) .961
–040	–4	(60.73) 2.391	(55.47) 2.184

UDM6-10-2-01.5-X-A-TH-XR
(Some center features removed for clarity)

ALSO AVAILABLE
Contact Samtec

Other platings

Notes:
Some sizes, styles and options are non-standard, non-returnable

View complete specifications at: samtec.com?UDM6

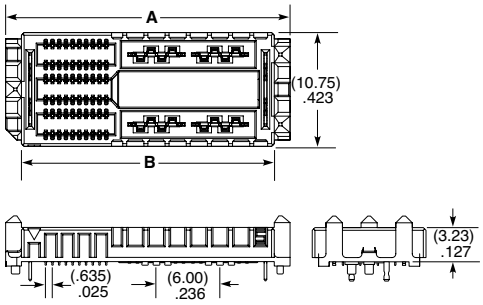
UDF6	–	NO. OF SIGNAL POSITIONS	–	NO. OF POWER POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	OPTION	–	WELD TAB	–	"X"R
		–10, –40 (Per Row)		–2, –4 (Per Row)		–03.5 = 3.5 mm		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail		(Leave blank for no alignment pin) –A = Alignment Pin		–TH = Through-Hole		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UDF6

Board Mates:
UDM6

Standoffs:
GPSO





NO. OF SIGNAL PER ROW	NO. OF POWER PER ROW	A	B
–010	–2	(26.88) 1.058	(23.90) .941
–040	–4	(57.93) 2.281	(54.95) 2.163

UDF6-10-2-03.5-X-A-TH-XR
(Some center features removed for clarity)

ALSO AVAILABLE
Contact Samtec

Other platings

Notes:
Some sizes, styles and options are non-standard, non-returnable

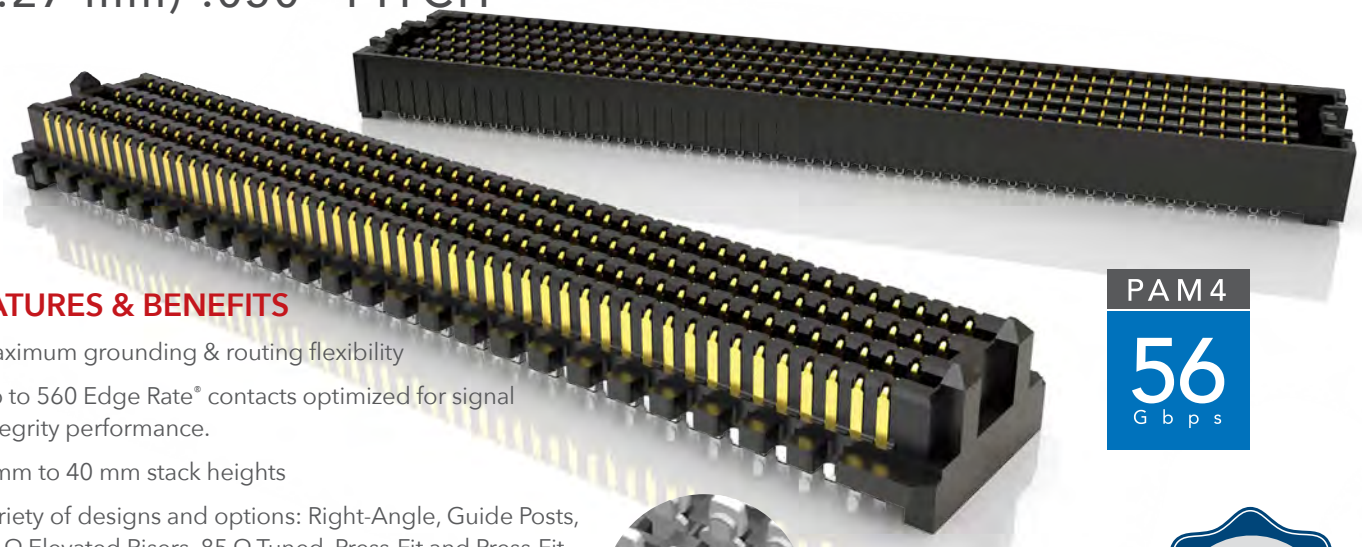
View complete specifications at: samtec.com?UDF6

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SEARAY™

HIGH-DENSITY OPEN-PIN-FIELD ARRAYS

(1.27 mm) .050" PITCH



PAM4
56
Gbps

FEATURES & BENEFITS

- Maximum grounding & routing flexibility
- Up to 560 Edge Rate® contacts optimized for signal integrity performance.
- 7 mm to 40 mm stack heights
- Variety of designs and options: Right-Angle, Guide Posts, 85 Ω Elevated Risers, 85 Ω Tuned, Press-Fit and Press-Fit Right-Angle, Guide Post Field Termination Kits
- Cable mates (SEAC Series) and Jack Screw Standoffs (JSO Series) also available
- Analog over Array™ capable
- Standards: VITA™ 47, VITA™ 57.1 FMC™, VITA™ 57.4 FMC™+, VITA™ 74 VNX™, PISMO™ 2
- Supports high-speed protocols such as Ethernet, PCI Express®, Fibre Channel & InfiniBand™
- Severe Environment Testing qualified (SEAM/SEAF); aligns with MIL-DTL-55302. Visit **samtec.com/set**

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+ are all respective trademarks of VITA PCI-SIG®.

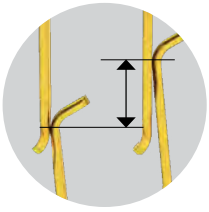
The PCI Express® design marks are registered trademarks and/or service marks of PCI-SIG.



Solder Charges

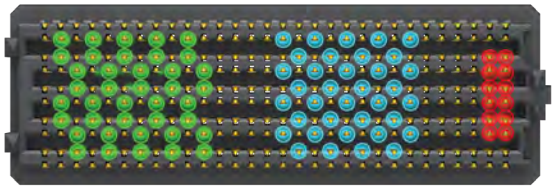
EDGE® RATE CONTACT

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.12 mm) .044" Nominal Wipe

MAXIMUM GROUNDING & ROUTING FLEXIBILITY



Differential Pair | Single-Ended | Power

SERIES	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
SEAM/SEAF	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.7 A (10 pins powered)	240 VAC/339 VDC	Yes
SEAM-RA/SEAF-RA	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	1.9 A (10 pins powered)	240 VAC/339 VDC	Yes
SEAM-GP	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.7 A (10 pins powered)	240 VAC/339 VDC	Yes
SEAMP/SEAFP	Natural High Temp Nylon	Copper Alloy (SEAMP) BeCu Alloy (SEAFP)	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	1.9 A (6 pins powered)	255 VAC/361 VDC	Not Available
SEAR	Black LCP	Hard Gold Plated	Au over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	1.4 A (20 pins powered)	240 VAC/339 VDC	Not Available
SEAMI	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	Not Available	Not Available	Yes

Note: Some lengths, styles and options are non-standard, non-returnable

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

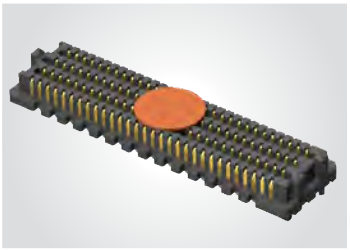
SERIES	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	A	K	"X" R
SEAM Terminal **SEAF** Socket	**–10, –15, –20, –30, –40, –50** SEAM & SEAF: –10 only available in -04 Row SEAM: –15 only available in –04 Row with -02.0 Lead Style, and –10 Row with any Lead Style SEAF: –15 only available in –04 or –10 Row with –5.0 Lead Style	**Specify LEAD STYLE from chart**	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail **–P** = SureCoat™ 3 µ" (0.07 µm) Gold Flash and 30 µ" (0.76 µm) Palladium Nickel on contact area, Matte Tin on solder tail (–02.0, –03.5, –05.0 & SEAF –06.5 Lead Styles only)	**–04** **–05** **–06** **–08** **–10** (SEAM –05 Rows not available with –06.5 Lead Style)	**–1** = Tin/ Lead Alloy Solder Charge **–2** = Lead-Free Solder Charge	**–A** = Alignment Pin **–K** = Polyimide Film Pick & Place Pad **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)		

NO. OF ROWS	B
–04	(7.06) .278
–05, –06	(9.60) .378
–08	(12.14) .478
–10	(14.68) .578

SEAM

Board Mates: SEAF, SEAFP

Standoffs: JSO



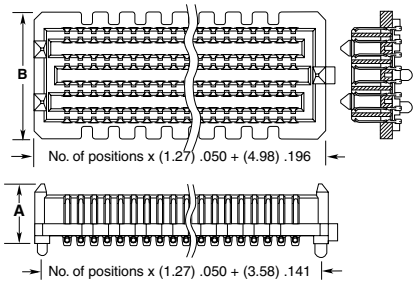
ALSO AVAILABLE
Contact Samtec

Other platings

OTHER SOLUTIONS
See website for 14 row option.



LEAD STYLE	A
–02.0	(5.61) .221
–03.0	(6.60) .260
–03.5	(7.11) .280
–06.5	(10.16) .400
–07.0	(10.59) .417
–09.0	(12.60) .496
–11.0	(14.61) .575

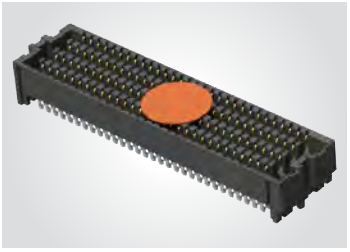


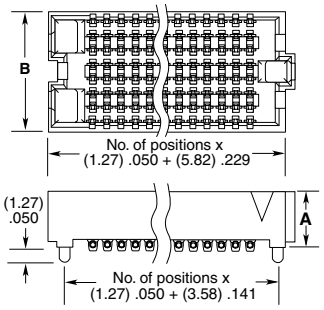
View complete specifications at: **samtec.com?SEAM**

SEAF

Board Mates: SEAM, SEAMP, SEAR, SEAMI

Standoffs: JSO





LEAD STYLE	A
–05.0	(5.05) .199
–06.0	(6.05) .238
–06.5	(6.55) .258
–07.5	(7.54) .297

NO. OF ROWS	B
–04	(5.66) .223
–05, –06	(8.20) .323
–08	(10.74) .423
–10	(13.28) .523

View complete specifications at: **samtec.com?SEAF**

MATED HEIGHTS

SEAM LEAD STYLE	SEAF LEAD STYLE			
	-05.0	-06.0	-06.5	-07.5
-02.0	7 mm	8 mm	8.5 mm	9.5 mm
-03.0	8 mm	9 mm	9.5 mm	10.5 mm
-03.5	8.5 mm	9.5 mm	10 mm	11 mm
-06.5	11.5 mm	12.5 mm	13 mm	14 mm
-07.0	12 mm	13 mm	13.5 mm	14.5 mm
-09.0	14 mm	15 mm	15.5 mm	16.5 mm
-11.0	16 mm	17 mm	17.5 mm	18.5 mm

STANDARDS

VITA™ 47
VITA™ 57.1 FMC™
VITA™ 57.4 FMC+™
VITA™ 74 VNX™
PISMO™ 2

Visit www.samtec.com/standards for more information.

Notes:
IPC-A-610F and
IPC J-STD-001F Class 3 solder joint.

Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+ are all respective trademarks of VITA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SEARAY™

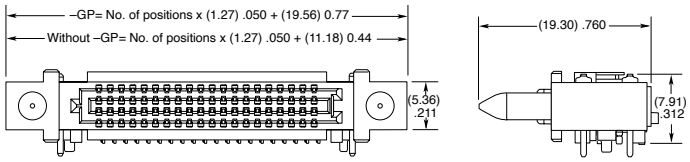
(1.27 mm) .050" PITCH • RIGHT-ANGLE & GUIDE POST

SERIES	POSITIONS PER ROW	01	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	RA	OPTIONS	"X"R
SEAM Right-Angle Terminal **SEAF** Right-Angle Socket	–20 –30 –40 –50		**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	–04 –06 –08 –10 -08 & -10 Row options require fixturing to process	**–1** = Tin/Lead Alloy Solder Charge **–2** = Lead-Free Solder Charge		**–GP** = Guide Post/Hole **–K** = Polyimide Film Pick & Place Pad **–LP** Latch Post (Available with SEAF in -06 Row with 30 positions only; Required for mating to SEAC)	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

SEAM-RA

Board Mates: SEAF, SEAF-RA, SEAFP

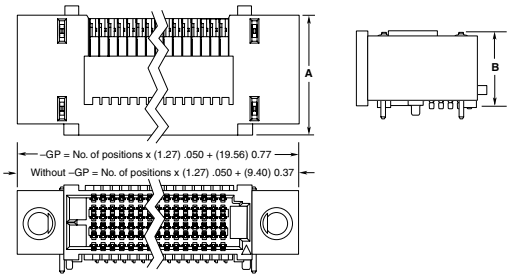




SEAF-RA

Board Mates: SEAM, SEAMP





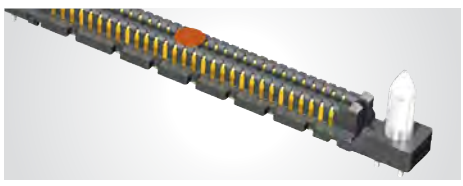
NO.PINS PER ROW	A	B
–04	(13.77) .542	(7.91) .311
–06	(16.31) .642	(10.45) .411
–08	(18.85) .742	(12.99) .511
–10	(21.39) .842	(15.53) .611

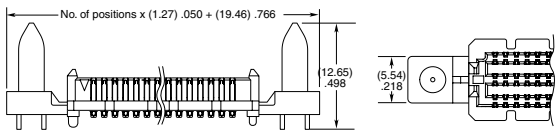
View complete specifications at: samtec.com?SEAM-RA & samtec.com?SEAF-RA

SERIES	POSITIONS PER ROW	02.0	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	A	GP	K	"X"R
SEAM Terminal with Guide post	–20, –30, –40, –50		**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	–04 –06 –08 –10	**–1** = Tin/Lead Alloy Solder Charge **–2** = Lead-Free Solder Charge				**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

SEAM-GP

Board Mates: SEAF-RA-GP





View complete specifications at: samtec.com?SEAM

Note: Some lengths, styles and options are non-standard, non-returnable

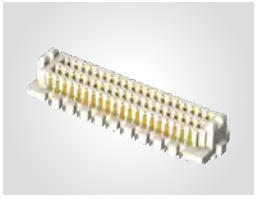
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

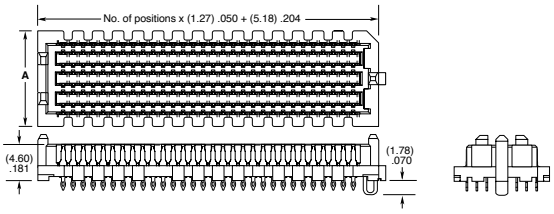
(1.27 mm) .050" PITCH • PRESS-FIT & 85 Ω OPEN-PIN-FIELD ARRAYS

SERIES	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	OPTION	PACKAGING
SEAMP Terminal **SEAFP** Socket	**–10, –20, –30, –40, –50**	**–02.0** (SEAMP only) **–05.0** (SEAFP only)	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail	**–04, –06, –08, –10** SEAFP: -04 & -06 Rows only	**–GP** Guide Post (SEAMP only)	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

SEAMP

Board Mates: SEAF, SEAF-RA-GP, SEAFP

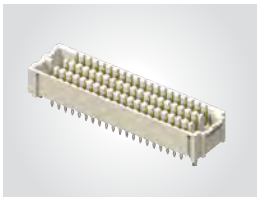


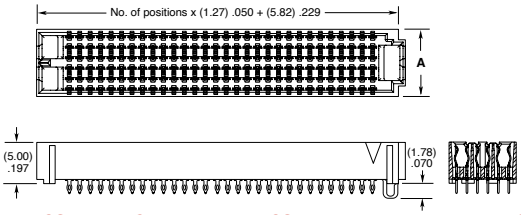


NO. OF ROWS	A
–04	(7.06) .278
–06	(9.60) .378
–08	(12.14) .478
–10	(14.68) .578

SEAFP

Board Mates: SEAM, SEAM-RA, SEAMP





NO. OF ROWS	A
–04	(5.61) .221
–06	(8.15) .321

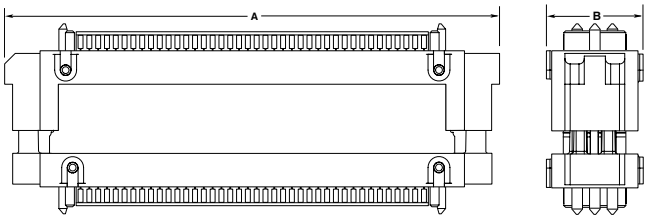
View complete specifications at: **samtec.com?SEAMP & samtec.com?SEAFP**. Visit **samtec.com?SEAFP-RA** for right-angle socket.

SERIES	POSITIONS PER ROW	LEAD STYLE	NO. OF ROWS	085
SEAR 85 Ω Tuned Riser	**–40, –50**	**–10.0** = 20 mm Mated Height **–20.0** = 30 mm Mated Height **–30.0** = 40 mm Mated Height	**–06, –08, –10**	

SEAR

Board Mates: SEAFC





POSITIONS PER ROW	A
–40	(71.42) 2.812
–50	(84.12) 3.312

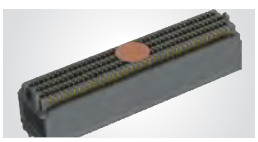
NO. OF ROWS	B
–06	(11.43) .450
–08	(13.97) .550
–10	(16.51) .650

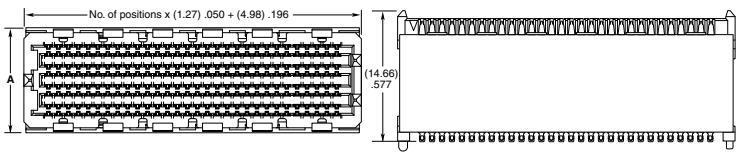
SERIES	POSITIONS PER ROW	11.0	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	A	K	"X"R
SEAMI 85 Ω Tuned Terminal	**–40, –50**		**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	**–08** **–10**	**–1** = Tin/Lead Alloy Solder Charge **–2** = Lead-Free Solder Charge			**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

SEAMI

Board Mates: SEAF

Note: Some lengths, styles and options are non-standard, non-returnable





NO. OF ROWS	A
–08	(13.41) .528
–10	(15.95) .628

View complete specifications at: **samtec.com?SEAR & samtec.com?SEAMI**.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

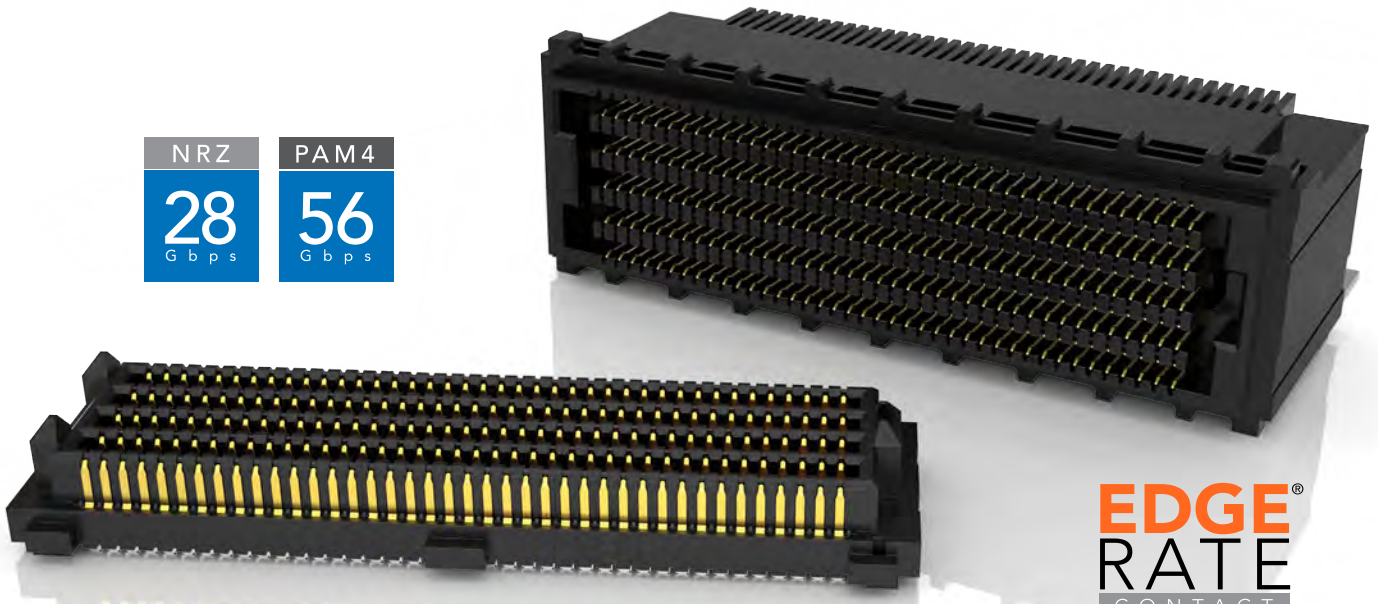
SEARAY™ .8mm

ULTRA HIGH-DENSITY, HIGH-SPEED OPEN-PIN-FIELD ARRAYS

(0.80 mm) .0315" PITCH

NRZ 28 Gbps

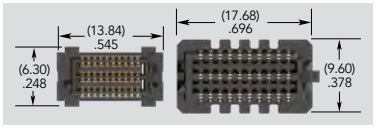
PAM4 56 Gbps



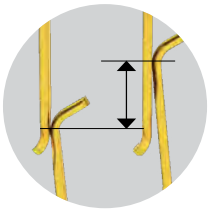
EDGE® RATE CONTACT

FEATURES & BENEFITS

- 0.80 mm (.0315") pitch grid
- 50% board space savings versus .050" (1.27 mm) pitch arrays
- Performance up to 28 Gbps NRZ/56 Gbps PAM4
- Rugged Edge Rate® contact system
- Up to 500 I/Os
- 7 mm and 10 mm stack heights
- Solder charge terminations for ease of processing
- Lower insertion/withdrawal forces
- Analog over Array™ capable
- Severe Environment Testing qualified (SEAM8/SEAF8); aligns with MIL-DTL-55302. Visit **samtec.com/set**

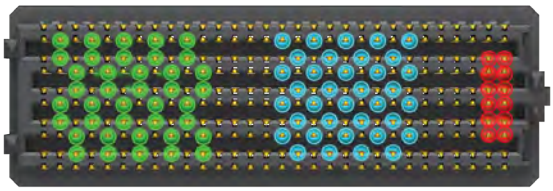


0.80 mm pitch vs. 1.27 mm pitch
(60 pins shown)



(0.95 mm) .037"
Nominal Wipe

MAXIMUM GROUNDING & ROUTING FLEXIBILITY



KEY SPECIFICATIONS (SEAF8/SEAM8)

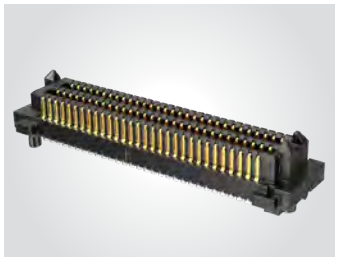
SERIES	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
SEAM8	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	–55 °C to +125 °C	1.3 A per pin (10 adjacent pins powered)	220 VAC/311 VDC	Yes
SEAF8							
SEAF8-RA					1.1 A per pin (10 adjacent pins powered)	240 VAC/339 VDC	

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SERIES	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION	"X"R
SEAM8 Terminal **SEAF8** Socket	**–10, –20, –30, –40, –50**	**–S02.0** = 2 mm Body Height (SEAM8 only) **–S05.0** = 5 mm Body Height (SEAM8 only) **–05.0** = 5 mm Body Height (SEAF8 only)	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	**–04** **–06** **–08** **–10**	**–3** = Lead-Free Solder Crimp	**–GP** = Guide Post (-S02.0 lead style only) (Mates with SEAF8-RA-GP)	Tape & Reel is standard. Leave blank for Tape & Reel. **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

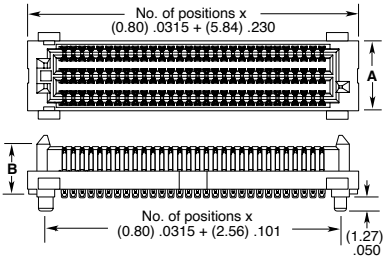
SEAM8

Board Mates: SEAF8
Cable Mates: ESCA
Standoffs: JSO



NO. OF ROWS	A
–04	(4.30) .169
–06	(6.30) .248
–08	(8.30) .327
–10	(10.30) .406

LEAD STYLE	B
-S02.0	(4.54) .179
-S05.0	(7.54) .297



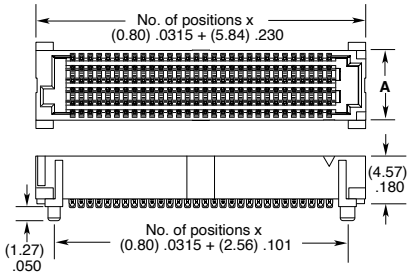
ALSO AVAILABLE
Contact Samtec
Other platings
Tin/Lead solder crimps

View complete specifications at: samtec.com?SEAM8

SEAF8

Board Mates: SEAM8
Cable Mates: ESCA
Standoffs: JSO





MATED HEIGHTS*

SEAF8 LEAD STYLE	SEAM8 LEAD STYLE	
	-S02.0	-S05.0
-05.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.

Notes:
Polyimide Pick & Place Pad standard without specifying –K.

Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

View complete specifications at: samtec.com?SEAF8

SEAF8	NO. PINS PER ROW	1	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	RA	OPTION	"X"R
	–20, –30, –40, –50		**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	**–04** (–50 positions only) **–08** **–10**	**–2** = Lead-Free Solder Crimp		**–GP** = Guide Post Holes	Tape & Reel is standard. Leave blank for Tape & Reel. **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

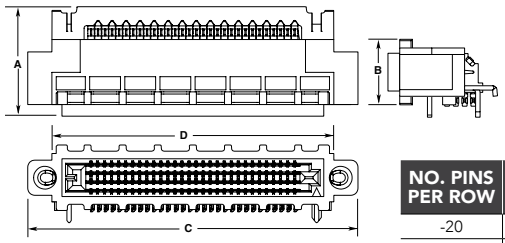
SEAF8-RA

(Right-angle)

Board Mates: SEAM8
Cable Mates: ESCA



NO. OF ROWS	A	B
–04	(12.48) .491	(7.46) .294
–08	(16.48) .649	(11.46) .451
–10	(18.48) .728	(13.46) .530



NO. PINS PER ROW	C	D
-20	(29.62) 1.166	(24.12) .950
-30	(37.62) 1.481	(32.12) 1.265
-40	(45.62) 1.796	(40.12) 1.580
-50	(53.62) 2.111	(48.12) 1.894

Notes:
Some sizes, styles and options are non-standard, non-returnable

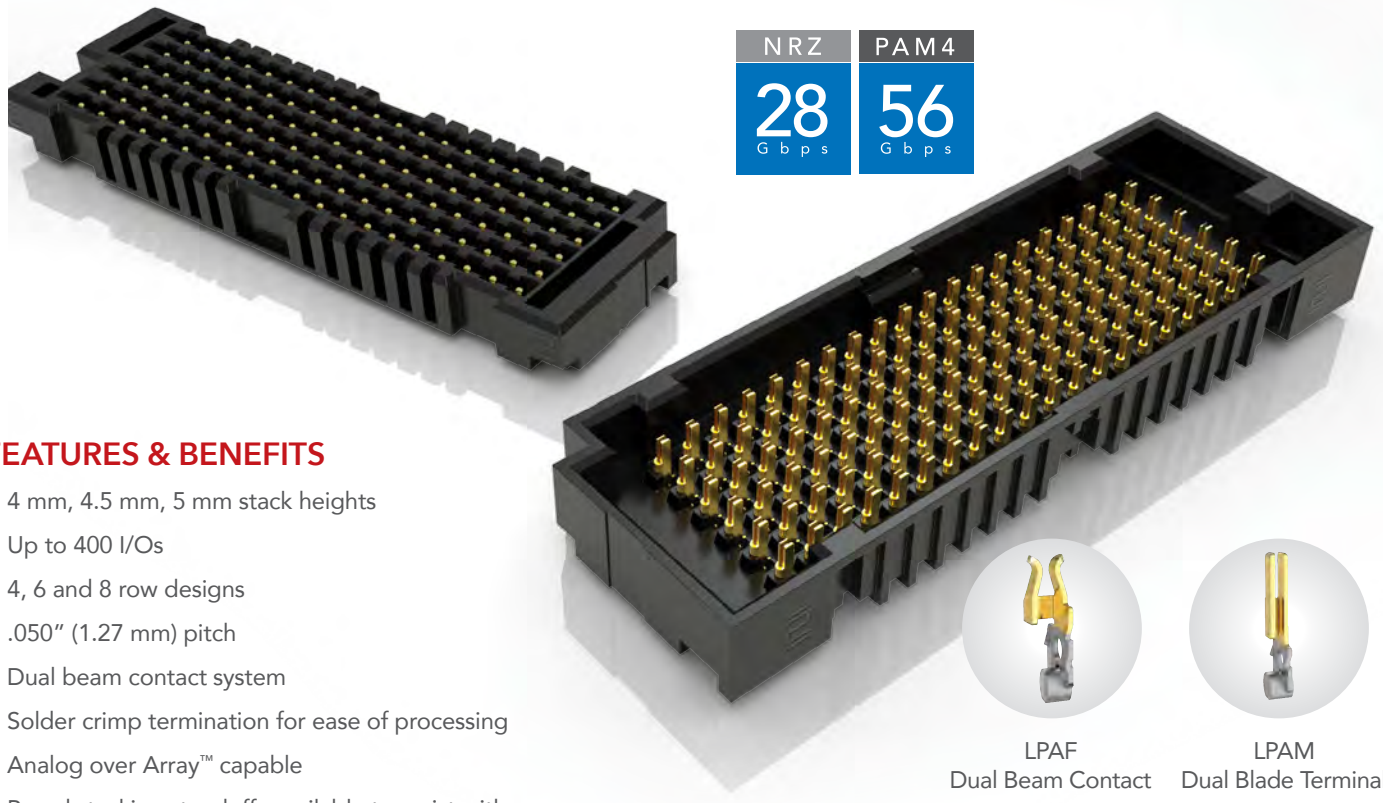
View complete specifications at: samtec.com?SEAF8-RA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

LP ARRAY™

LOW PROFILE OPEN-PIN-FIELD ARRAYS

(1.27 mm) .050" PITCH

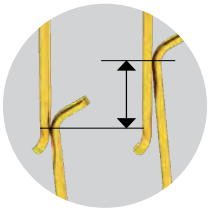


FEATURES & BENEFITS

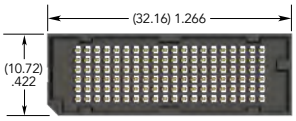
- 4 mm, 4.5 mm, 5 mm stack heights
- Up to 400 I/Os
- 4, 6 and 8 row designs
- .050" (1.27 mm) pitch
- Dual beam contact system
- Solder crimp termination for ease of processing
- Analog over Array™ capable
- Board stacking standoffs available to assist with unmating and reduce risk for component damage on board

LPAF
Dual Beam Contact

LPAM
Dual Blade Terminal

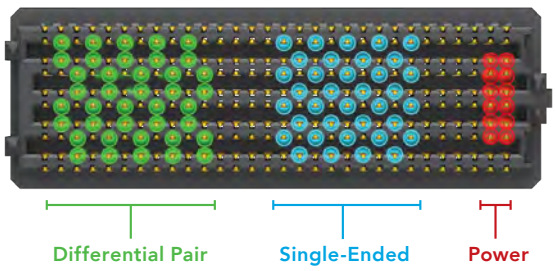


(0.51 mm) .020"
Nominal Wipe



LPAM Series; 120 pins

MAXIMUM GROUNDING & ROUTING FLEXIBILITY



KEY SPECIFICATIONS (LPAM/LPAF)

PITCH	TOTAL PINS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
1.27 mm x 1.27 mm	Up to 400 I/Os	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	2.2 A per pin (8 adjacent pins powered)	250 VAC/354 VDC	YES

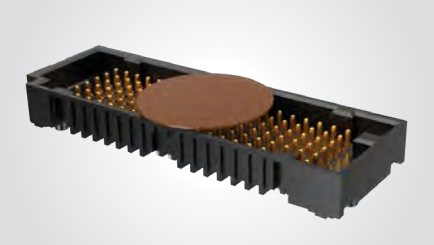
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

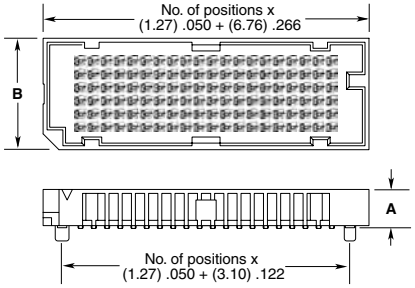
SERIES	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	K	"X"R
LPAM Terminal **LPAF** Socket	**–10, –20, –30, –40,** **–50** (-08 rows only)	**–01.0** = (1.0 mm) .039" (LPAM only) **–01.5** = (1.5 mm) .060" (LPAM only) **–03.0** = (3.0 mm) .118" (LPAF only) **–03.5** = (3.5 mm) .138" (LPAF only)	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	**–04** **–06** **–08**	**–1** = Tin/Lead Alloy Solder Crimp **–2** = Lead-Free Solder Crimp	**–K** = Polyimide film Pick & Place Pad	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

LPAM

Board Mates: LPAF

Standoffs: JSO, SO





NO. OF ROWS	B
–04	(8.18) .322
–06	(10.72) .422
–08	(13.26) .522

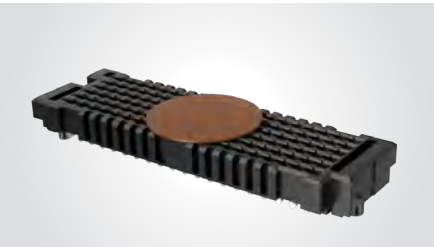
LEAD STYLE	A
-01.0	(3.68) .145
-01.5	(4.19) .165

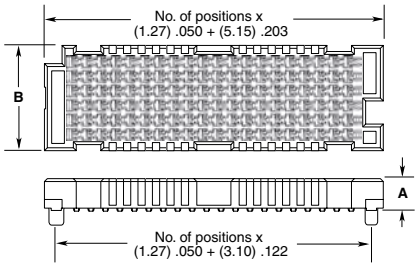
View complete specifications at: samtec.com?LPAM

LPAF

Board Mates: LPAM

Standoffs: JSO, SO





NO. OF ROWS	B
–04	(6.71) .264
–06	(9.25) .364
–08	(11.79) .464

LEAD STYLE	A
-03.0	(2.79) .110
-03.5	(3.30) .130

MATED HEIGHTS*

LPAM LEAD STYLE	LPAF LEAD STYLE	
	-03.0	-03.5
-01.0	(4.00) .157	(4.50) .177
-01.5	(4.50) .177	(5.00) .197

*Processing conditions will affect mated height.

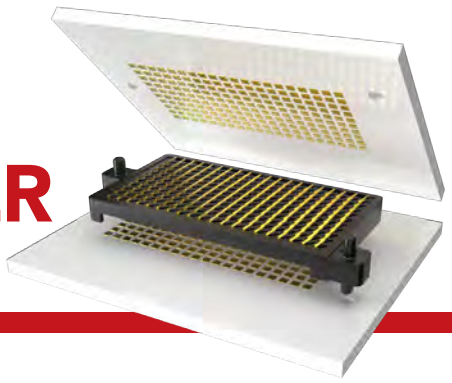
Notes:
Some sizes, styles and options are non-standard, non-returnable

View complete specifications at: samtec.com?LPAF

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SUPERNOVA® LOW PROFILE COMPRESSION INTERPOSER

PAM4 56 Gbps



(1.00 mm) .0394" PITCH • GMI SERIES

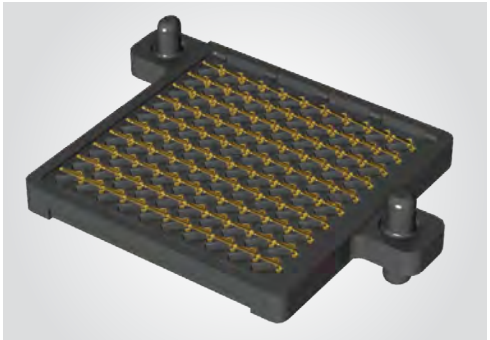
SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or 50 µ" (1.27 µm) Ni
Current Rating:
.9 A per pin
(10 pins powered)
Voltage Rating:
200 VAC/283 VDC

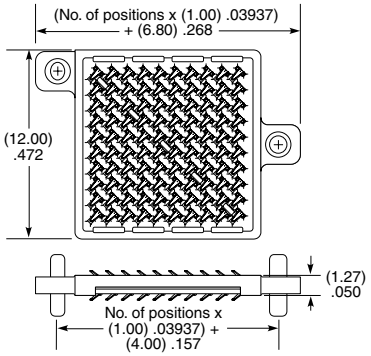
PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Complanarity:
(0.05 mm) .002" (10-20)*
(0.08 mm) .003" (30)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

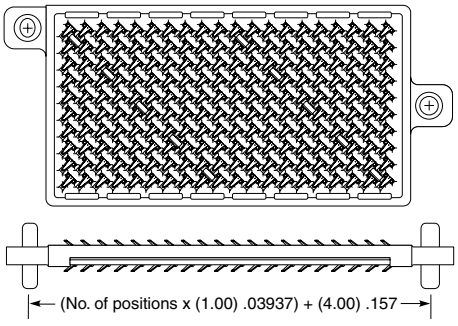
GMI	-	POSITIONS PER ROW	-	STYLE	-	BOARD SPACING	-	PLATING OPTION	-	ROWS
		–10, –20, –30		–2 = Dual Compression		–1.27 = (1.27 mm) .050" Board Space		–G = 10 µ" (0.25 µm) Gold on contact area		–10 = Ten Rows



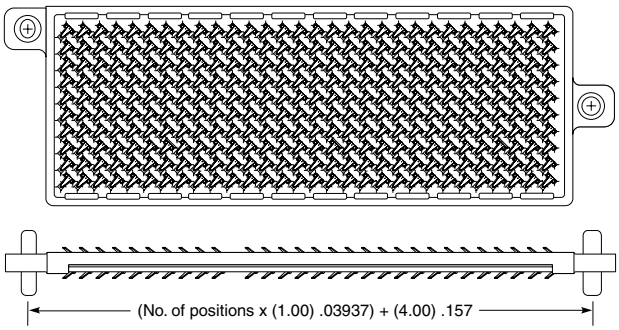
GMI Series is an ideal low-cost solution for board stacking, module-to-board or LGA interface



10 X 10



20 X 10



30 X 10

Note:
Some lengths, styles and options are non-standard, non-returnable

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SI-FLY® HD

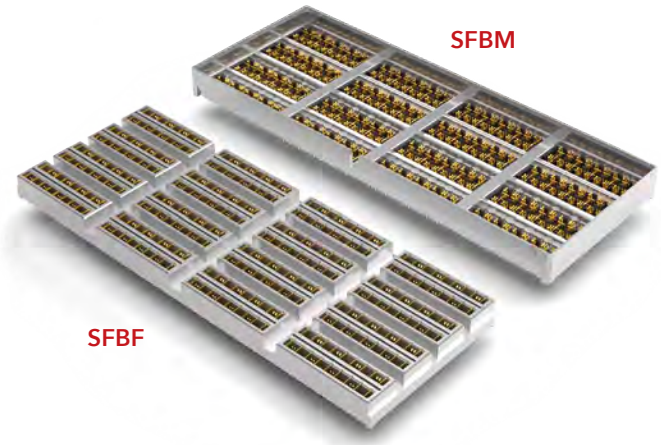
IN DEVELOPMENT: 224 Gbps PAM4 SOLUTIONS

BOARD-TO-BOARD AND BACKPLANE SYSTEMS

PAM4 224 Gbps

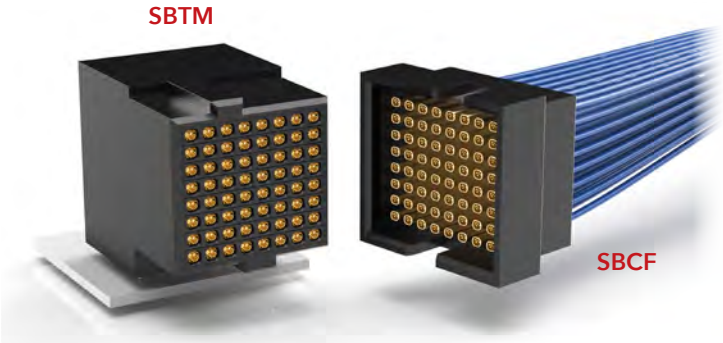
SI-FLY® HD HIGH-DENSITY MEZZANINE ARRAYS

- High-density with up to 64 differential pairs per square inch
- Mezzanine arrays route an extremely high number of transmission lines from one PCB to the next
- PCIe® 7.0 capable
- Surface mount reflow technology to the PCB
- Operating temperatures supporting -55 °C to +125 °C
- Series: SFBF, SFBM
- Visit **samtec.com/sifly-hd**

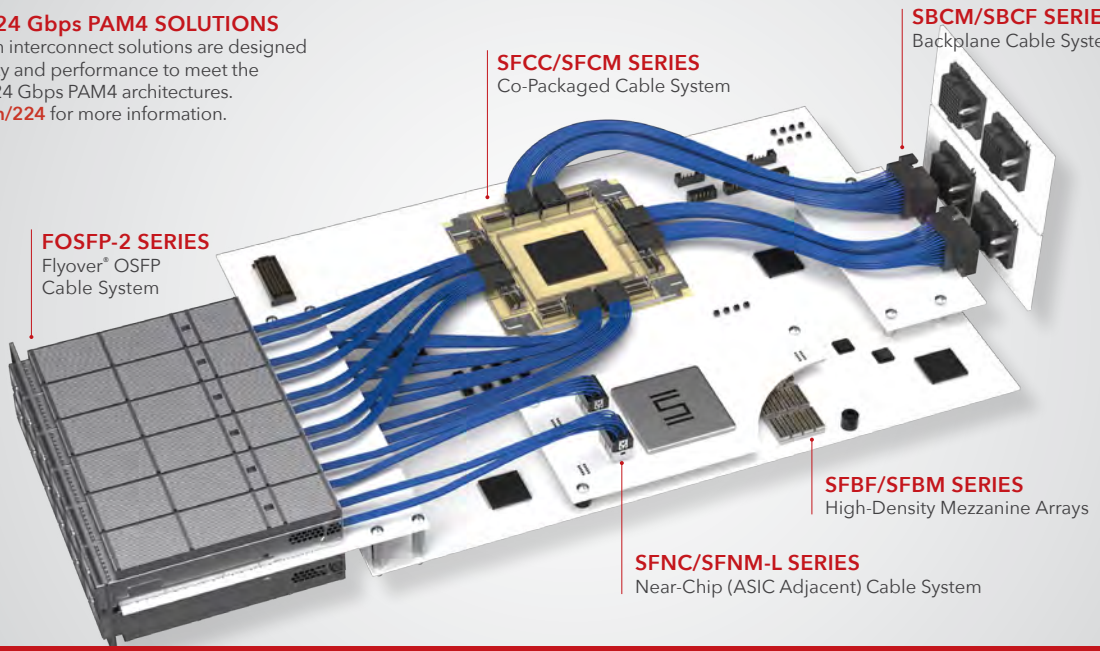


SI-FLY® HD HIGH-DENSITY BACKPLANE SYSTEM

- Cable-to-board and cable-to-cable for design flexibility and extended reach
- Up to 64 differential pairs; 8 pairs per row
- Eye Speed® hyper low skew twinax cable with 1.75 ps/m max intra-pair skew
- Series: SBCM/SBTM, SBCF
- Contact **HSBP@samtec.com** for more information



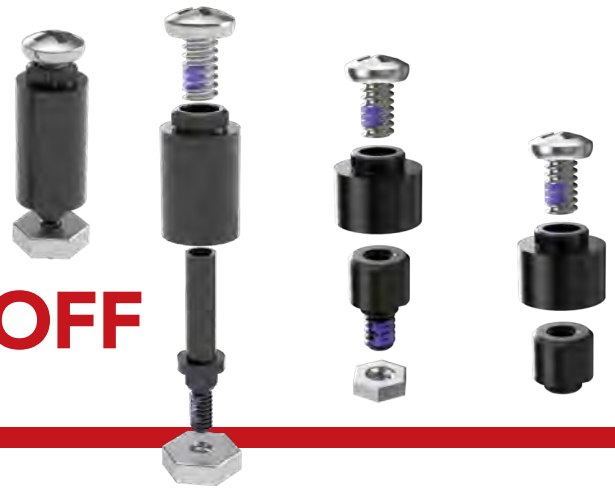
NEXT GEN 224 Gbps PAM4 SOLUTIONS
Samtec next gen interconnect solutions are designed with the flexibility and performance to meet the challenges of 224 Gbps PAM4 architectures.
Visit **samtec.com/224** for more information.



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SUREWARE™
ULTRA RUGGED HARDWARE

BOARD-TO-BOARD GUIDE POST STANDOFF



GPSO/GPSOM SERIES

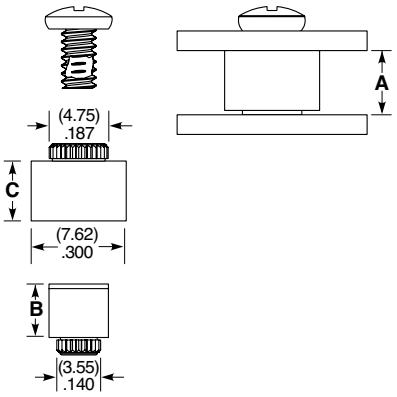
GPSO
Use With:
NVAX, APX6, ADX6, UMPX, UDX6

SERIES	BOARD STACK HEIGHT	LEAD STYLE	MATERIAL	KIT OPTION
GPSO GPSOM	Specify BOARD STACK HEIGHT from chart	–01 = Press-In (GPSO only) = Press-In with Nut (GPSOM only) –02 = Press-In with Nut (GPSO only)	–01 = 303 Stainless Steel with MIL-C-13924 black oxide finish	Leave blank for kit –N = No hardware (Standoff only)

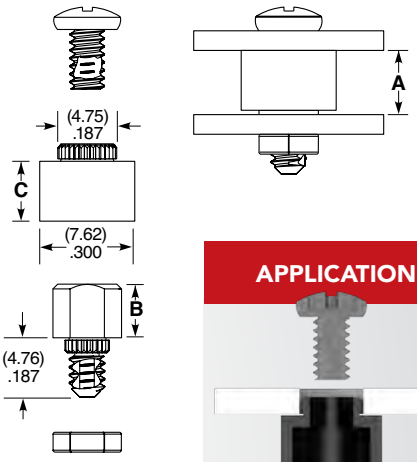
SPECIFICATIONS

Locking Compound:
Nylon

BOARD STACK HEIGHT	A	B	C
–0400	(4.00) .157	(3.15) .124	(3.65) .144
–0500	(5.00) .197	(4.15) .163	(4.65) .183
–0515	(5.15) .203	(4.30) .169	(4.80) .189
–0700	(7.00) .276	(6.15) .242	(6.65) .262
–0715	(7.15) .281	(6.30) .248	(6.80) .268
–0865	(8.65) .341	(7.80) .307	(8.30) .327
–0900	(9.00) .354	(8.15) .321	(8.65) .341
–0915	(9.15) .360	(8.30) .327	(8.80) .346
–1000	(10.00) .394	(9.15) .360	(9.65) .380
–1015	(10.15) .400	(9.30) .366	(9.80) .386
–1115	(11.15) .439	(10.30) .406	(10.80) .425
–1200	(12.00) .472	(11.15) .439	(11.65) .459
–1215	(12.15) .478	(11.30) .445	(11.80) .465
–1315	(13.15) .518	(12.30) .484	(12.80) .504
–1415	(14.15) .557	(13.30) .524	(13.80) .543
–1515	(15.15) .596	(14.30) .563	(14.80) .583
–1524	(15.24) .600	(14.39) .567	(14.89) .586
–1615	(16.15) .636	(15.30) .602	(15.80) .622



-01 LEAD STYLE



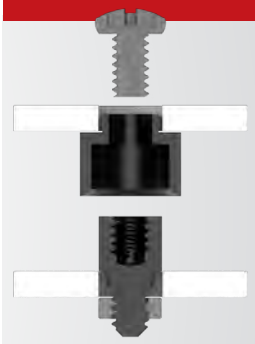
-02 LEAD STYLE

Notes:
Standoffs to be used with (1.57 mm) .062" min thick boards. Threaded options PCB max thickness of (3.16 mm) .124".

Some sizes, styles and options are non-standard, non-returnable.

Components are to be packaged in separate bags unassembled. Top and bottom components available for purchase separately, contact Samtec.

APPLICATION

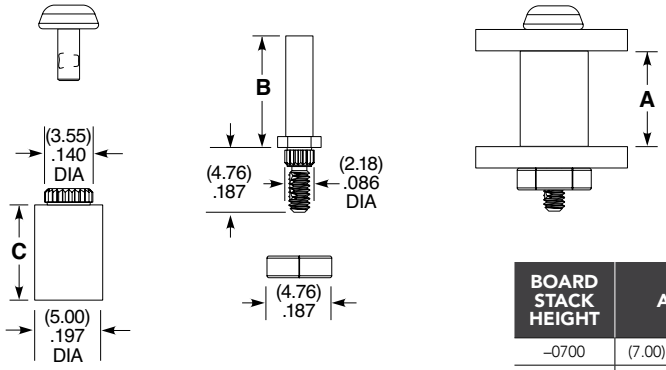


Alignment starts before connectors engage.

GPSOM
Use With:
NVAX, ADX6, UMPX, SEAX, ERX8

SPECIFICATIONS

Material:
Stainless Steel with black oxide finished



GPSOM-XXXX-01-01 SHOWN

BOARD STACK HEIGHT	A	B	C
–0700	(7.00) .276	(8.20) .323	(7.00) .276
–0900	(9.00) .354	(10.20) .402	(9.00) .354

Notes:
Standoffs to be used with (1.57 mm) .062" min thick boards. Threaded options PCB max thickness of (3.16 mm) .124".

Some sizes, styles and options are non-standard, non-returnable.

Components are to be packaged in separate bags unassembled.
Top and bottom components available for purchase separately, contact Samtec.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SUREWARE™
ULTRA RUGGED HARDWARE

JACK SCREW STANDOFF



JSO SERIES

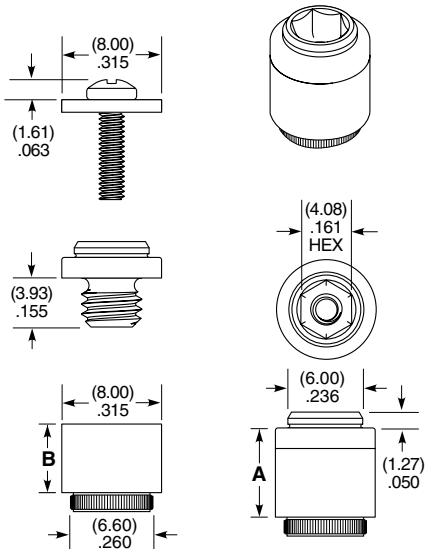
JSO
Use With:
SEAX, SEAX8, LPAX, LSHM

JSO	–	BOARD STACKER	–	LEAD STYLE	–	PLATING OPTION
		Specify BOARD STACKER from chart		**–01** = Press-In (–0415, –0515, –0715, –0815 only) **–03** = Male Thread (–0815, –1015, –1115, –1615 only)		**–L** = Locking compound (Not available with –01 lead style, Required for –03 lead style)

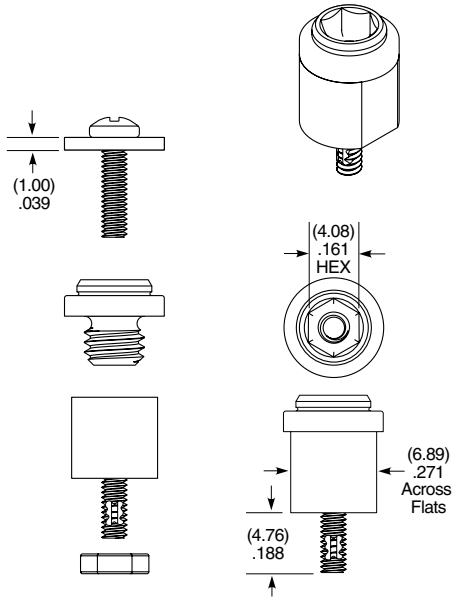
SPECIFICATIONS

Material:
Stainless Steel
Locking Compound:
Nylon

BOARD STACKER	A	B	BOARD STACK HEIGHT
–0415	(4.15) .163	(2.50) .098	4 mm
–0515	(5.15) .203	(3.50) .138	5 mm
–0715	(7.15) .281	(5.50) .217	7 mm
–0815	(8.15) .321	(6.50) .256	8 mm
–1015	(10.15) .400	(8.50) .335	10 mm
–1115	(11.15) .439	(9.50) .374	11 mm
–1615	(16.15) .636	(14.50) .571	16 mm



-01 LEAD STYLE



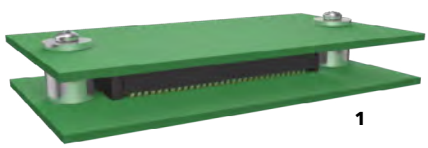
-03 LEAD STYLE

ALSO AVAILABLE
Contact Samtec
Other heights
Locking compound removed

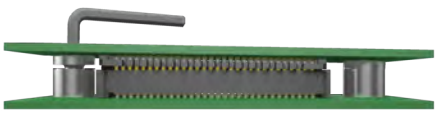
Note:
Some sizes, styles and options are non-standard, non-returnable.

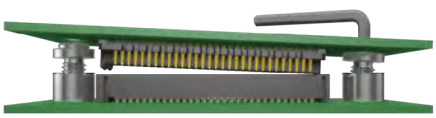
Components are to be packaged in separate bags unassembled.

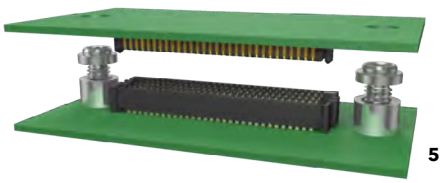
APPLICATION


1


2


3

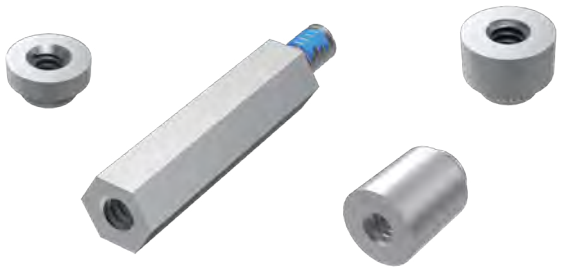

4


5

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SUREWARE™
ULTRA RUGGED HARDWARE

PRECISION BOARD STACKING STANDOFF



SO SERIES

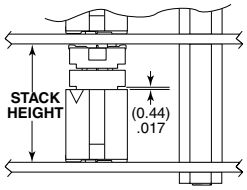
SO
Use With:
QXH, QXE, QXS, QXSS, QRX8, ERX5, ERX6, ERX8, LSHM, LSS, LSEM, SX4, SX5, XLH

SO	-	BOARD STACKER	-	LEAD STYLE	-	THREAD STYLE	-	01	-	L
		Specify BOARD STACKER from chart		**–01** = Female Thread/Press-In (–0515 thru –0865 only) **–02** = Male/Male Thread (–0515 and –1115 thru –2515 only) **–03** = Male/Female Thread (–0815 thru –2515 only) **–05** = Female/Female Thread (–0515 thru –2515 only)		**–01** = #4-40 Thread **–02** = M3 x 0.5 Thread°				**–L** = –02 & –03 Lead Style thread locking compound (Leave blank for –01 Lead Style)

SPECIFICATIONS

Material:
Aluminum
Locking Compound:
Nylon

INDUSTRY STANDARD SOLUTIONS



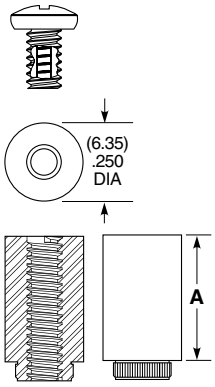
Requires Standoff SO-1524-03-01-01-L or JSOM-1524-02 for 15.24 mm or SO-2200-03-01-01-L for 22 mm board spacing. Connectors designed to not fully seat when mated.
For more information on the JSOM, visit samtec.com?JSOM

INDUSTRY STANDARD	INTERCONNECTS			
	TERMINAL	SOCKET	BANKS	STACK HEIGHT
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
PCI/104-Express™	ASP-142781-01	ASP-129646-01	1	22 mm
PCI/104-Express™	ASP-142781-02	ASP-129646-02	2	22 mm
PCI/104-Express™	ASP-142781-03	ASP-129646-03	3	22 mm

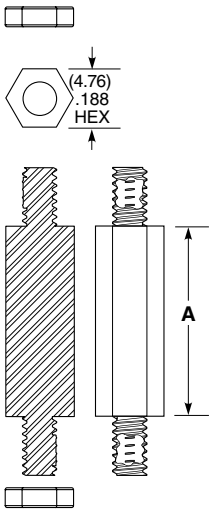
BOARD STACKER	A	BOARD STACK HEIGHT
–0515	(5.15) .203	5 mm
–0715	(7.15) .282	7 mm
–0815	(8.15) .321	8 mm
–0865	(8.65) .341	8.5 mm
–1115	(11.15) .439	11 mm
–1215	(12.15) .478	12 mm
–1524	(15.24) .600	15.09 mm
–1615	(16.15) .636	16 mm
–1890	(18.90) .744	18.75 mm
–1915	(19.15) .754	19 mm
–2515	(25.15) .990	25 mm

ALSO AVAILABLE
Contact Samtec

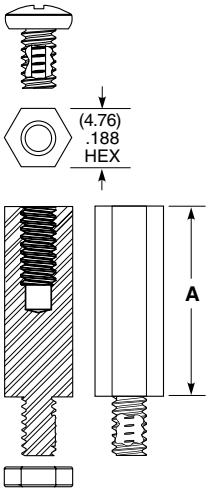
Other heights
Stainless Steel
Locking compound removed
Other materials and threading
No Hardware



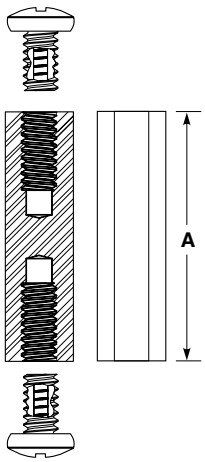
-01 LEAD STYLE



-02 LEAD STYLE



-03 LEAD STYLE



-05 LEAD STYLE

Note:
Some sizes, styles and options are non-standard, non-returnable.

Components are to be packaged in separate bags unassembled.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED DUAL ROW SYSTEMS

25+ Gbps PERFORMANCE • INTEGRAL GROUND PLANE • EDGE RATE® CONTACTS

39-40

Q STRIP® INTEGRAL GROUND PLANE INTERCONNECTS

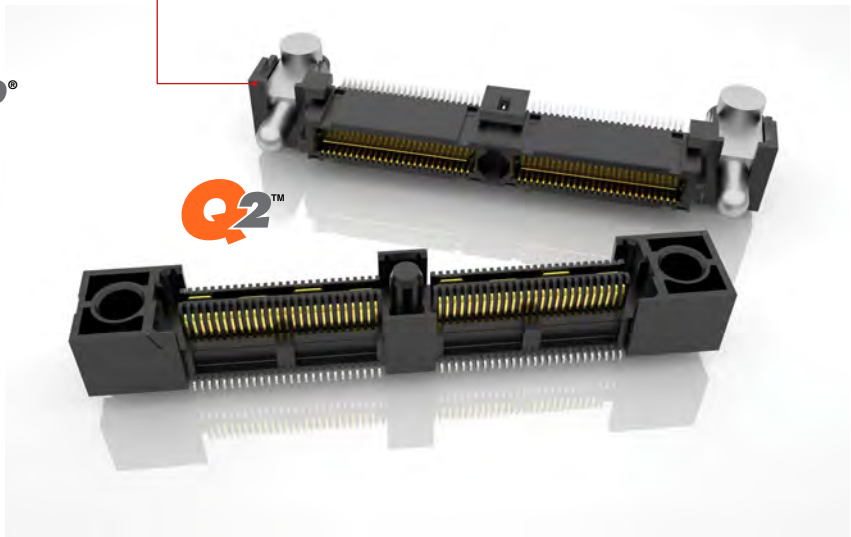
0.50 mm (.0197") Pitch (QTH, QSH)
0.80 mm (.0315") Pitch (QTE, QSE)
0.635 mm (.025") Pitch (QTS, QSS)



42-43

Q2™ RUGGED INTEGRAL GROUND PLANE INTERCONNECTS

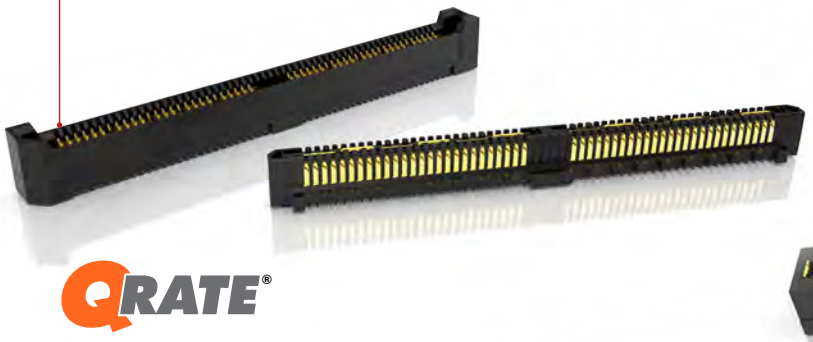
0.635 mm (.025") Pitch (QMS, QFS)
0.635 mm (.025") Pitch Shielded (QMSS, QFSS)



44

Q RATE® SLIM BODY INTEGRAL GROUND PLANE INTERCONNECTS

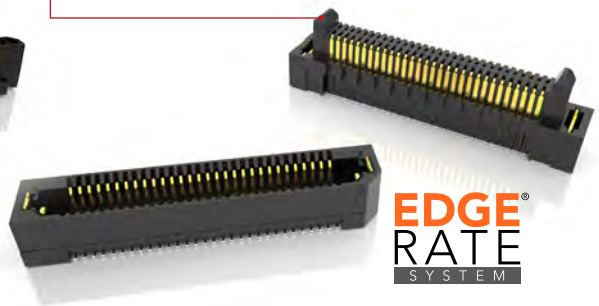
0.80 mm (.0315") Pitch (QRM8, QRF8)



49-54

EDGE RATE® RUGGED HIGH-SPEED INTERCONNECTS

0.50 mm (.0197") Pitch (ERM5, ERF5)
0.635 mm (.025") Pitch (ERM6, ERF6)
0.80 mm (.0315") Pitch (ERM8, ERF8)



Q Series® Solutions for Power Applications 45
Q Series® Right-Angle & Edge Mount Systems 46-47

QSERIES®

HIGH-SPEED GROUND PLANE DUAL ROW CONNECTORS



NRZ 25 Gbps

NRZ 28 Gbps

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

FEATURES & BENEFITS

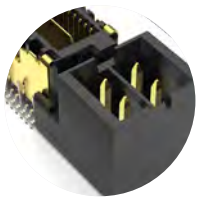
- Designed for high-speed board-to-board applications where signal integrity is essential
- Q Strip® low profile connectors on 0.50 mm, 0.635 mm and 0.80 mm pitches
- Q Rate® slim connectors with Edge Rate® contacts on 0.80 mm pitch with a 1.20 mm contact wipe
- Q2™ rugged connectors on 0.635 mm pitch with increased insertion depth for rugged applications
- Right-angle, edge mount, EMI shielding and power options
- Differential pair and single-ended routing



Differential Pairs Reduce Noise



Rugged Edge Rate® Contact System



Power, Retention & RF Options



Precision Board Stacking Standoffs

INTEGRAL GROUND / POWER PLANE

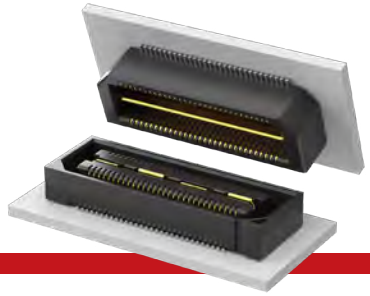
- Surface mount ground plane between two signal rows improves electrical performance
- Significantly reduces row-to-row crosstalk
- Integral metal plane for power to 25 Amps



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

QSTRIP®

NRZ 25 Gbps



(0.50 mm) .0197" PITCH • QTH/QSH SERIES

QTH
Board Mates:
QSH

QSH
Board Mates:
QTH

QTH/QSH
Cable Mates:
HQCD, HQDP

Standoffs:
SO

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Contact:
2 A per pin (2 pins powered)
Ground Plane:
25 A per ground plane
(1 ground plane powered)
Voltage Rating:
175 VAC/247 VDC
Max Cycles:
100

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
(030-060)
(0.15 mm) .006" max (090)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
Board Stacking:
For applications requiring more than two connectors contact ipg@samtec.com

STANDARDS

PISMO™ 1:
Visit samtec.com/standards for more information.

10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

QTH	PINS PER ROW NO. OF PAIRS	LEAD STYLE	PLATING OPTION	TYPE	A	OTHER OPTIONS	"X"R

–030, –060, –090
(60 total pins per bank = –D)

–020, –040, –060
(20 pairs per bank = –D–DP)

Specify LEAD STYLE from chart

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C
= 50 µ" (1.27 µm) Electro-Polished Selective Gold on contact, Matte Tin on tail (passes 10 year MFG testing)

–D
= Single-Ended

–D-DP
= Differential Pair (–01 only)

–K
= (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (Not available with -05 & -07 lead style)

–L
= Latching Option (–01 lead style only) (Not available on –060 (–D–DP) & –090)

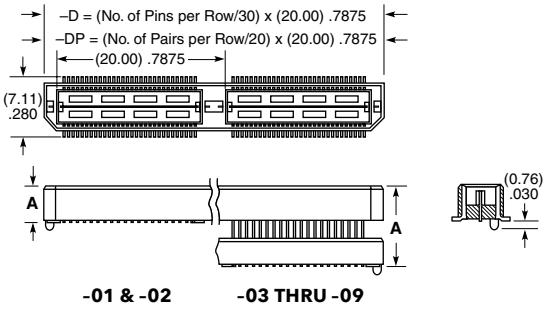
Leave blank for Tray Packaging

–TR
=Tape & Reel (Not available with –05 & –07 lead style)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (Not available with –05 & –07 lead style)

QTH LEAD STYLE	A	HEIGHT WITH QSH*
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315
–03	(10.27) .404	(11.00) .433
–04	(15.25) .600	(16.00) .630
–05	(18.26) .718	(19.00) .748
–07	(24.24) .954	(25.00) .984
–09	(13.26) .522	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances.



-01 & -02 -03 THRU -09

View complete specifications at: **samtec.com?QTH**

QSH	PINS PER ROW NO. OF PAIRS	01	PLATING OPTION	TYPE	A	OTHER OPTIONS	"X"R

–030, –060, –090
(60 total pins per bank = –D)

–020, –040, –060
(20 pairs per bank = –D–DP)

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C
= 50 µ" (1.27 µm) Electro-Polished Selective Gold on contact, Matte Tin on tail (passes 10 year MFG testing)

–D
= Single-Ended

–D–DP
= Differential Pair

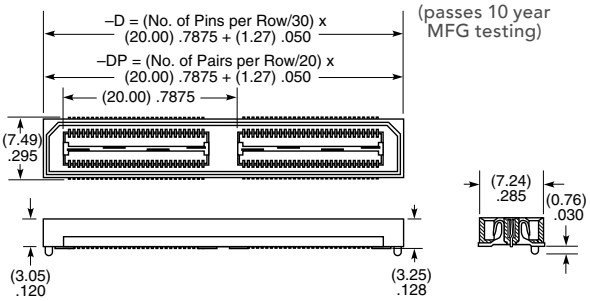
–K
= (8.25 mm) .325" DIA Polyimide film Pick & Place Pad

–L
= Latching Option (Not available on –060 (–D–DP) & –090)

Leave blank for Tray Packaging

–TR
=Tape & Reel (N/A –05 to –07 lead style)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks))



View complete specifications at: **samtec.com?QSH**

See pg 46-47 for Right-Angle & Edge Mount options.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

QSTRIP®

NRZ 28 Gbps



(0.80 mm) .0315" PITCH • QTE/QSE SERIES

QTE
Board Mates:
QSE

QSE
Board Mates:
QTE

QTE/QSE
Cable Mates:
EQCD, EQDP

Standoffs:
SO

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Contact:
2 A per pin (2 pins powered)
Ground Plane:
23 A per ground plane
(1 ground plane powered)
Voltage Rating:
225 VAC/318 VDC
Max Cycles:
100

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
(020-060)
Board Stacking:
For applications requiring more than two connectors contact ipg@samtec.com

10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

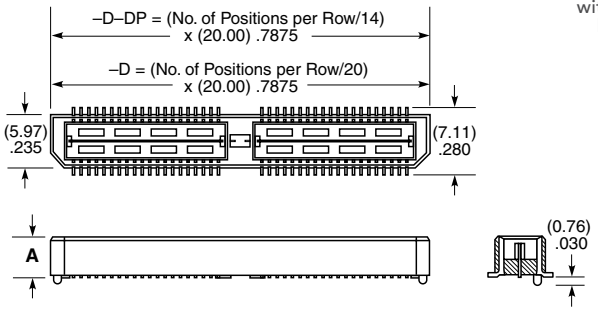
Note:
Some lengths, styles and options are non-standard, non-returnable.

QTE

QTE	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTIONS	–	"X"R
		–020, –040, –060 (40 total pins per bank = –D) **–014, –028, –042** (14 pairs per bank = –D–DP)		**Specify LEAD STYLE from Chart**		**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–C** = 50 µ" (1.27 µm) Electro-Polished Selective Gold on contact, Matte Tin on tail (passes 10 year MFG testing)		**–D** = Single-Ended **–D–DP** = Differential Pair (–01 only)				**–K** = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad **–L** = Latching Option (N/A on –042 & –060 positions)		Leave blank for Tray Packaging **–TR** =Tape & Reel (Not available with –05 & –07 lead style) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (Not available with –05 & –07 lead style)

QTE LEAD STYLE	A	HEIGHT WITH QSE*
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315
–03	(10.27) .404	(11.00) .433
–04	(15.25) .600	(16.00) .630
–05	(18.26) .718	(19.00) .748
–07	(24.24) .954	(25.00) .984
–09	(13.26) .522	(14.00) .551

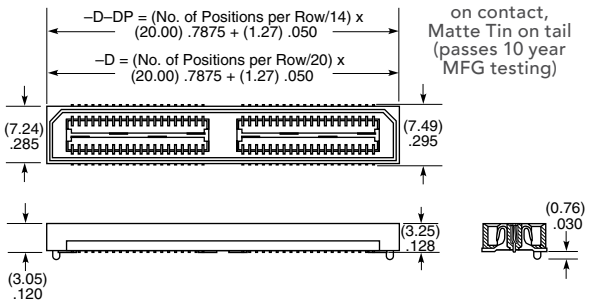
*Processing conditions will affect mated height. See SO Series for board space tolerances.



View complete specifications at: **samtec.com?QTE**

QSE

QSE	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTIONS	–	"X"R
		–020, –040, –060 (40 total pins per bank = –D) **–014, –028, –042** (14 pairs per bank = –D–DP)				**–F** = Gold flash on contact, Matte Tin on tail **–L** =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–C** = 50 µ" (1.27 µm) Electro-Polished Selective Gold on contact, Matte Tin on tail (passes 10 year MFG testing)		**–D** = Single-Ended **–D–DP** = Differential Pair				**–GP** = Guide Post **–K** = (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad **–L** = Latching Option (Not available on –042 & –060 positions)		Leave blank for Tray Packaging **–TR** =Tape & Reel (40 positions max. with –GP) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (40 positions max. with –GP)



View complete specifications at: **samtec.com?QSE**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

QSTRIP®

NRZ 25 Gbps



(0.635 mm) .025" PITCH • QTS/QSS SERIES

QTS
Board Mates:
QSS

QSS
Board Mates:
QTS

QTS/QSS
Cable Mates:
SQCD

Standoffs:
SO

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Contact:
1.3 A per pin (2 pins powered)
Ground Plane:
23.1 A per ground plane
(1 ground plane powered)
Voltage Rating:
275 VAC/389 VDC
Max Cycles:
100

PROCESSING

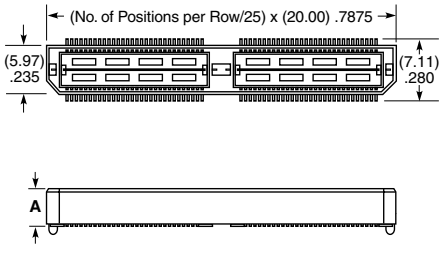
Lead–Free Solderable:
Yes
QTS SMT Lead Coplanarity:
(0.10 mm) .004" max
(025-075)
QSS SMT Lead Coplanarity:
(0.10 mm) .004" max
(025-050)
(0.15 mm) .006" max (075)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)
Board Stacking:
For applications requiring
more than two connectors
contact ipg@samtec.com

10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

QTS

QTS	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	D	A	OTHER OPTIONS	"X"R
	–025, –050, –075 (50 total positions per bank)	Specify LEAD STYLE from Chart	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –C = 50 µ" (1.27 µm) Electro-Polished Selective Gold on contact, Matte Tin on tail (passes 10 year MFG testing)			–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad	Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel must order max. quantity per reel; contact Samtec for quantity breaks)



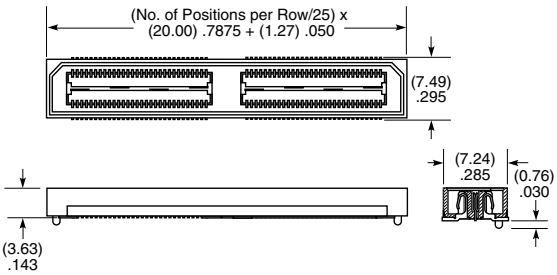
QTS LEAD STYLE	A	MATED HEIGHT WITH QSS
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315

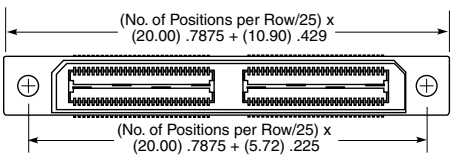
*Processing conditions will affect mated height.
See SO Series for board space tolerances.

View complete specifications at: **samtec.com?QTS**

QSS

QSS	NO. OF POSITIONS PER ROW	01	PLATING OPTION	D	A	OTHER OPTIONS	"X"R
	–025, –050, –075 (50 total positions per bank)		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –C = 50 µ" (1.27 µm) Electro-Polished Selective Gold on contact, Matte Tin on tail (passes 10 year MFG testing)			–GP = Guide Holes for mating with QTS-RA –K = (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad	Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel must order max. quantity per reel; contact Samtec for quantity breaks)





-GP OPTION

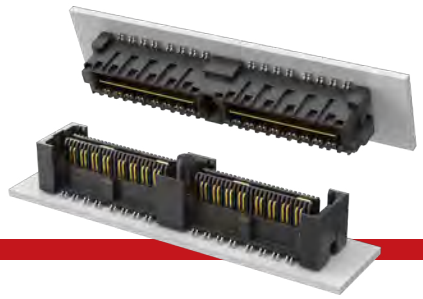
View complete specifications at: **samtec.com?QSS**

See pg 46-47 for Right-Angle & Edge Mount options.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.635 mm) .025" PITCH • QMS/QFS SERIES

NRZ 25 Gbps



QMS
Board Mates:
QFS

QFS
Board Mates:
QMS

QMS/QFS
Cable Mates:
6QCD
Standoffs:
SO

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact & Ground Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Contact:
2.6 A per pin (2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Voltage Rating:
250 VAC/ 354 VDC

PROCESSING

Lead–Free Solderable:
Yes
QMS SMT Lead Coplanarity:
(0.10 mm) .004" max
(026-052)
(0.15 mm) .006" max (078)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
QFS SMT Lead Coplanarity:
(0.10 mm) .004" max
(026-078)
Board Stacking:
For applications requiring more than two connectors contact ipg@samtec.com

STANDARDS

SUMIT™
PCI/104-Express®
PCI/104-Express® OneBank

Visit samtec.com/standards for more information, including mated heights and complete part numbers.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

QMS

QMS – PINS PER ROW NO. OF PAIRS – LEAD STYLE – PLATING OPTION – TYPE – A – OTHER OPTION

–026, –052, –078
(52 total pins per bank = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

(–078 & –048 Not available with –09.75 Lead Style)

Specify LEAD STYLE from Chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (–05.75 & –06.75 Lead Style Only)

–SL
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (–09.75 Lead Style Only)

–D
= Single-Ended

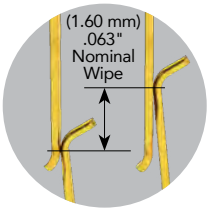
–D–DP
= Differential Pair

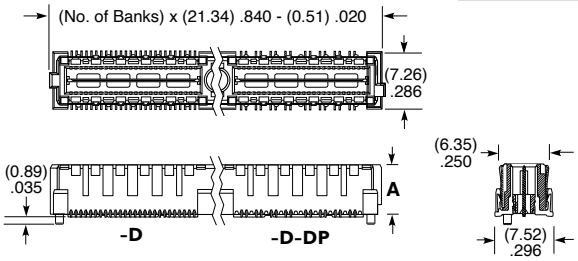
–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad

PACKAGING OPTION
Tape & Reel Options (–TR & –FR) available. Visit series web page and view engineering prints for complete specifications.

MATED HEIGHT*			
QMS LEAD STYLE	A	QFS LEAD STYLE	
		–4.25	–6.25
–05.75	(5.38) .212	10 mm	12 mm
–06.75	(6.35) .250	11 mm	13 mm
–09.75	(9.35) .368	14 mm	16 mm

*Processing conditions will affect mated height. See SO Series for board space tolerances.





View complete specifications at: **samtec.com?QMS**

QFS

QFS – PINS PER ROW NO. OF PAIRS – LEAD STYLE – PLATING OPTION – TYPE – A – OTHER OPTION

–026, –052, –078
(52 total pins per bank = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

Specify LEAD STYLE from Chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (–04.25 Lead Style only)

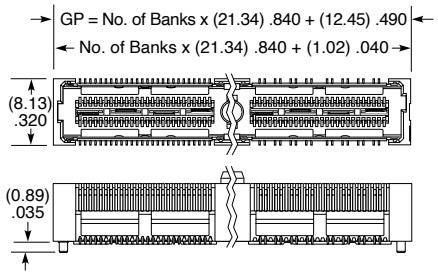
–SL
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (–06.25 Lead Style only)

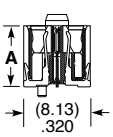
–D
= Single-Ended

–D–DP
= Differential Pair (–04.25 Lead Style only)

–GP
= Guide Holes (–04.25 Lead Style only)

PACKAGING OPTION
Tape & Reel Options (–TR & –FR) available. Visit series web page and view engineering prints for complete specifications.



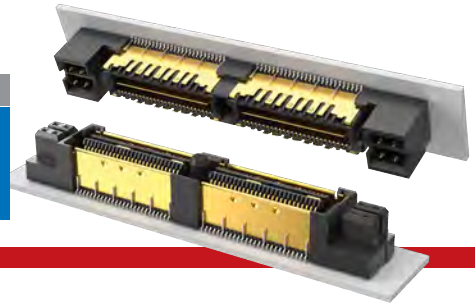


LEAD STYLE	A
–04.25	(7.44) .293
–06.25	(9.42) .371

View complete specifications at: **samtec.com?QFS**

See pg 46-47 for Right-Angle & Edge Mount options.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



(0.635 mm) .025" PITCH • QMSS/QFSS SERIES

QMSS
Board Mates:
QFSS

QFSS
Board Mates:
QMSS

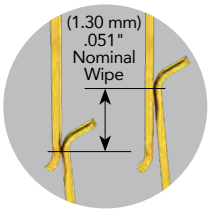
QMSS/QFSS
Standoffs:
SO

SPECIFICATIONS

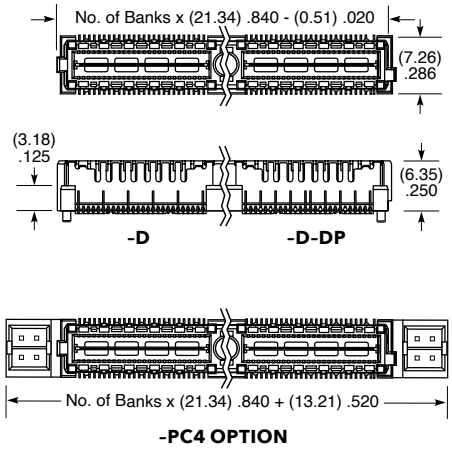
Insulator Material:
Liquid Crystal Polymer
Terminal, Ground Plane & Shield Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni (Tin on Ground Plane Tail)
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Contact:
3.4 per pin (4 adjacent pins powered)
Ground Plane:
7.8 A per ground plane (2 ground planes powered)
Voltage Rating:
300 VAC/424 VDC

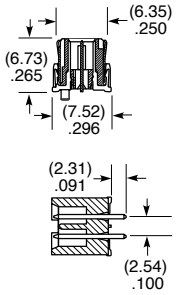
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors contact ipg@samtec.com



QMSS	PINS PER ROW NO. OF PAIRS	06.75	PLATING OPTION	TYPE	A	OTHER OPTION
	–026, –052, –078 (52 total pins per bank / 40 signals + 12 grounds to shield = –D) **–016, –032, –048** (16 pairs per bank = –D–DP)		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	**–D** = Single-Ended **–D–DP** = Differential Pair		**–K** = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (N/A with –PC4) **–PC4** = 4 Power Pins/End (N/A with –A)



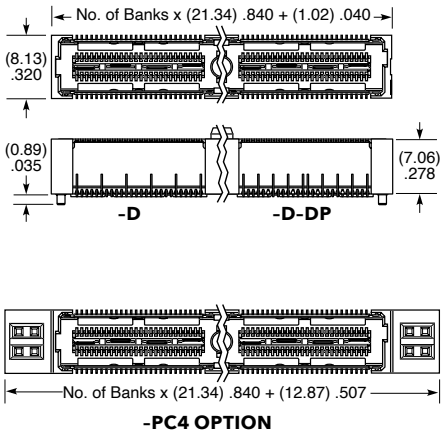


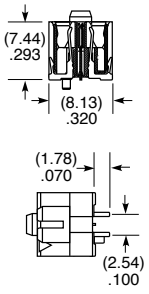
PACKAGING OPTION

Tape & Reel Options (-TR & -FR) available. Visit series web page and view engineering prints for complete specifications.

View complete specifications at: **samtec.com?QMSS**

QFSS	PINS PER ROW NO. OF PAIRS	04.25	PLATING OPTION	TYPE	A	OTHER OPTION
	–026, –052, –078 (52 total pins per bank / 40 signals + 12 grounds to shield = –D) **–016, –032, –048** (16 pairs per bank = –D–DP)		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	**–D** = Single-Ended **–D–DP** = Differential Pair		**–PC4** = 4 Power Pins/End (N/A with –A)





PACKAGING OPTION

Tape & Reel Options (-TR & -FR) available. Visit series web page and view engineering prints for complete specifications.

View complete specifications at: **samtec.com?QFSS**

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

QRATE®

NRZ 28 Gbps



(0.80 mm) .0315" PITCH • QRM8/QRF8 SERIES

QRM8
Board Mates:
QRF8

QRF8
Board Mates:
QRM8

QRM8/QRF8
Cable Mates:
EQRD

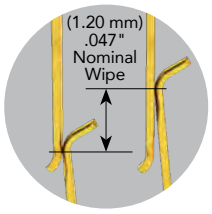
SPECIFICATIONS

Insulator Material:
Black LCP
QRM8 Terminal Material:
Phosphor Bronze
QRF8 Contact Material:
BeCu
Ground Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Contact:
3.3 A per pin
(2 pins powered)
Voltage Rating:
215 VAC/304 VDC
Max Cycles:
100

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
(018-026)
(0.15 mm) .006" max
(036-078)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
Board Stacking:
For applications requiring more than two connectors contact ipg@samtec.com

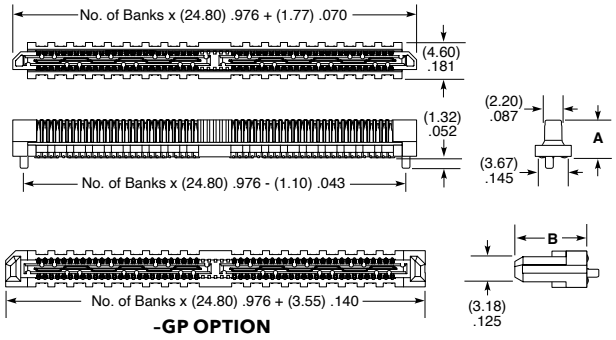
10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



LEAD STYLE	A
–05	(5.01) .197
–07	(7.01) .276

Note:
Some lengths, styles and options are non-standard, non-returnable.

QRM8	– PINS PER ROW NO. OF PAIRS	– LEAD STYLE	– PLATING OPTION	– TYPE	– A	– OTHER OPTIONS	– "X"R
	–026, –052, –078 (52 total pins per bank = –D) **–018, –036, –054** (18 pairs per bank = –D–DP)	**–02.0** = 2 mm Body Height Not available with –054 & –078 Positions) **–05.0** = 5 mm Body Height **–07.0** = 7 mm Body Height	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	**–D** = Single-Ended **–D-DP** = Differential Pair		**–GP** = Guide Post **–K** = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad	Leave blank for Tray Packaging **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

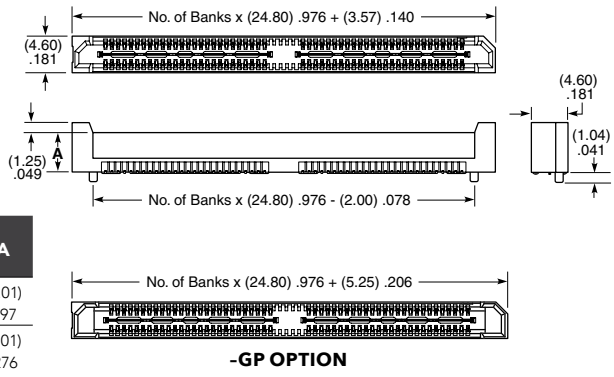


-GP OPTION

LEAD STYLE	A	B
–02	(4.81) .189	(6.12) .241
–05	(7.81) .307	(9.12) .359
–07	(9.78) .385	(11.12) .438

View complete specifications at: **samtec.com?QRM8**

QRF8	– PINS PER ROW NO. OF PAIRS	– LEAD STYLE	– PLATING OPTION	– TYPE	– A	– OTHER OPTIONS	– "X"R
	–026, –052, –078 (52 total pins per bank = –D) **–018, –036, –054** (18 pairs per bank = –D–DP)	**–05.0** = 5 mm Body Height **–07.0** = 7 mm Body Height	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	**–D** = Single-Ended **–D-DP** = Differential Pair		**–GP** = Guide Post **–K** = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad	Leave blank for Tray Packaging **–TR** = Tape & Reel (Not available with –054 & –078 positions) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (Not available with –054 & –078 positions)



-GP OPTION

View complete specifications at: **samtec.com?QRF8**

MATED HEIGHT*			
QRF8 LEAD STYLE	QRM8 LEAD STYLE -02.0	QRM8 LEAD STYLE -05.0	QRM8 LEAD STYLE -07.0
–05	(7.00) .276	(10.00) .394	(12.00) .472
–07	(9.00) .354	(12.00) .472	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED SIGNAL & POWER COMBINATIONS

Q2™ Rugged Signal/Power

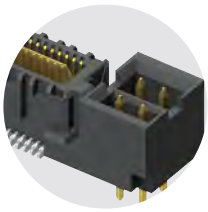
- Integral power/ground plane rated for up to 15.7 Amps
- Optional integral power pins rated at 4 Amps
- Wide variety of standard high-speed mating cable assemblies
- Combination signal/power cable assemblies
- 0.635 mm pitch with choice of stack heights
- Rugged contact system with increased insertion depth
- See QMS/QFS Series



Integral Power / Ground Plane



Maximum Insertion Depth



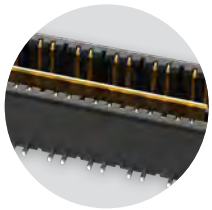
Optional Power Pins

Q Strip® High-Speed Signal/Power

- Integral power/ground plane rated for up to 25 Amps
- Wide variety of standard high-speed mating cables
- Low profile (5 mm) to elevated (25 mm) stack heights
- Choice of pitches: QTH/QSH Series (0.50 mm pitch), QTS/QSS Series (0.635 mm pitch), and QTE/QSE Series (0.80 mm pitch)



Single-Ended or Differential Pair



Surface Mount or Through-Hole Power Planes



Low Profile to Elevated Stack Heights

Q Rate® Slim Body High-Speed Signal/Power

- Widely accepted industry standard power/ground plane rated for up to 8.5 Amps
- Signal integrity optimized Edge Rate® contact is robust when "zippered" during unmating
- Slim 4.60 mm body width on 0.80 mm pitch
- 7 mm to 14 mm stack heights
- See QRM8/QRF8 Series



Edge Rate® Contact System



Integral Power / Ground Plane

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

QSERIES®

RIGHT-ANGLE & EDGE MOUNT HIGH-SPEED GROUND PLANE CONNECTORS

- Right-Angle and Edge Mount designs for coplanar and perpendicular mating
- Q Strip® Right-Angle High-Speed Connectors on 0.50 mm & 0.635 mm pitches
- Q2™ Right-Angle & Edge Mount Rugged High-Speed Connectors on 0.635 mm pitch
- Q Rate® Right-Angle Slim Body High-Speed Connectors on 0.80 mm pitch
- Visit **samtec.com/QSeries** for complete specifications and ordering information



Q STRIP® HIGH-SPEED GROUND PLANE CONNECTORS

(0.50 mm) .0197" PITCH RIGHT-ANGLE GROUND PLANE HEADERS & SOCKETS



QTH-RA
Board Mates: QSH



QSH-RA
Board Mates: QTH

SERIES	PINS PER ROW NO. OF PAIRS	01	PLATING	TYPE	RA	OTHER OPTION
QTH Header **QSH** Socket	**–030, –060, –090** –D = (60 total pins per bank) **–020, –040, –060** –D–DP = (20 pairs per bank)		**–F** = Gold Flash on contact, Matte Tin on tails **–L** = 10 µ" (0.25 µm) Gold contact, Matte Tin on tails	**–D** = Single-Ended **–D–DP** = Differential Pair		**–PGP** = Plastic Guide Post (QTH only) **–GP** =Guide Post Holes (QSH only) **–K** = Polyimide film Pick & Place Pad

View complete specifications at: **samtec.com?QTH-RA or samtec.com?QSH-RA**

(0.635 mm) .025" PITCH RIGHT-ANGLE GROUND PLANE HEADERS & SOCKETS



QTS-RA
Board Mates: QSS



QSS-RA
Board Mates: QTS
Cable Mates: SQCD

SERIES	POSITIONS PER ROW	01	PLATING	D	RA	WT	OTHER OPTION
QTS Header **QSS** Socket	**–025, –050, –075** (50 total Positions per bank)		**–F** = Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails **–L** = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails			**–WT** = Weld Tab (N/A with -025 Positions)	**–SP** = Solder Pin (QTS only)

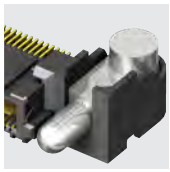
Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?QTS-RA or samtec.com?QSS-RA**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

Q2™ HIGH-SPEED GROUND PLANE CONNECTORS

(0.635 mm) .025" PITCH RIGHT-ANGLE GROUND PLANE HEADERS & SOCKETS



QMS-RA
Board Mates:
QFS



QFS-RA
Board Mates:
QMS

SERIES	PINS PER ROW NO. OF PAIRS	01	PLATING	TYPE	RA	MG	OTHER OPTION	PACKAGING
QMS Header **QFS** Socket	**–026, –052, –078** –D = (52 total pins per bank) **–016, –032, –048** –D–DP = (16 pairs per bank)		**–SL** = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails	**–D** = Single-Ended **–D–DP** = Differential Pair		**–MG** = Metal Guide Post (QMS only)	**–K** = Polyimide film Pick & Place Pad	Leave blank for Tray Packaging **–TR** = Tape & Reel (–016, –026, –032 & –052 only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–016, –026, –032 & –052 only)

View complete specifications at: **samtec.com?QMS-RA or samtec.com?QFS-RA**

(0.635 mm) .025" PITCH EDGE MOUNT GROUND PLANE HEADERS & SOCKETS



QMS-EM
Board Mates:
QFS



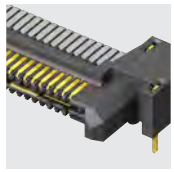
QFS-EM
Board Mates:
QMS

SERIES	POSITIONS PER ROW	01	PLATING	D	EM2	END OPTION	PACKAGING
QMS Header **QFS** Socket	**–026, –052, –078**		**–SL** = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails			**–PC4** = 4 Power Pins per end (QMS only)	Leave blank for Tray Packaging **–TR** = Tape & Reel (–026 & –052 only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-026 & -052 only)

View complete specifications at: **samtec.com?QMS-EM or samtec.com?QFS-EM**

Q RATE® SLIM BODY HIGH-SPEED GROUND PLANE CONNECTORS

(0.80 mm) .0315" PITCH RIGHT-ANGLE SLIM BODY GROUND PLANE HEADERS & SOCKETS



QRM8-RA
Board Mates:
QRF8
(-GP Required)



QRF8-RA
Board Mates:
QRM8
(-GP Required)

SERIES	POSITIONS PER ROW	01	PLATING	RA	GP	OPTION	PACKAGING
QRM8 Header **QRF8** Socket	**–026, –052, –078** (52 total positions per bank)		**–L** = 10 µ" (0.25 µm) Gold contact, Matte Tin on tails		**–GP** =Guide Post (Requires –GP on mating connector)	**–K** = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (–052 only)	Leave blank for Tray Packaging **–TR** =Tape & Reel (–026, –052 only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–026 & –052 only)

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?QRM8-RA or samtec.com?QRF8-RA**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

EDGE® RATE SYSTEM

RUGGED HIGH-SPEED STRIPS



NRZ 28 Gbps | PAM4 56 Gbps

FEATURES & BENEFITS

Edge Rate® rugged high-speed connector strips are designed for high-speed, high cycle applications, and enabled by Samtec's signal integrity-optimized Edge Rate® contact system.

- Up to 1.5 mm contact wipe for a reliable connection
- 20 to 200 positions
- Choice of 0.50 mm, 0.635 mm or 0.80 mm pitch
- 0.50 mm pitch system offers up to 40% PCB space savings vs. 0.80 mm pitch
- 0.635 mm pitch system with extremely slim 2.5 mm body width
- Rugged latching, extended guide posts and 360° shielding
- Severe Environment Testing qualified (ERM8/ERF8); aligns with MIL-DTL-55302. Visit **samtec.com/set**

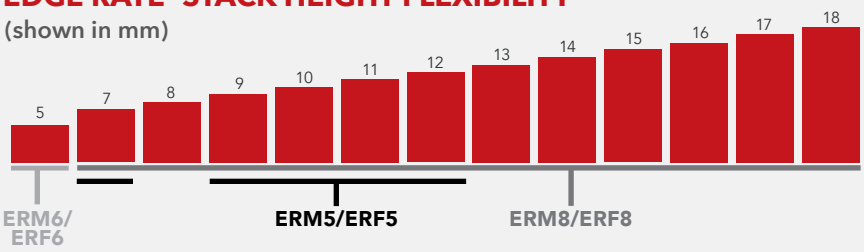
EDGE® RATE CONTACT



Signal integrity-optimized Edge Rate® contact system reduces broadside coupling

EDGE RATE® STACK HEIGHT FLEXIBILITY

(shown in mm)





Rugged 360° shielding reduces EMI

KEY SPECIFICATIONS

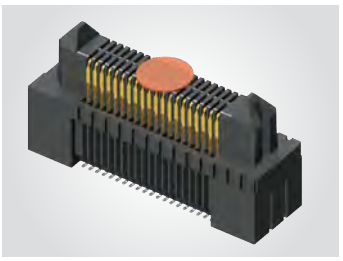
SERIES	PITCH	INSULATOR MATERIAL	TERMINAL MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
ERM5 / ERF5	0.50 mm	Black LCP	Phosphor Bronze or BeCu (ERM5), BeCu (ERF5)	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	1.5 A	190 VAC/ 269 VDC	Yes
ERM6 / ERF6	0.635 mm		Copper Alloy			1.4 A	155 VAC/ 219 VDC	
ERM8 / ERF8	0.80 mm		Phosphor Bronze or BeCu (ERM8), BeCu (ERF8)			2.2 A	225 VAC/ 318 VDC	

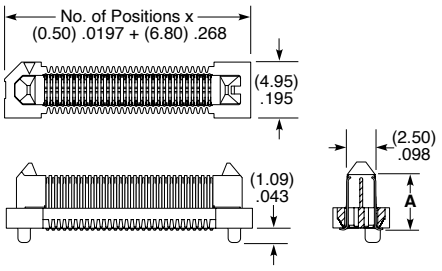
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.50 mm) .0197" PITCH • RUGGED HIGH-SPEED STRIPS

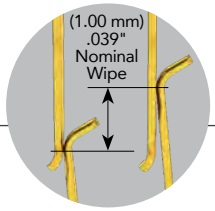
SERIES	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OPTIONS	PICK & PLACE PAD	"X"R
ERM5 = Header **ERF5** = Socket	**–010, –020, –030, –040, –050, –060, –070, –075**	**–02.0** = 2 mm Body Height (ERM5 only) (Not available with –K–TR) **–04.0** = 4 mm Body Height (ERM5 only) **–05.0** = 5 mm Body Height **–07.0** = 7 mm Body Height (ERF5 only & Available up to 50 positions only)	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on Tail		(Not required. Only specify one option in callout. Will only mate with a corresponding option) **–FL** = Friction Lock (max. –030 positions) **–WT** = Weld Tab **–L** = Latching (Available with –02.0 and –05.0 Lead Styles only)	(Required in callout) **–K** = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad (ERM5 only) = (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad (ERF5 only) **–P** = Plastic Pick & Place Pad	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERM5
Board Mates:
ERF5



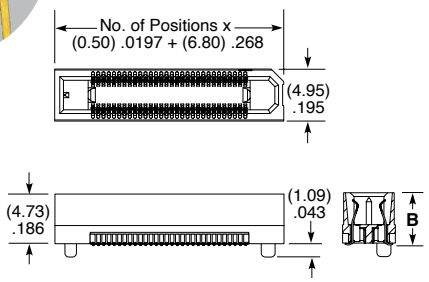


LEAD STYLE	A (ERM5)	B (ERF5)
–02.0	(4.84) .191	N/A
–04.0	(6.84) .269	N/A
–05.0	(7.84) .309	(4.91) .193
-07.0	N/A	(6.91) .272



ERF5
Board Mates:
ERM5





MATED HEIGHT*		
ERM5 LEAD STYLE	ERF5 LEAD STYLE	
	-05.0	-07.0
-02.0	(7.00) .276	(9.00) .354
-04.0	(9.00) .354	(11.00) .433
-05.0	(10.00) .394	(12.00) .472

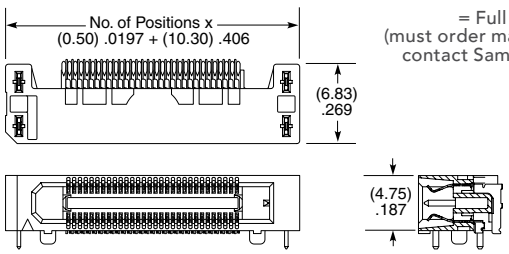
*Processing conditions will affect mated height.

View complete specifications at: **samtec.com?ERM5 or samtec.com?ERF5**

ERF5	POSITIONS PER ROW	01	PLATING OPTION	D	RA	"X"R
Right-Angle Socket	**–010, –020, –030, –040, –050**		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail			**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERF5-RA
Board Mates:
ERM5





Note:
Some lengths, styles and options are non-standard, non-returnable.

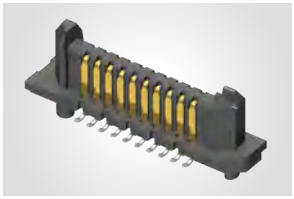
View complete specifications at: **samtec.com?ERF5-RA**

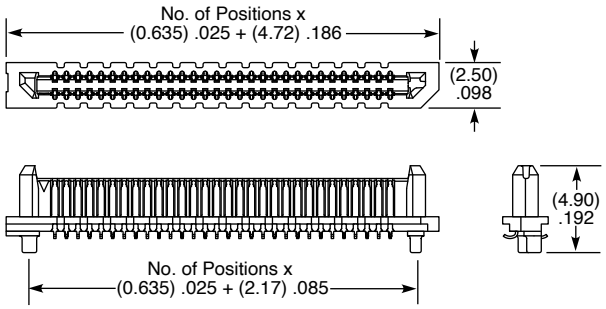
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.635 mm) .025" PITCH • RUGGED HIGH-SPEED HEADERS & SOCKETS

ERM6	–	POSITIONS PER ROW	–	01.5	–	PLATING OPTION	–	DV	–	A	–	OPTION	–	K	–	"X"R
		–10, –20, –30, –40, –50, –60 (Standard Sizes)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail						(Leave Blank for No Weld Tab) –WT = Weld Tab				–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

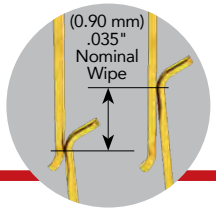
ERM6
Board Mates:
ERF6





MATED HEIGHT*	
ERF6 LEAD STYLE	ERM6 LEAD STYLE
	–01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.

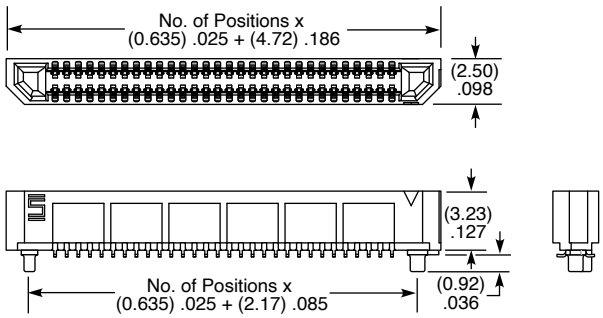


View complete specifications at: **samtec.com?ERM6**

ERF6	–	POSITIONS PER ROW	–	03.5	–	PLATING OPTION	–	DV	–	A	–	OPTION	–	K	–	"X"R
		–10, –20, –30, –40, –50, –60 (Standard Sizes)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail						(Leave Blank for No Weld Tab) –WT = Weld Tab				–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERF6
Board Mates:
ERM6





MATED HEIGHT•	
ERF6 LEAD STYLE	ERM6 LEAD STYLE
	–01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.

Notes:
Kapton pad and tape & reel packaging are standard.

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ERF6**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

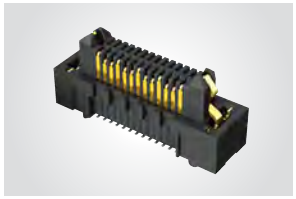
(0.80 mm) .0315" PITCH • RUGGED HIGH-SPEED HEADERS & SOCKETS

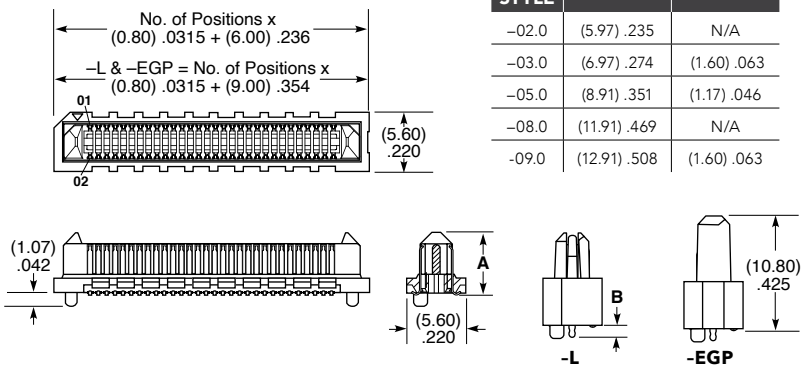
TYPE	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OPTIONS	"X"R
ERM8 = Header **ERF8** = Socket	**–005, –010, –011, –013, –020, –025, –030, –035, –040, –049, –050, –060, –070, –075, –100** (100 Position Only Available with ERM8–09.0 & ERF8–05.0 Lead Styles; –L or –EGP N/A)	SPECIFY LEAD STYLE FROM CHART	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		**–DS** = Differential Pair (ERM8 –05.0 Lead Style with –010, –013, –025, –049 Positions only) (–P not available) **–L** = Latching (ERM8 –03.0, –05.0 & –09.0 Lead Styles only & –EGP Option not available) (ERF8 –05.0,–07.0 & –09.0 Lead Style only, –L & –EGP Options not available) **–EGP** = Extended Guide Post (ERM8 –05.0 & ERF8 –07.0 Lead Style Only & –L Option not available) **–DSP** = Differential Pair with Extended Guide Post (ERM8 –05.0 Lead Style with –013 and –025 Positions only) **–K** = Polyimide Film Pick & Place Pad (–02.0 Lead Style not available) **–P** = Pick & Place Pad (ERM8 –02.0, –03.0 & –05.0 Lead Styles only) (–DS not available)	**–TR** = Tape & Reel (100 Positions N/A) **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (100 Positions N/A)

ERM8

Board Mates: ERF8

Cable Mates: ERCD, ERDP





ERM8 LEAD STYLE	A	B
–02.0	(5.97) .235	N/A
–03.0	(6.97) .274	(1.60) .063
–05.0	(8.91) .351	(1.17) .046
–08.0	(11.91) .469	N/A
-09.0	(12.91) .508	(1.60) .063

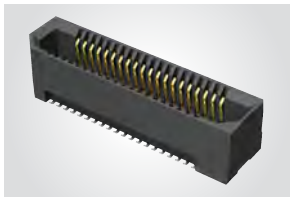
View complete specifications at: **samtec.com?ERM8**

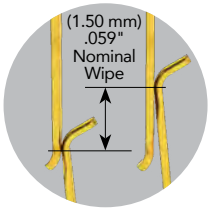
ERF8

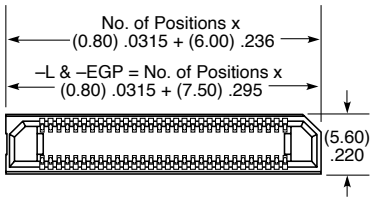
Board Mates: ERM8

ERF8

Cable Mates: ERCD, ERDP



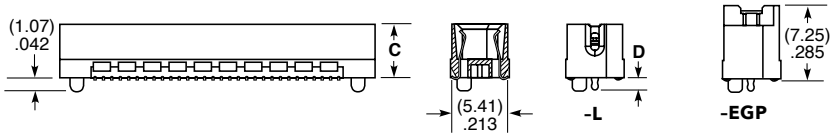




ERF8 LEAD STYLE	C	D
–05.0	(5.34) .210	(1.60) .063
–07.0	(7.25) .285	(1.17) .046
-09.0	(9.34) .368	(1.60) .063

ERM8 LEAD STYLE	MATED HEIGHT* ERF8 LEAD STYLE –05.0	–07.0	–09.0
–02.0	(7.00) .276	(9.00) .354	(11.00) .433
–03.0	(8.00) .315	(10.00) .394	(12.00) .472
–05.0	(10.00) .394	(12.00) .472	(14.00) .551
–08.0	(13.00) .512	(15.00) .591	(17.00) .669
–09.0	(14.00) .551	(16.00) .630	(18.00) .709

*Processing conditions will affect mated height.



View complete specifications at: **samtec.com?ERF8**

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and options are non-standard, non-returnable.

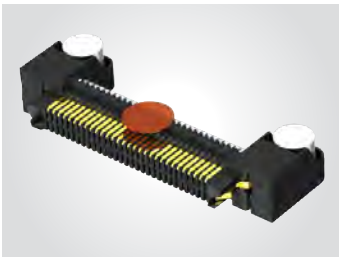
See pg 52-53 for Right-Angle & Edge Mount options, pg 54 for Shielded options.

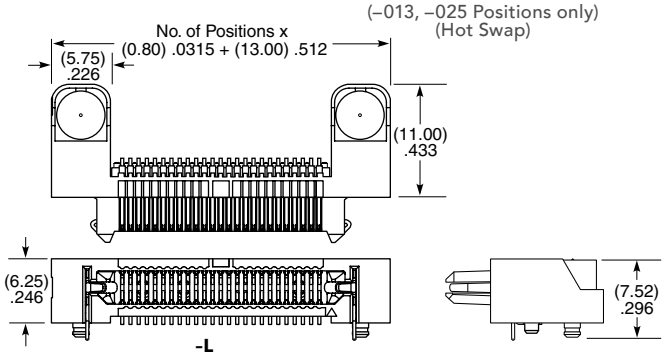
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.80 mm) .0315" PITCH • RIGHT-ANGLE & EDGE MOUNT HIGH-SPEED HEADERS

ERM8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	OPTIONS	–	"X"R
Right-Angle Terminal		**–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075**				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail						**–K** = (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad **–L** = Latching **–DS** = Differential Pair (–013, –025 Positions only) (Hot Swap)		**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERM8-RA
Board Mates:
ERF8
Cable Mates:
ERCD

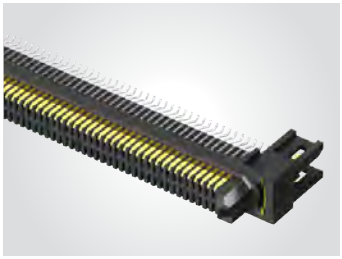


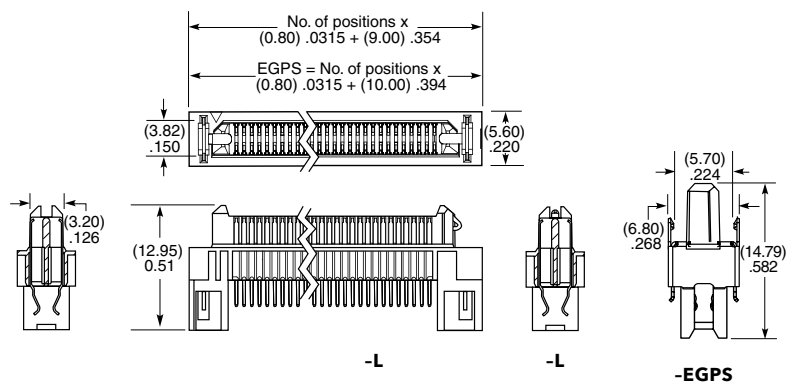


View complete specifications at: **samtec.com?ERM8-RA**

ERM8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	EM2	–	OPTIONS	–	"X"R
Edge Mount Terminal		**–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075**				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				= (1.60 mm) .062" Thick PCB		**–L** = Latching (Mates to ERF8 Lead Style –05.0 or –RA Only) **–DS** = Differential Pair (–013 & –025 Positions only) (Hot Swap) **–EGPS** = Extended Guide Post Shield (–010, –020, –025, –030 Positions Only) **–DSS** = Differential Pair + Extended Guide Post Shield (–025 Positions Only) (Hot Swap)		**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERM8-EM
Board Mates:
ERF8
Cable Mates:
ERCD





Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ERM8-EM**

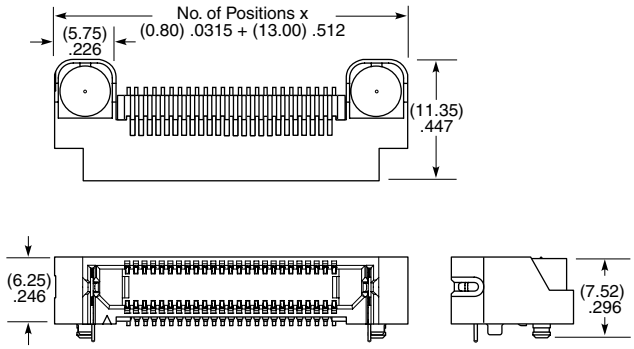
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.80 mm) .0315" PITCH • RIGHT-ANGLE & EDGE MOUNT HIGH-SPEED SOCKETS

ERF8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	OPTIONS	–	"X"R
Right-Angle Socket		**–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075**				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail						**–L** = Latching (N/A with -EGP Option) **–EGP** = Extended Guide Post (N/A with –L Option)		**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERF8-RA
Board Mates: ERM8
Cable Mates: ERCD, ERDP



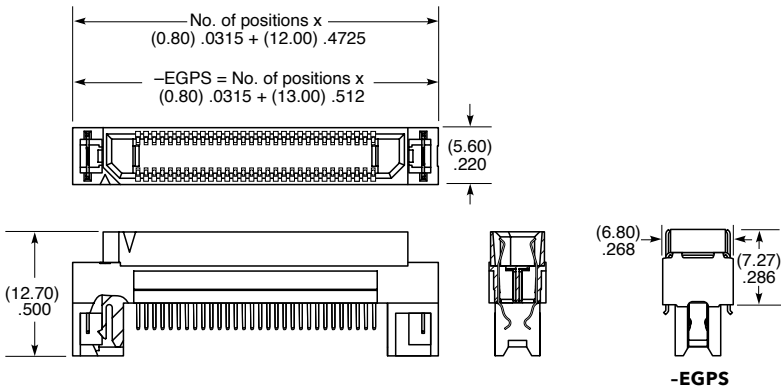


View complete specifications at: **samtec.com?ERF8-RA**

ERF8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	EM2	–	OPTIONS	–	"X"R
Edge Mount Socket		**–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075**				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				= (1.60 mm) .062" Thick PCB		**–EGPS** =Extended Guide Post Shield (–010, –020, –025, –030 Pos. only)		**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERF8-EM
Board Mates: ERM8





Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ERF8-EM**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

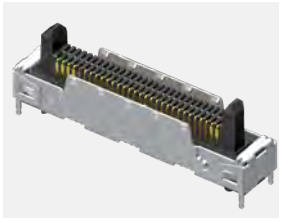
(0.80 mm) .0315" PITCH • SHIELDED HIGH-SPEED HEADERS & SOCKETS

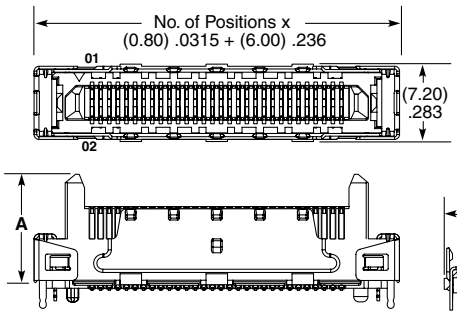
TYPE	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OPTIONS	"X"R
ERM8 = Shielded Terminal **ERF8** = Shielded Socket	**–010, –020, –025, –030**	**–02.0** = 2 mm (ERM8 with –S only) **–05.0** = 5 mm (ERF8 with –S & ERM8 with –EGPS & –DSS only) **–07.0** = 7 mm (ERF8 with –EGPS only) **–09.0** = 9 mm (ERM8 with –EGPS & –DSS only)	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		**–S** = Shield (Lead Styles: ERM8 –02.0 only; ERF8 –05.0 only) **–EGPS** = Extended Guide Post Shield (Lead Styles: ERM8 –05.0 & -09.0 only; ERF8 –07.0 only) **–DSS** = Differential Pair with Extended Guide Post Shield (ERM8 only, with –05.0 & -09.0 Lead Styles, –10 & –025 Positions only) **–K** = Polyimide Film Pick & Place Pad (–02.0 Lead Style N/A) **–P** = Pick & Place Pad (ERM8 –02.0 & -05.0 Lead Styles only)	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ERM8-S

Board Mates:
See "Mated Height" Chart

(Note: ERF8-S does not mate with ERM8-EGPS)





-S OPTION -EGPS OR -DSS OPTION

LEAD STYLE	A	B
–05.0	(9.87) .389	(10.81) .425
-09.0	(13.87) .546	(14.81) .583

View complete specifications at: **samtec.com?ERM8**

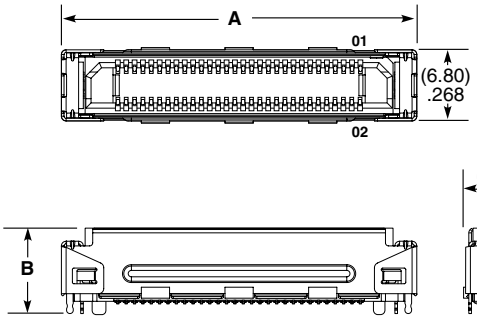
MATED HEIGHTS			
7 mm	9 mm	12 mm	16 mm
ERM8-02.0-S to ERF8-05.0-S	ERM8-02.0-S to ERF8-07.0-EGPS	ERM8-05.0-EGPS to ERF8-07.0-EGPS	ERM8-09.0-EGPS to ERF8-07.0-EGPS

ERF8-S

Board Mates:
See "Mated Height" Chart

(Note: ERM8-EGPS does not mate with ERF8-S)





-S OPTION

LEAD STYLE	B (-S)	B (-EGPS)
–05.0	(5.90) .232	N/A
–07.0	N/A	(7.42) .292

POSITIONS PER ROW	A
–010	(18.00) .71
–020	(26.00) 1.02
–025	(30.00) 1.18
–030	(34.00) 1.34

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and options are non-standard, non-returnable.

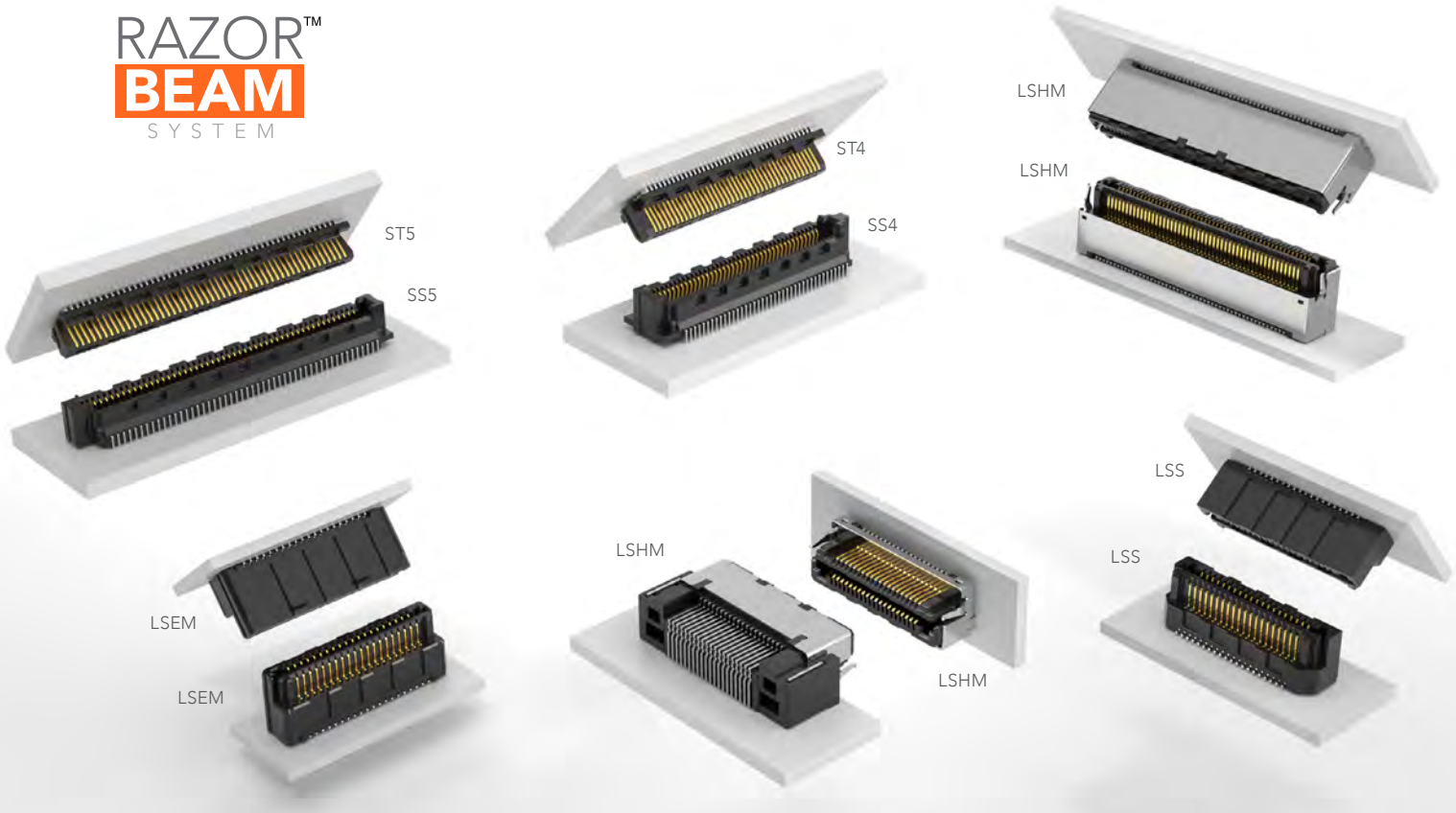
View complete specifications at: **samtec.com?ERF8**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ULTRA MICRO INTERCONNECTS

SPACE SAVING DESIGNS • RUGGED HERMAPHRODITIC • ULTRA FINE PITCH

RAZOR™ BEAM SYSTEM



56-58 RAZOR BEAM™

0.50 mm Pitch Hermaphroditic Connectors (LSHM) 56-57
0.635 mm Pitch Hermaphroditic Connectors (LSS) 58
0.80 mm Pitch Hermaphroditic Connectors (LSEM) 58

59-60 MICRO BLADE & BEAM STRIPS

0.40 mm Pitch Low Profile Strips (ST4, SS4) 59
0.50 mm Pitch Low Profile Strips (ST5, SS5) 60

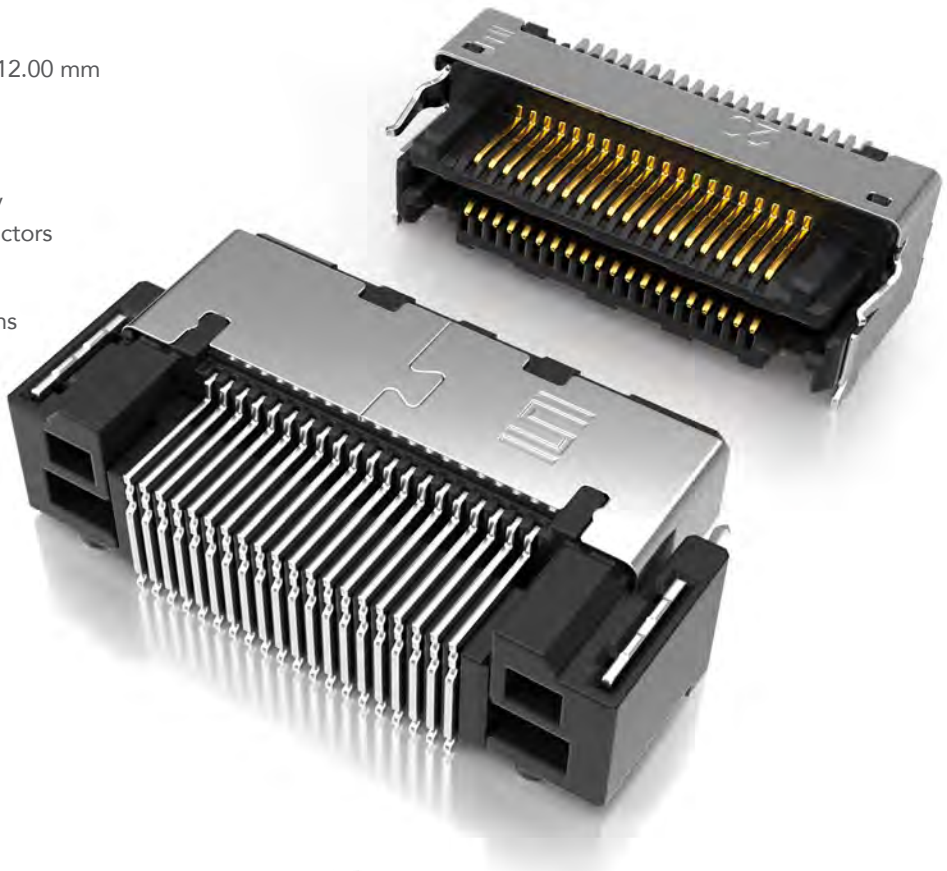
RAZOR™ BEAM SYSTEM

FINE PITCH SELF MATING CONNECTORS

0.50 mm, 0.635 mm and 0.80 mm PITCH

FEATURES & BENEFITS

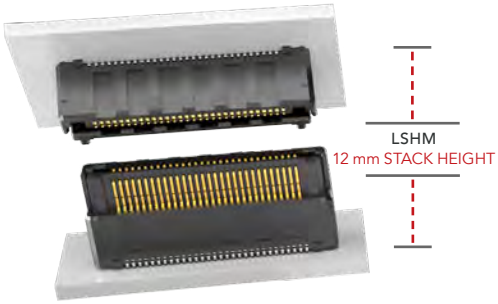
- Ten stack height options from 5.00 mm to 12.00 mm
- 0.50 mm, 0.635 mm or 0.80 mm pitches
- Audible click when mated
- Mating and unmating forces approximately 4-6x greater than typical micro pitch connectors
- Self-mating system reduces inventory cost
- Parallel, perpendicular and coplanar systems
- Shielded and lubricated options
- Severe Environment Testing qualified (LSHM); aligns with MIL-DTL-55302. Visit samtec.com/set

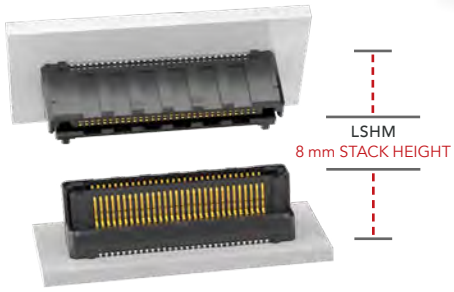


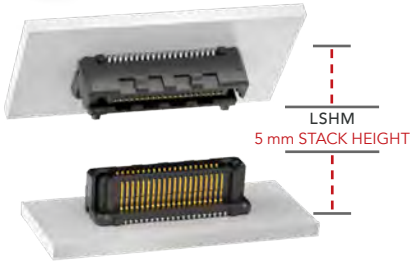
SLIM BODY DESIGNS

(40 total positions each)









KEY SPECIFICATIONS

INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	SMT COPLANARITY	LEAD-FREE SOLDERABLE
Black LCP	Phosphor Bronze	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	LSHM: 2.0 A per pin LSS: 1.7 A per pin LSEM: 1.8 A per pin	LSHM: 160 VAC/226 VDC LSS: 300 VAC/424 VDC LSEM: 225 VAC/318 VDC	(0.10 mm) .004" max	Yes

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.50 mm) .0197" PITCH • RUGGED HERMAPHRODITIC CONNECTORS

LSHM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	A	–	SHIELD OPTION	–	K	–	"X"R

05, 10, 20, 30, 40, 50

(Vertical) **Specify LEAD STYLE from chart**

(Right-angle) **–01** = Standard

(Right-angle) **–L1** = Lubricated

–F = Gold flash on contact, Matte Tin on tail

–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–DV = Vertical

–DH = Right-angle (Lead style –01 & –L1 only)

–RH = Reverse Right-angle (Lead style –01 & –L1 only

–S = With Shield

–N = Without Shield

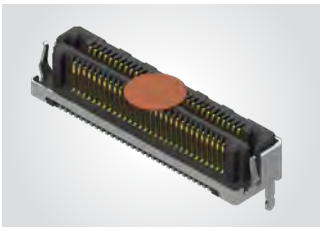
–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad

–TR = Tape & Reel

–FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

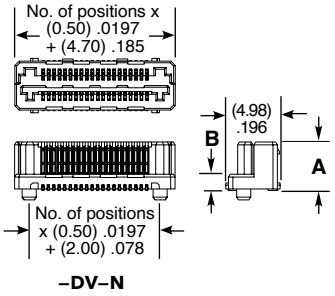
LSHM

Board Mates:
LSHM
Cable Mates:
HLCD

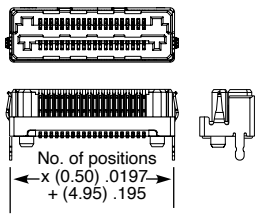


LEAD STYLE	MATED HEIGHT *
-02.5 & -02.5	(5.00) .196
-02.5 & -03.0	(5.50) .217
-03.0 & -03.0	(6.00) .236
-02.5 & -04.0	(6.50) .256
-03.0 & -04.0	(7.00) .276
-04.0 & -04.0	(8.00) .315
-02.5 & -06.0	(8.50) .335
-03.0 & -06.0	(9.00) .354
-04.0 & -06.0	(10.00) .394
-06.0 & -06.0	(12.00) .472

*Processing conditions will affect mated height.



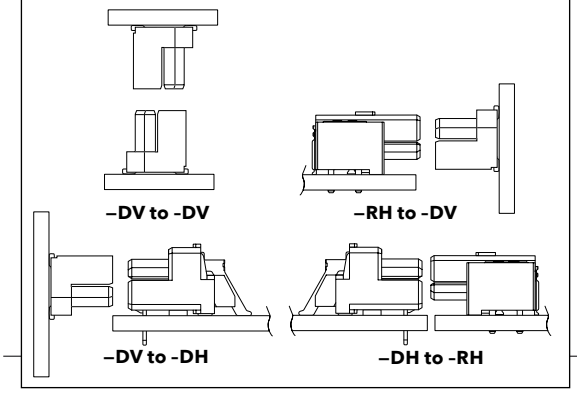
–DV–N

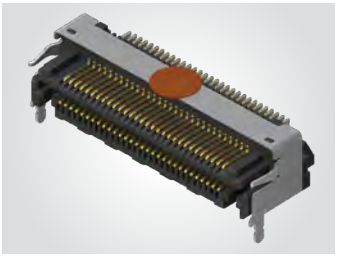


–DV–S

LEAD STYLE (STANDARD)	LEAD STYLE (LUBRICATED)	A	B
–02.5	–L2.5	(3.95) .156	(1.00) .039
–03.0	–L3.0	(4.45) .175	(1.50) .059
–04.0	–L4.0	(5.45) .215	(2.50) .098
–06.0	–L6.0	(7.45) .293	(4.50) .177

APPLICATION

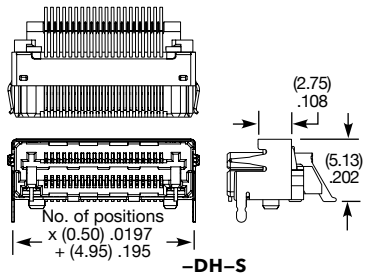




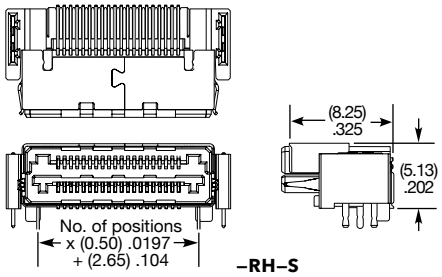


Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

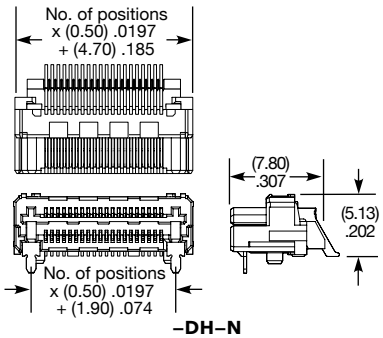
Some lengths, styles and options are non-standard, non-returnable.



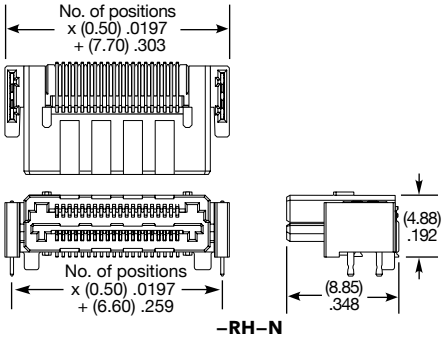
–DH–S



–RH–S



–DH–N



–RH–N

View complete specifications at: **samtec.com?LSHM**

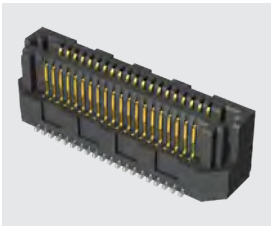
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

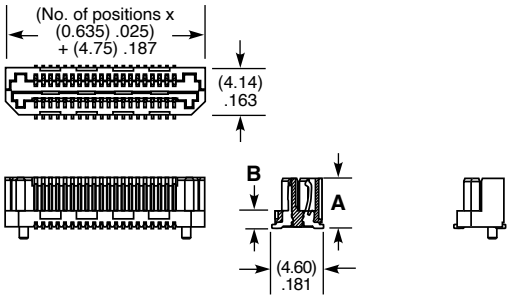
RAZOR™ BEAM SYSTEM

25 Gbps

(0.635 mm) .025" PITCH • RUGGED HERMAPHRODITIC CONNECTORS

LSS	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	DV	-	A	-	OPTION	-	"X"R
			10, 20, 30, 40, 50		Specify LEAD STYLE from chart		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail						–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad		Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)





LEAD STYLE	A	B
–01	(4.45) .1752	(1.59) .0628
–02	(7.45) .2933	(4.59) .1808
–03	(5.45) .2146	(2.59) .1021

LEAD STYLE	MATED HEIGHT *
-01 & -01	(6.00) .236
-01 & -03	(7.00) .276
-03 & -03	(8.00) .315
-01 & -02	(9.00) .354
-02 & -03	(10.00) .394
-02 & -02	(12.00) .472

*Processing conditions will affect mated height.

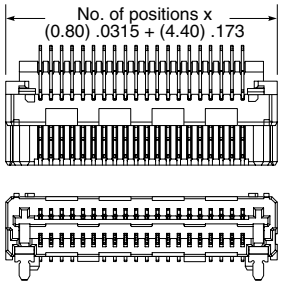
View complete specifications at: samtec.com?LSS

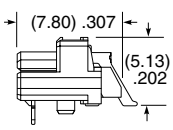
(0.80 mm) .0315" PITCH • RUGGED HERMAPHRODITIC CONNECTORS

LSEM	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	TAIL OPTION	-	A	-	N	-	K	-	"X"R
			20, 30, 40, 50		Specify LEAD STYLE from chart		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–DV = Vertical –DH = Right-angle (Lead style –01 only)						–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)



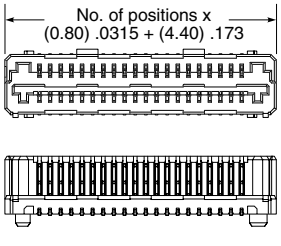
LEAD STYLE	A	B
–01 (–DH only)	N/A	NA
–03.0	(4.45) .175	(1.50) .059
–04.0	(5.45) .215	(2.50) .098
–06.0	(7.45) .293	(4.50) .177

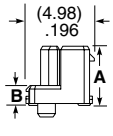




Note:
Some lengths, styles and options are non-standard, non-returnable.

-DH





-DV

LEAD STYLE	MATED HEIGHT *
-03.0 & -03.0	(6.00) .236
-03.0 & -04.0	(7.00) .276
-04.0 & -04.0	(8.00) .315
-03.0 & -06.0	(9.00) .354
-04.0 & -06.0	(10.00) .394
-06.0 & -06.0	(12.00) .472

*Processing conditions will affect mated height.

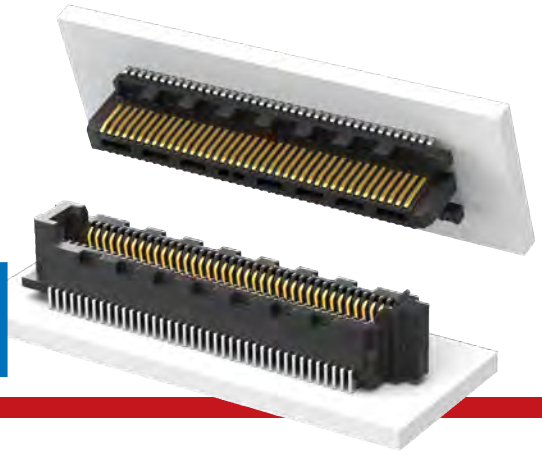
View complete specifications at: samtec.com?LSEM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MICRO BLADE & BEAM SOCKET & HEADER

28 Gbps

(0.40 mm) .0158" PITCH • SS4/ST4 SERIES



SS4
Mates:
ST4

ST4
Mates:
SS4

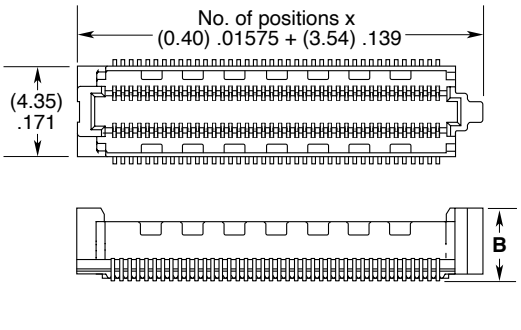
SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.6 A per pin
(2 pins powered)
Voltage Rating:
155 VAC/219 VDC

PROCESSING

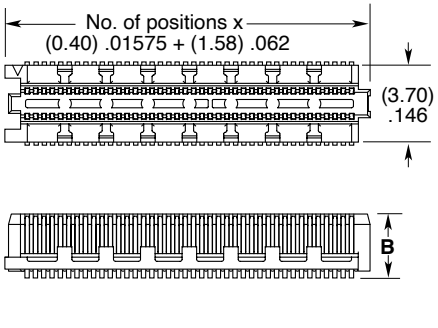
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

SS4	–	POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	K	–	"X"R
		–10, –20, –30, –40, –50		**–3.00** = 3.00 mm **–3.50** = 3.50 mm		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				(Required in callout) **–K** = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad		(Required in callout) **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



LEAD STYLE	A	B
–3.00	(2.85) .112	(3.50) .138
–3.50	(3.35) .132	(4.00) .157

ST4	–	POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	P	–	"X"R
		–10, –20, –30, –40, –50		**–1.00** = 1.00 mm **–1.50** = 1.50 mm **–2.50** = 2.50 mm		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				(Required in callout) **–P** = Pick & Place Pad		(Required in callout) **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



LEAD STYLE	A	B
–1.00	(1.00) .039	(3.08) .121
–1.50	(1.50) .059	(3.58) .141
–2.50	(2.50) .098	(4.58) .180

MATED HEIGHT *

ST4 LEAD STYLE	SS4 LEAD STYLE	
	-3.00	-3.50
-1.00	(4.00 mm) .157"	(4.50 mm) .177"
-1.50	(4.50 mm) .177"	(5.00 mm) .197"
-2.50	(5.50 mm) .217"	(6.00 mm) .236"

*Processing conditions will affect mated height.

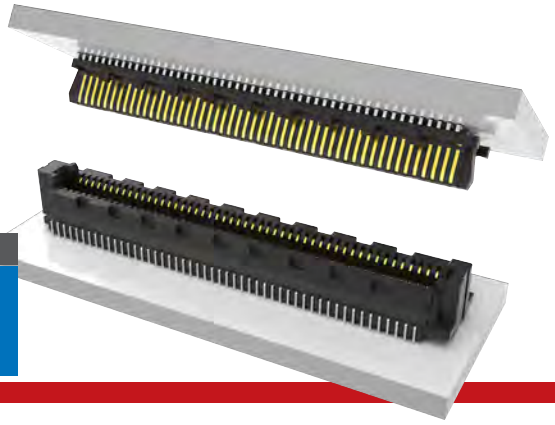
Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MICRO BLADE & BEAM SOCKET & HEADER

(0.50 mm) .0197" PITCH • SS5/ST5 SERIES

PAM4 56 Gbps



SS5
Mates:
ST5

ST5
Mates:
SS5

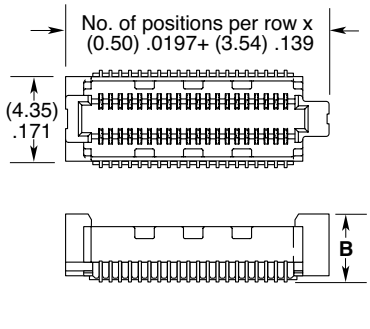
SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.5 A per pin
(2 pins powered)
Voltage Rating:
200 VAC/283 VDC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

SS5	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	D	–	K	–	"X"R
		–10, –15, –20, –30, –40, –50, –60, –70, –80 (Per Row)		**–3.00** = 3.00 mm **–3.50** = 3.50 mm		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				(Required in callout) **–K** = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad		(Required in callout) **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



LEAD STYLE	A	B
–3.00	(2.85) .112	(3.50) .138
–3.50	(3.35) .132	(4.00) .157

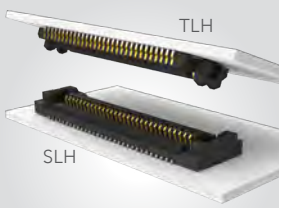
MATED HEIGHT *

ST5 LEAD STYLE	SS5 LEAD STYLE	
	–3.00	–3.50
–1.00	(4.00 mm) .157"	(4.50 mm) .177"
–1.50	(4.50 mm) .177"	(5.00 mm) .197"

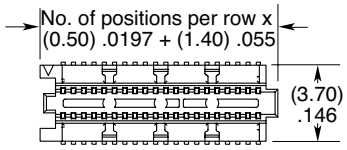
*Processing conditions will affect mated height.

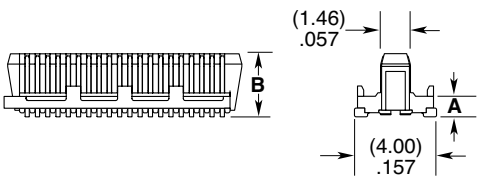
ST5	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	D	–	P	–	"X"R
		–10, –15, –20, –30, –40, –50, –60, –70, –80 (Per Row)		**–1.00** = 1.00 mm **–1.50** = 1.50 mm		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				(Required in callout) **–P** = Pick & Place Pad		(Required in callout) **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

OTHER SOLUTIONS



Ultra-low profile options:
www.samtec.com?SLH
www.samtec.com?TLH





LEAD STYLE	A	B
–1.00	(1.00) .039	(3.08) .121
–1.50	(1.50) .059	(3.58) .141

ALSO AVAILABLE
Contact Samtec

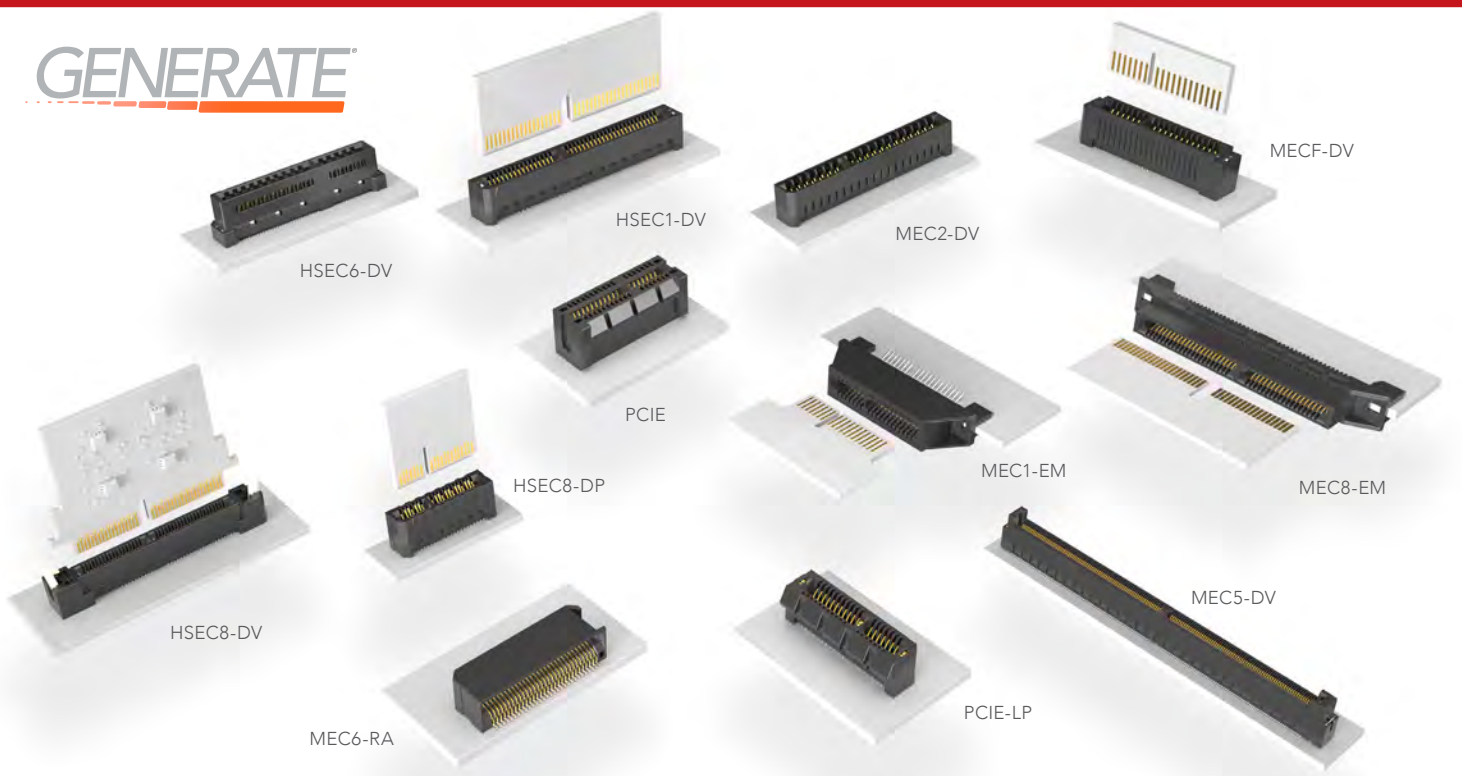
Other lead styles

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED EDGE CARD SYSTEMS

SPEEDS TO 64 Gbps • RUGGED EDGE RATE® CONTACTS • VARIETY OF OPTIONS



62-69 HIGH-SPEED EDGE CARD INTERCONNECTS

0.60 mm Pitch Generate® Socket (HSEC6) 63
0.80 mm Pitch Generate® Rugged Edge Card Socket (HTEC8) 64
0.80 mm Pitch Generate® Socket (HSEC8) 65-68
1.00 mm Pitch Generate® Socket (HSEC1) 69

70-77 MICRO/MINI EDGE CARD INTERCONNECTS

0.50 mm Pitch Micro Socket (MEC5) 71
0.635 mm Pitch Micro Socket (MEC6) 72
0.80 mm Pitch Micro Edge Socket (MEC8) 73-74
1.00 mm Pitch Mini Edge Card Socket (MEC1) 75-76
1.27 mm Pitch Mini Edge Card Socket (MECF) 77
2.00 mm Pitch Mini Edge Card Socket (MEC2) 77

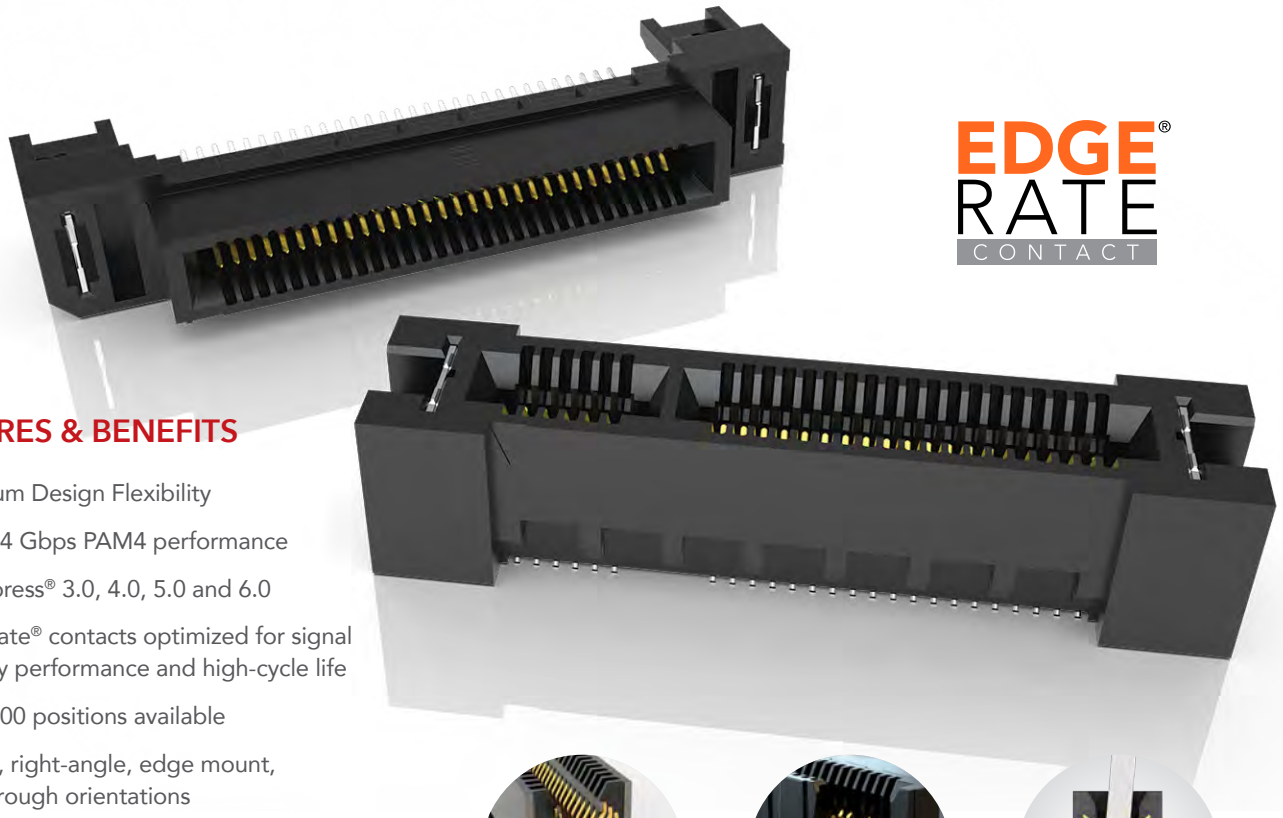
78-80 PCI EXPRESS® INTERCONNECTS

PCI Express® & Low Profile PCI Express® Sockets (PCIE) 79
PCI Express® 4.0 & 5.0 Sockets (PCIE-G4 & PCIE-G5) 80

GENERATE®

HIGH-SPEED EDGE CARD SYSTEMS

0.60 mm, 0.80 mm and 1.00 mm PITCH



EDGE® RATE CONTACT

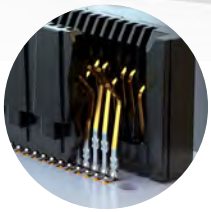
FEATURES & BENEFITS

- Maximum Design Flexibility
- Up to 64 Gbps PAM4 performance
- PCI Express® 3.0, 4.0, 5.0 and 6.0
- Edge Rate® contacts optimized for signal integrity performance and high-cycle life
- Up to 200 positions available
- Vertical, right-angle, edge mount, pass-through orientations
- Power/signal combo, press-fit tails, rugged weld tabs, locks and latches
- Mating cable assemblies available

The PCI Express® design marks are registered trademarks and/or service marks of PCI-SIG.



Rugged tucked beam technology (HTEC8)



Differential pair for increased speed (HSEC8-DP)



Custom designs allow for misalignment in the X-Y axes (HSEC1)

KEY SPECIFICATIONS

SERIES	PITCH	TOTAL POSITIONS	INSULATOR MATERIAL	CONTACT MATERIAL	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
HSEC6	0.60 mm	56-168	Black LCP	Copper Alloy	-55 °C to +125 °C	1.9 A (2 pins)	240 VAC/339 VDC	Yes
HTEC8	0.80 mm	20-200	Black LCP	Copper Alloy	-55 °C to +125 °C	3.0 A (2 pins)	215 VAC/304 VDC	Yes
HSEC8-DV	0.80 mm	18-200	Black LCP	BeCu	-55 °C to +125 °C	2.8 A (2 pins)	240 VAC/339 VDC	Yes
HSEC8-RA	0.80 mm	18-120	Black LCP	BeCu	-55 °C to +125 °C	2.6 A (2 pins)	175 VAC/247 VDC	Yes
HSEC8-EM	0.80 mm	20-120	Black LCP	BeCu	-55 °C to +125 °C	2.8 A (2 pins)	240 VAC/339 VDC	Yes
HSEC8-PE	0.80 mm	20-40	Black LCP	BeCu	-55 °C to +125 °C	2.8 A (2 pins)	240 VAC/339 VDC	Yes
HSEC8-PV	0.80 mm	40-80	Black LCP	BeCu	-55 °C to +125 °C	3.2 A (2 pins)	215 VAC/304 VDC	Yes
HSEC8-DP	0.80 mm	16-112	Black LCP	BeCu	-55 °C to +125 °C	2.7 A (2 pins)	235 VAC/332 VDC	Yes
HSEC1	1.00 mm	20-140	Black LCP	Phosphor Bronze	-55 °C to +125 °C	2.2 A (2 pins)	215 VAC/304 VDC	Yes

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

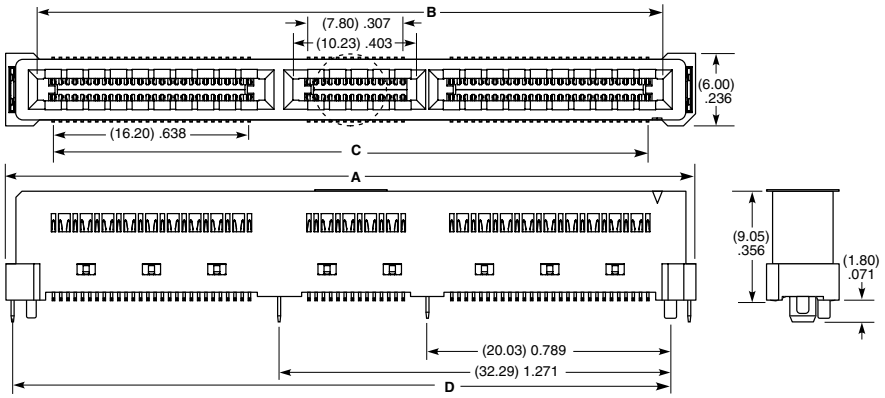
(0.60 mm) .024" PITCH • VERTICAL EDGE CARD SOCKET

HSEC6	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	SHIELD OPTION	–	WT	–	"X"R
		–028, –042, –070, –084		**-01** = (1.60 mm) .062" thick card		**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail				Leave blank for no shield **–S** = Shield (not available with –084 positions)		Required for everything but shielded –028 positions **–WT** = Weld tab		**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

HSEC6
Card Mates:
(1.60 mm)
.062" thick card

Cable Mates:
GC6

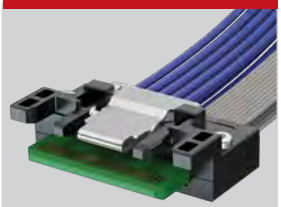




-070 SHOWN

HIGH-SPEED PAIRS	SFF-TA-1002	POSITIONS PER ROW	A	B	C	D
x4, 8 DP's	1C	–028	(23.88) .940	(18.62) .733	(16.20) .638	(21.18) .834
x8, 16 DP's	2C	–042	(35.60) 1.402	(30.61) 1.205	(28.01) 1.103	(32.90) 1.295
x16, 32 DP's	4C	–070	(57.02) 2.245	(51.72) 2.036	(49.12) 1.934	(54.32) 2.139
	4C+	–084	(69.17) 2.723	(63.92) 2.516	(61.32) 2.414	(66.52) 2.619

OTHER SOLUTIONS



0.60 mm Pitch Mating High-Speed Cable Assembly. See GC6 Series.



Right-angle 0.60 mm pitch High-Speed edge card. See www.samtec.com?HSEC6-RA

For a card to mate with an HSEC6 socket, visit www.samtec.com?H6RU

STANDARDS

SFF-TA-1002
Visit www.samtec.com/standards for more information.

Note:
Polyimide film pick & place pad is standard.

Some sizes, styles and options are non-standard, non-returnable

View complete specifications at: samtec.com?HSEC6-DV

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

GENERATE

PCI EXPRESS® 4.0 CAPABLE

NRZ 28 Gbps

(0.80 mm) .0315" PITCH • RUGGED HIGH-SPEED EDGE CARD SOCKET

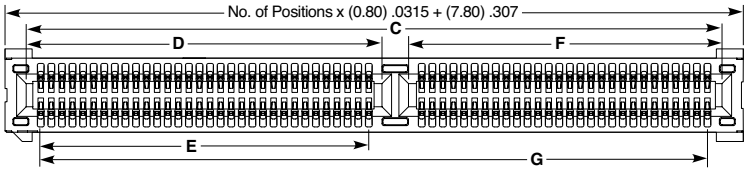
HTEC8	-	1	POSITIONS PER ROW	-	CARD THICKNESS	-	PLATING OPTION	-	DV	-	OPTION	-	OTHER OPTION	-	"X"R
			10, 20, 30, 40, 50, 60, 80, 100		–01 = (1.60 mm) .062" thick card –03 = (2.36 mm) .093" thick card		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				Leave blank for no alignment pin –A = Alignment Pin –WT = Weld Tab (–A option required) –BL = Board Lock (–A option required) (Weld tab standard)		–K = (7.00 mm) .276" DIA Polyimide Pick & Place Pad		Leave blank for Tray Packaging –TR = Tape & Reel (10 thru 60 positions only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (10 thru 60 positions only)

HTEC8

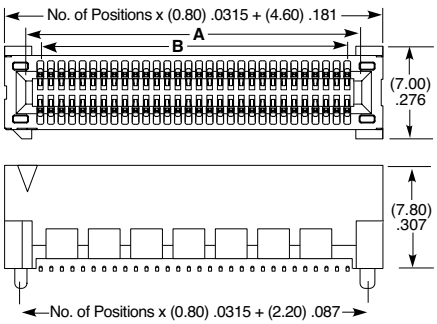
Card Mates:
(1.60 mm) .062" thick card,
(2.36 mm) .093" thick card,
HSC8



POSITIONS PER ROW	C	D	E	F	G
40	(36.60) 1.440	(18.90) .744	(16.80) .661	(15.70) .618	(34.40) 1.354
50	(44.60) 1.756	(22.90) .902	(20.80) .819	(19.70) .776	(42.40) 1.669
60	(52.60) 2.071	(26.90) 1.059	(24.80) .976	(23.70) .933	(50.40) 1.984
80	(68.60) 2.701	(26.90) 1.059	(24.80) .976	(39.70) 1.563	(66.40) 2.614
100	(84.60) 3.331	(26.90) 1.059	(24.80) .976	(55.70) 2.193	(82.40) 3.244

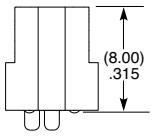


40, 50, 60, 80 & 100 POSITIONS

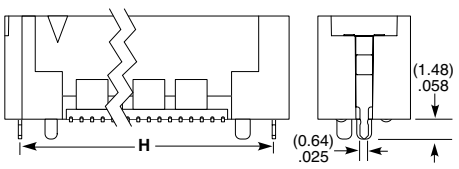


10, 20 & 30 POSITIONS

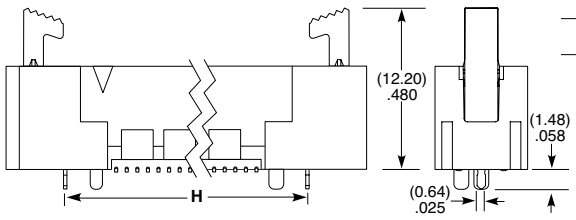
POSITIONS PER ROW	A	B
10	(9.40) .370	(7.20) .283
20	(17.40) .685	(15.20) 5.98
30	(25.40) 1.000	(23.20) .913



POSITIONS PER ROW	H
10	(14.90) .587
20	(22.90) .902
30	(30.90) 1.217
40	(42.10) 1.657
50	(50.10) 1.972
60	(58.10) 2.287
80	(74.10) 3.917
100	(90.10) 3.547



-WT OPTION



-BL OPTION

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?HTEC8

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.80 mm) .0315" PITCH • VERTICAL EDGE CARD SOCKET

HSEC8	-	1	POSITIONS PER ROW	-	CARD THICKNESS	-	PLATING OPTION	-	DV	-	A	-	OTHER OPTIONS	-	"X"R

09, 10, 13, 20, 25, 30, 37, 40, 49, 50, 60, 70, 80, 100
(13, 25, 49 only available with -L or -L2 latching option; 09 only available with -L2 option; 37 only available with -L latching option)

–01
= (1.60 mm) .062" thick card

–03
= (2.36 mm) .093" thick card

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail

–K
= Polyimide Pick & Place Pad

–BL
= Board Locks; –01 card only (Weld tab standard)

–L
= Latching Option; –01 card only (13, 25, 37, 49 only) (Weld tab standard)

–L2
= ECDP Latching; –01 card only (09, 13, 25, 49 only) (For use with ECDP) (Weld tab standard)

–WT
= Weld tab

Leave blank for Tray Packaging

–TR
= Tape & Reel (09 - 70 only)

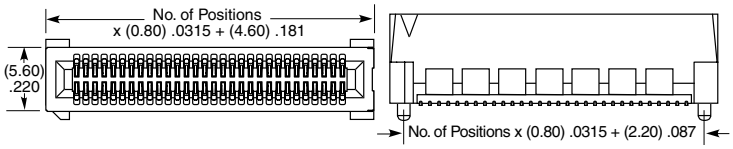
–FR
= Full Reel Tape & Reel (must order max. quantities per reel; contact Samtec for quantity breaks) (09-70 only)

HSEC8-DV

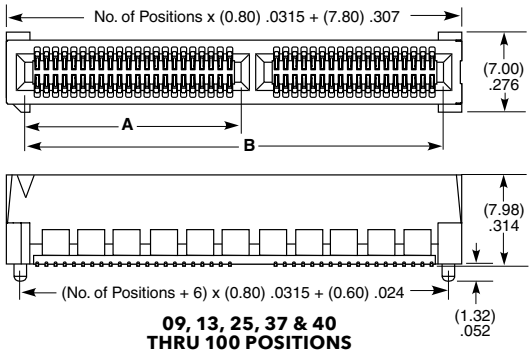
Card Mates:
(1.60 mm) .062" thick card,
(2.36 mm) .093" thick card,
HSC8

Cable Mates:
ECDP





10, 20, & 30 POSITIONS



09, 13, 25, 37 & 40 THRU 100 POSITIONS

OTHER SOLUTIONS

For complete edge card system with cards and sockets, visit samtec.com?RU8

For a card to mate with an HSEC8 socket, visit samtec.com?HSC8

10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POSITIONS PER ROW	A	B
09*†	(4.50) .177	(11.80) .465
13*†	(6.10) .240	(15.00) .591
25*†	(6.10) .240	(24.60) .969
37†	(18.10) .713	(34.20) 1.346
40	(18.90) .744	(36.60) 1.441
49*†	(22.90) .902	(43.80) 1.724
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70†	(26.90) 1.059	(60.60) 2.386
80†	(26.90) 1.059	(68.60) 2.701
100†	(26.90) 1.059	(84.60) 3.331

Positions where no dimensions are given do not have keying feature.

* Mates with ECDP Series

† Available with -01 Card Only

CABLE	CONNECTOR
ECDP-04	HSEC8-109-L2
ECDP-08	HSEC8-113-L2
ECDP-16	HSEC8-125-L2
ECDP-32	HSEC8-149-L2

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?HSEC8-DV

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.80 mm) .0315" PITCH • RIGHT-ANGLE & EDGE MOUNT SOCKET

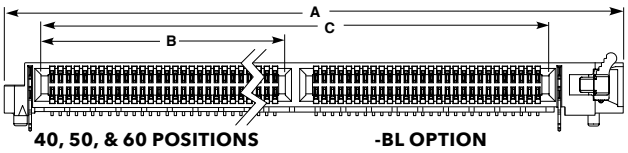
HSEC8	-	1	POSITIONS PER ROW	-	CARD THICKNESS	-	PLATING OPTION	-	RA	-	OTHER OPTIONS	-	"X"R
			09, 10, 13, 20, 25, 30, 40, 49, 50, 60		–01 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				–BL = Board Locks (09, 13, 25, 40, 49, 50, 60 only) –L2 = ECDP Latching (09, 13, 25, 49 only)		Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel Packaging (must order max. quantity per reel; contact Samtec for quantity breaks)

HSEC8-RA

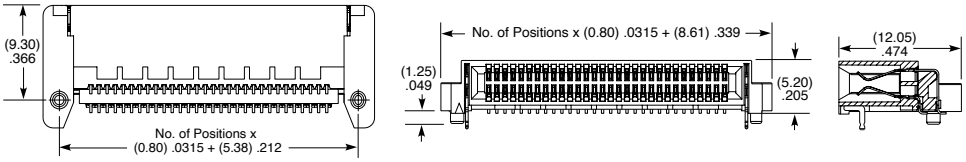
Card Mates: (1.60 mm) .062" thick card, HSC8
Cable Mates: ECDP



POSITIONS PER ROW	A	B	C
40	(43.80) 1.724	(18.90) .744	(36.60) 1.441
50	(51.80) 2.039	(22.90) .902	(44.60) 1.756
60	(59.80) 2.354	(26.90) 1.059	(52.60) 2.071
40-BL	(51.30) 2.020	(18.90) .744	(36.60) 1.441
50-BL	(59.30) 2.335	(22.90) .902	(44.60) 1.756
60-BL	(67.30) 2.650	(26.90) 1.059	(52.60) 2.071



40, 50, & 60 POSITIONS -BL OPTION



10, 20 & 30 POSITIONS

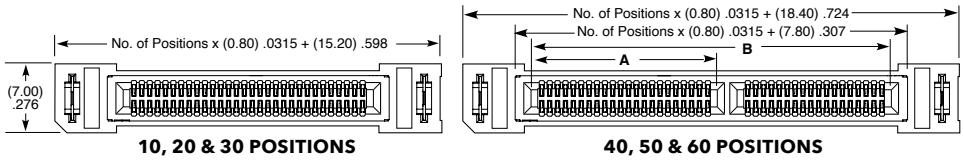
View complete specifications at: **samtec.com?HSEC8-RA**

HSEC8	-	1	POSITIONS PER ROW	-	01	-	PLATING OPTION	-	D	-	EM2
			10, 20, 30, 40, 50, 60				–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				–EM2 =(1.60 mm) .062" thick PCB

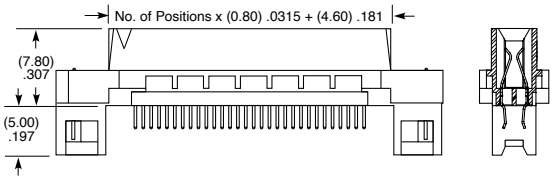
HSEC8-EM

Card Mates: (1.60 mm) .062" thick card, HSC8
Cable Mates: ECDP





10, 20 & 30 POSITIONS 40, 50 & 60 POSITIONS



POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?HSEC8-EM**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

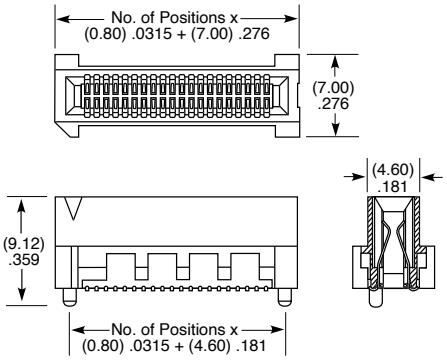
(0.80 mm) .0315" PITCH • PASS-THROUGH & POWER COMBO

HSEC8	–	1	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	A	–	PE	–	OTHER OPTIONS	–	"X"R
			10, 13, 20		–01 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail								–K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad		Leave blank for Tray Packaging –TR =Tape & Reel Packaging –FR = Full Reel Tape & Reel Packaging (Must order max. quantities per reel. Contact Samtec for parts per reel)

HSEC8-PE

Card Mates:
(1.60 mm) .062" thick card, HSC8





OTHER SOLUTIONS

1.00 mm High-Speed Micro Plane Socket.
View complete specifications at samtec.com?SAL1

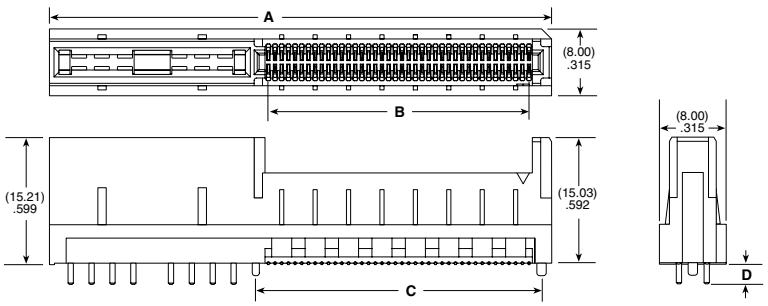
View complete specifications at: **samtec.com?HSEC8-DV**

HSEC8	–	1	SIGNAL POSITIONS	–	CARD THICKNESS	–	PLATING OPTION	–	PV	–	POWER POSITIONS	–	POWER TAIL	–	OTHER OPTION
			20, 30, 40 (Signal positions per row)		–01 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				–2, –4 (Total, 2 per power bank)		–1 = Use with (1.60 mm) .062" Thick PCB –2 = Use with (2.36 mm) .093" Thick PCB		–WT = Weld Tab

HSEC8-PV

Card Mates:
(1.60 mm) .062" thick card





SIGNAL POSITIONS	POWER POSITIONS					
	A (–2)	B (–2)	C (–2)	A (–4)	B (–4)	C (–4)
20	(32.10) 1.264	(15.20) .598	(18.20) .717	(44.10) 1.736	(15.20) .598	(18.20) .717
30	(40.10) 1.579	(23.20) .913	(26.20) 1.031	(52.10) 2.051	(23.20) .913	(26.20) 1.031
40	(48.10) 1.894	(31.20) 1.228	(34.20) 1.346	(60.10) 2.366	(31.20) 1.228	(34.20) 1.346

POWER TAIL	D
-1	(2.35) .093
-2	(3.13) .123

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?HSEC8-PV**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

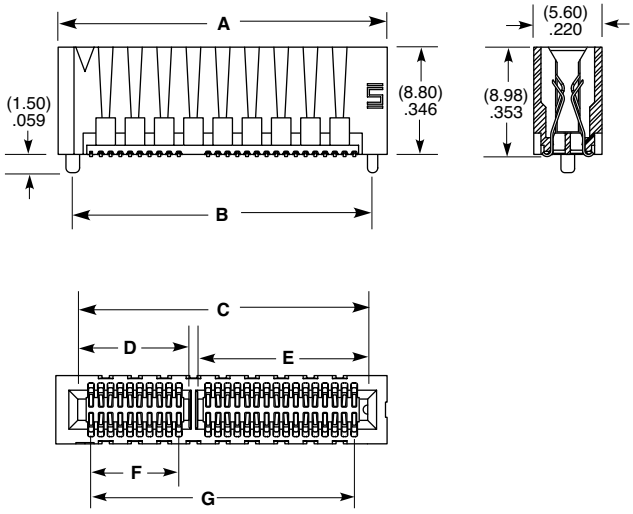
0.80 mm (.0315") PITCH • DIFFERENTIAL PAIR EDGE CARD

HSEC8	-	1	NUMBER OF PAIRS	-	01	-	PLATING OPTION	-	DP	-	A	-	OPTION	-	K	-	"X"R
			08, 12, 16, 20, 32, 56 (Total Pairs)				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail						Leave blank for no weld tab **–WT** = Weld Tab		**–K** = (6.25 mm) .246" DIA Polyimide Film Pick & Place Pad		Leave blank for Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

HSEC8-DP

Card Mates:
(1.60 mm) .062" thick card





NUMBER OF PAIRS	A	B	C	D	E	F	G
08	(17.40) .685	(15.00) .591	(14.20) .559	(4.34) .171	(9.14) .360	(2.40) .094	(12.00) .472
12	(22.20) .874	(19.80) .780	(19.00) .748	(6.74) .265	(11.54) .454	(4.80) .189	(16.80) .661
16	(27.00) 1.063	(24.60) .969	(23.80) .937	(9.14) .360	(13.94) .549	(7.20) .283	(21.60) .850
20	(31.80) 1.252	(29.40) 1.157	(28.60) 1.126	(11.54) .454	(16.34) .643	(9.60) .378	(26.40) 1.039
32	(46.20) 1.819	(43.80) 1.724	(43.00) 1.693	(18.74) .738	(23.54) .927	(16.80) .661	(40.80) 1.606
56	(75.00) 2.953	(72.60) 2.858	(71.80) 2.827	(33.14) 1.305	(37.94) 1.494	(31.20) 1.228	(69.60) 2.740

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?HSEC8-DP

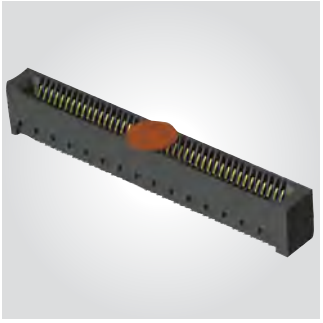
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

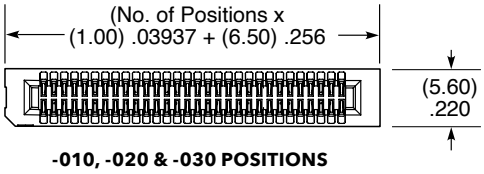
1.00 mm (.0394") PITCH • VERTICAL HIGH-SPEED EDGE CARD

HSEC1	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	OPTION	–	OTHER OPTION	–	"X"R
		–010, –020, –030, –040, –050, –060, –070		**–01** =(1.60 mm) .062" thick card		**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail				-A or -WT required in callout **–A** =Alignment Pin (Not available with -WT) **–WT** =Weld tab (Not available with -A)		**–K** =(7.01 mm) .276" DIA Polyimide Film Pick & Place Pad		–TR or –FR required for 10-60 positions. Leave blank for 70 positions. **–TR** =Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

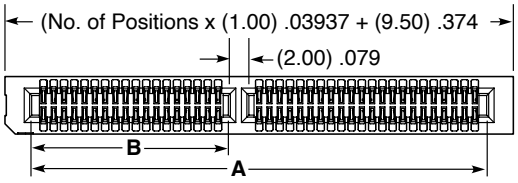
HSEC1-DV

Card Mates:
(1.60 mm) .062" thick card



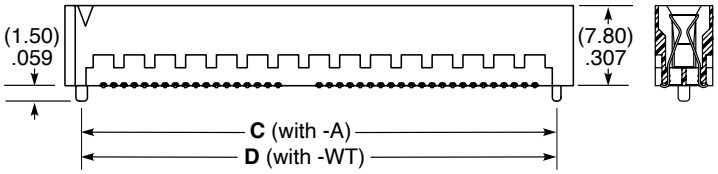


-010, -020 & -030 POSITIONS



-040, -050, -060 & -070 POSITIONS

10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



POSITIONS PER ROW	A	B	C (with -A)	D (with -WT)
-010	(11.30) .445	N/A	(13.25) .522	(14.50) .571
-020	(21.30) .839	N/A	(23.25) .915	(24.50) .965
-030	(31.30) 1.232	N/A	(33.25) 1.309	(34.50) 1.358
-040	(44.30) 1.744	(19.15) .754	(46.25) 1.821	(47.50) 1.870
-050	(54.30) 2.138	(24.15) .951	(56.25) 2.215	(57.50) 2.264
-060	(64.30) 2.531	(29.15) 1.148	(66.25) 2.608	(67.50) 2.657
-070	(74.30) 2.925	(34.15) 1.344	(76.25) 3.002	(77.50) 3.051

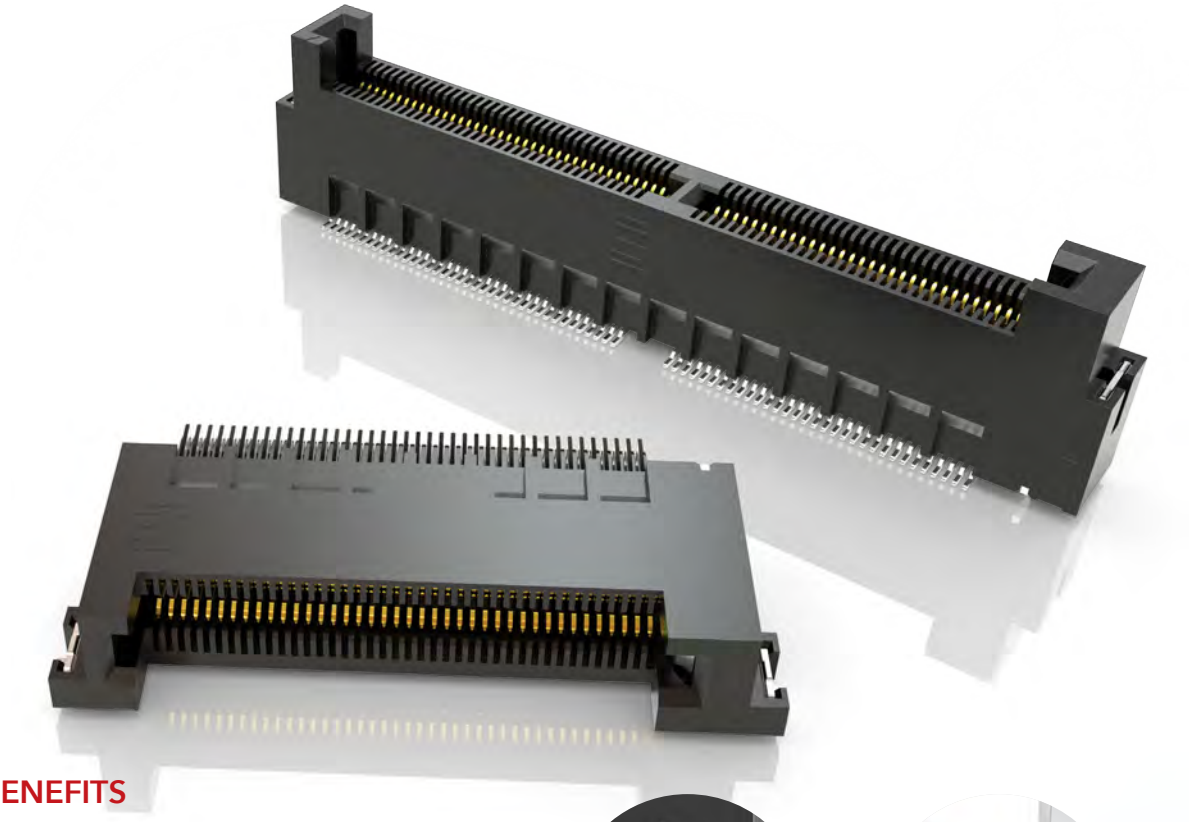
Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?HSEC1-DV

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

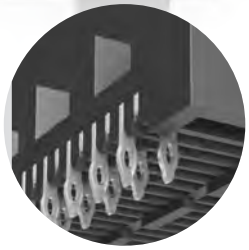
MICRO EDGE CARD SYSTEMS

0.50 mm, 0.635 mm, 0.80 mm, 1.00 mm, 1.27 mm, 2.00 mm PITCH

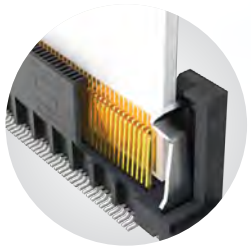


FEATURES & BENEFITS

- Up to 56 Gbps PAM4
- PCI Express® 4.0 (MEC5 Series)
- Solutions for (1.60 mm) .062" and (2.36 mm) .093" thick cards
- Choice of pitch: 0.50 mm, 0.635 mm, 0.80 mm, 1.00 mm, 1.27 mm, 2.00 mm
- Vertical, right-angle and edge mount orientations
- Available in surface mount and through-hole



Staggered press-fit tails (MEC8-VP)



Justification beam ensures card and body are flush (MEC5)

KEY SPECIFICATIONS

SERIES	PITCH	TOTAL POSITIONS	INSULATOR MATERIAL	CONTACT MATERIAL	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
MEC5	0.50 mm	60-200	Black LCP	Phosphor Bronze	-55 °C to +125 °C	1.5 A (2 pins)	125 VAC/177 VDC	Yes
MEC6	0.635 mm	20-140	Black LCP	Phosphor Bronze	-55 °C to +125 °C	2.4 A (2 pins)	185 VAC/262 VDC	Yes
MEC8	0.80 mm	20-140	Black LCP	Phosphor Bronze	-55 °C to +125 °C	2.3 A (2 pins)	180 VAC/255 VDC	Yes
MEC1	1.00 mm	20-140	Black LCP	BeCu	-55 °C to +125 °C	2.2 A (2 pins)	250 VAC/354 VDC	Yes
MECF	1.27 mm	10-100	Black/Natural LCP	BeCu	-55 °C to +125 °C	3.5 A (2 pins)	280 VAC/396 VDC	Yes
MEC2	2.00 mm	10-100	Black/Natural LCP	BeCu	-55 °C to +125 °C	3.5 A (2 pins)	280 VAC/396 VDC	Yes

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

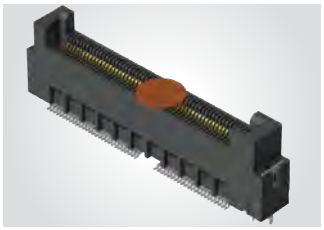
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

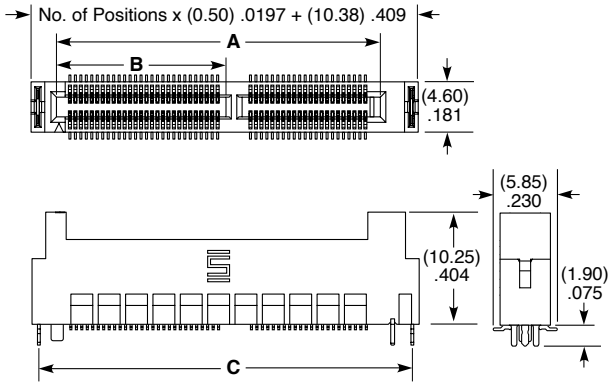
(0.50 mm) .0197" PITCH • MICRO EDGE CARD SOCKET

MEC5	-	POSITIONS PER ROW	-	01	-	PLATING OPTION	-	TAIL OPTION	-	WELD TAB OPTION	-	OTHER OPTION	-	"X"R
		-030, -040, -050, -060, -070, -080 (-RA & -DV) -090, -100 (-DV only)				–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–DV Vertical –RA Right-angle		–W1 = Weld Tab Through-hole (Required for -DV option) –W2 = Weld Tab Surface Mount (Not available for -DV)		–K = Polyimide Pick & Place Pad (Required for -DV) (Not available in -RA)		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

MEC5-DV

Card Mates:
(1.60 mm) .062" thick card with standard board tolerance





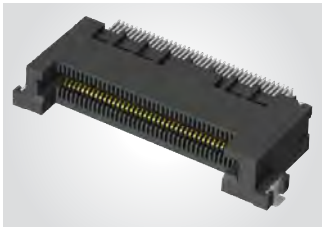
POSITIONS PER ROW	A	B	C
–030	(17.10) .673	N/A	(21.63) .852
–040	(22.10) .870	N/A	(26.63) 1.048
–050	(29.60) 1.165	(15.48) .609	(34.13) 1.344
–060	(34.60) 1.362	(17.98) .708	(39.13) 1.541
–070	(39.60) 1.559	(20.48) .806	(44.13) 1.737
–080	(44.60) 1.756	(22.98) .905	(49.13) 1.934
–090	(49.60) 1.953	(25.48) 1.003	(54.13) 2.131
–100	(54.60) 2.150	(27.98) 1.102	(59.13) 2.328

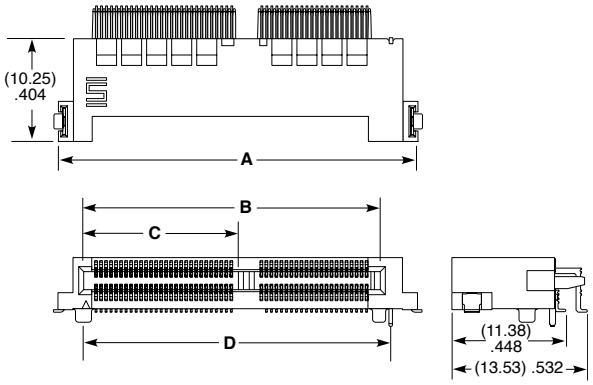
Note: Polarization rib is not present on –030 & -040 positions

View complete specifications at: **samtec.com?MEC5-DV**

MEC5-RA

Card Mates:
(1.60 mm) .062" thick card with standard board tolerance





POSITIONS PER ROW	A	B	C	D
–30	(23.38) .920	(17.10) .673	N/A	(18.16) .715
–40	(28.38) 1.117	(22.10) .870	N/A	(23.16) .912
–50	(35.88) 1.413	(29.60) 1.165	(15.44) .608	(30.66) 1.207
–60	(40.88) 1.609	(34.60) 1.362	(17.94) .706	(35.66) 1.404
–70	(45.88) 1.806	(39.60) 1.559	(20.44) .805	(40.66) 1.601
–80	(50.88) 2.003	(44.60) 1.756	(22.94) .903	(45.66) 1.798

Note: Polarization rib is not present on –030 & -040 positions

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?MEC5-RA**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.635 mm) .025" PITCH • VERTICAL AND RIGHT-ANGLE EDGE CARD SOCKET

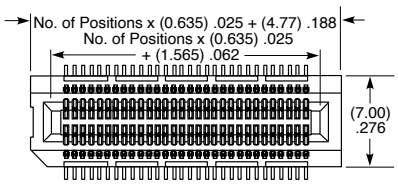
MEC6	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	DV	-	A	-	OPTION	-	"X"R
			10, 20, 30, 40, 50, 60, 70				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail						-K = (5.50 mm) 2.17" DIA Polyimide Pick & Place Pad		Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

MEC6-DV

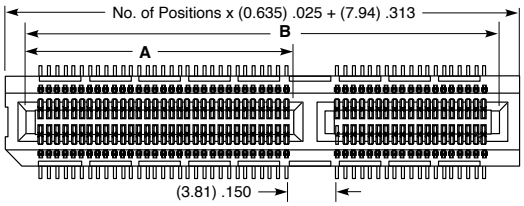
Card Mates:
(1.60 mm) .062" thick card



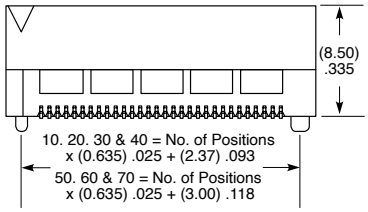
POSITIONS PER ROW	A	B
50	(21.06) .829	(36.49) 1.437
60	(24.87) .979	(42.84) 1.687
70	(28.68) 1.129	(49.19) 1.937

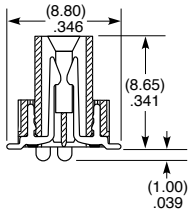


10, 20, 30 & 40 POSITIONS



50, 60 & 70 POSITIONS



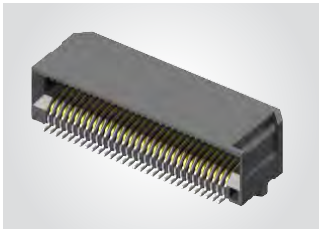


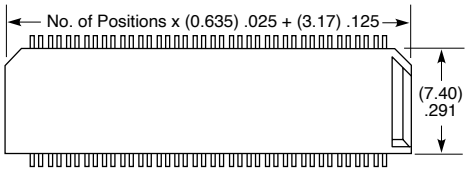
View complete specifications at: samtec.com?MEC6-DV

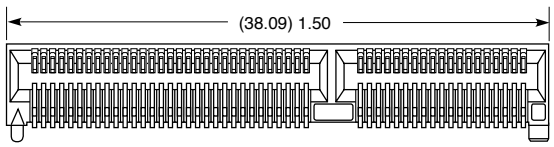
MEC6	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	D	-	TAIL	-	OPTIONS
			10, 20, 30, 40, 50				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–RA1 = Right-angle		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

MEC6-RA

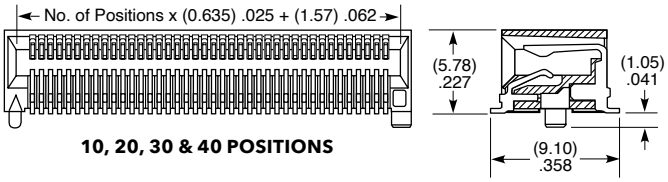
Card Mates:
(1.60 mm) .062" thick card







50 POSITIONS



10, 20, 30 & 40 POSITIONS

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?MEC6-RA

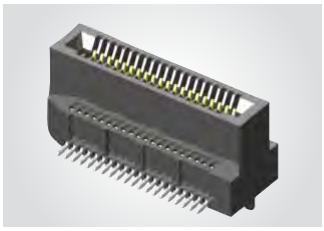
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.80 mm) .0315" PITCH • VERTICAL AND PRESS-FIT EDGE CARD SOCKET

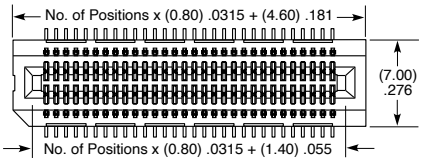
MEC8	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	DV	-	OTHER OPTIONS	-	"X"R
			10, 20, 30, 40, 50, 60, 70				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–A = Alignment Pin –K = (5.50 mm) 2.17" DIA Polyimide Pick & Place Pad		Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

MEC8-DV

Card Mates:
(1.60 mm) .062" thick card

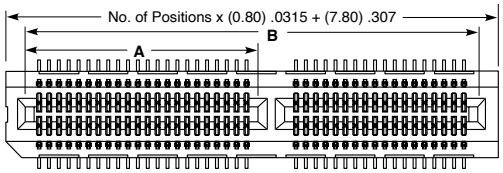


POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70	(30.90) 1.217	(60.60) 2.386

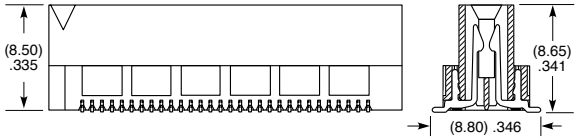


10, 20, & 30 POSITIONS

25 Gbps



40, 50, 60 & 70 POSITIONS

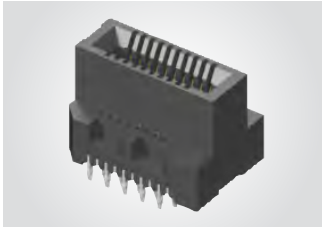


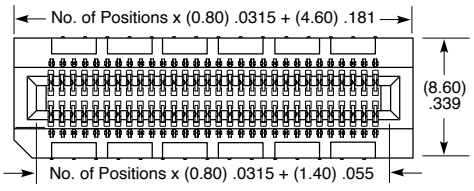
View complete specifications at: samtec.com?MEC8-DV

MEC8	-	1	POSITIONS PER ROW	-	CARD THICKNESS	-	PLATING OPTION	-	TAIL
			10, 20, 30, 40		–02 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–VP = Press-fit

MEC8-VP

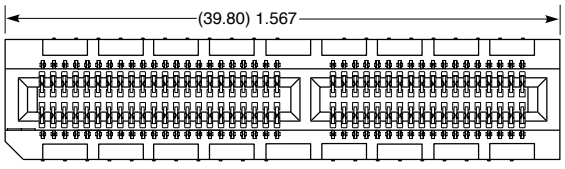
Card Mates:
(1.60 mm) .062" thick card



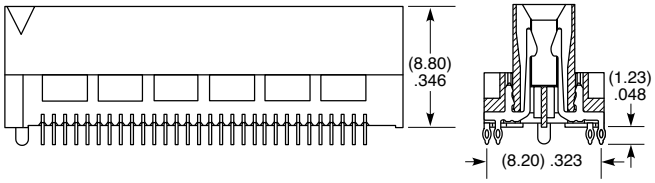


10, 20 & 30 POSITIONS

14 Gbps



40 POSITIONS



Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?MEC8-VP

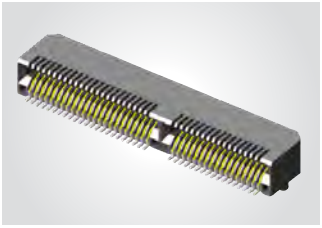
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

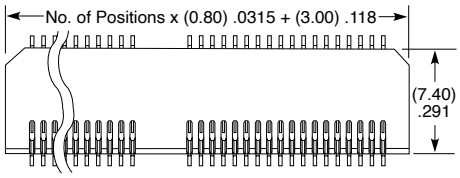
(0.80 mm) .0315" PITCH • RIGHT-ANGLE/EDGE MOUNT EDGE CARD SOCKET

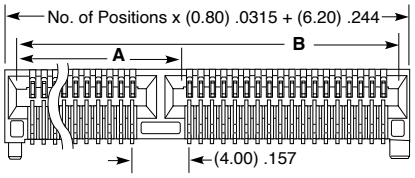
MEC8	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	D	-	RA1	-	"X"R
			10, 13, 20, 25, 30, 37, 40, 49, 50				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail						Leave blank for Tray Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

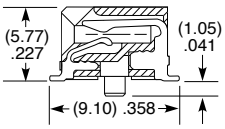
MEC8-RA

Card Mates:
(1.60 mm) .062" thick card









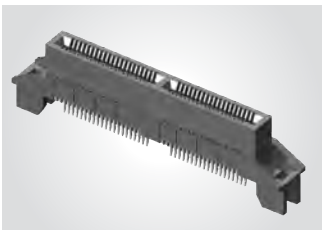
POSITIONS PER ROW	A	B
13	(6.10) .240	(15.00) .591
25		(24.60) .969
37	(18.10) .713	(34.20) 1.346
40	(18.90) .744	(36.60) 1.441
49	(22.90) .902	(43.80) 1.724
50		(44.60) 1.756

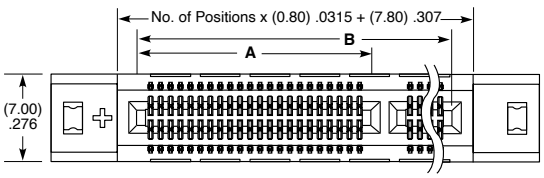
View complete specifications at: samtec.com?MEC8-RA

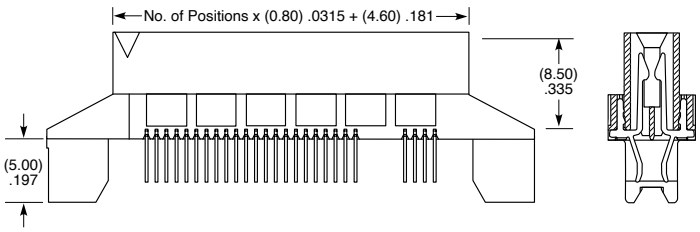
MEC8	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	D	-	EM2
			10, 20, 30, 40, 50, 60, 70				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				

MEC8-EM

Card Mates:
(1.60 mm) .062" thick card







POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70	(30.90) 1.217	(60.60) 2.386

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?MEC8-EM

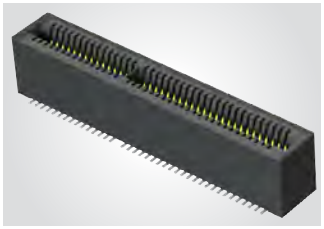
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(1.00 mm) .0394" PITCH • MINI EDGE CARD SOCKET

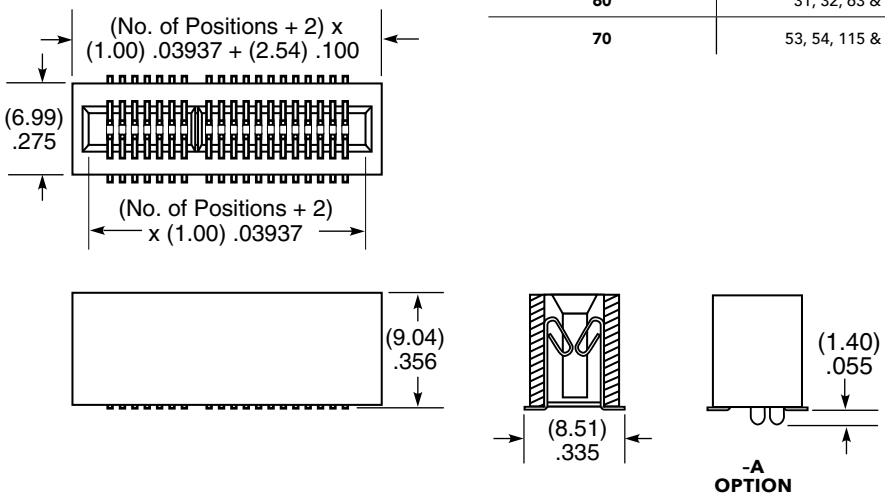
MEC1	-	1	-	02	-		-	D	-	NP	-		-	
		POSITIONS PER ROW				PLATING OPTION						OTHER OPTIONS		"X"R
		05, 08, 10, 20, 30, 40, 50, 60, 70				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				Leave blank for polarization –NP =No Polarization (05, 08, 20 & 30 positions only)		–A = Alignment Pin metal or plastic at Samtec discretion –K = (7.87 mm) .310" DIA Polyimide film Pick & Place Pad		Leave blank for Tube Packaging –TR =Tape & Reel (05-60 only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (05-60 only)

MEC1

Card Mates:
(1.60 mm) .062" thick card



POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
05	3, 4
08	5, 6
10	13, 14,
20	15, 16,
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116



Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?MEC1

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(1.00 mm) .0394" PITCH • RIGHT-ANGLE/EDGE MOUNT EDGE CARD SOCKET

MEC1 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - RA1 - NP - SL - "X"R

05, 08, 20, 30, 40, 50, 60, 70

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

Leave blank for polarization

–NP
= No Polarization (8 thru 30 positions only)

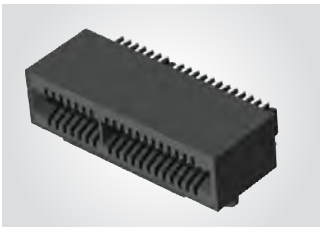
Leave blank for Tube Packaging

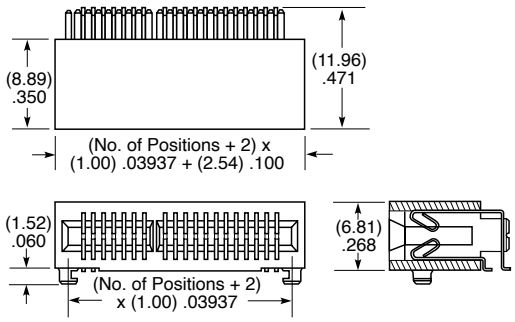
–TR
= Tape & Reel (not available with 70 positions)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (not available with 70 positions)

MEC1-RA

Card Mates:
(1.60 mm) .062" thick card





POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116

View complete specifications at: samtec.com?MEC1-RA

MEC1 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - EM2 - NP - "X"R

05, 08, 20, 30, 40, 50, 60, 70

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

Leave blank for polarization

–NP
= No Polarization (8 thru 30 positions only)

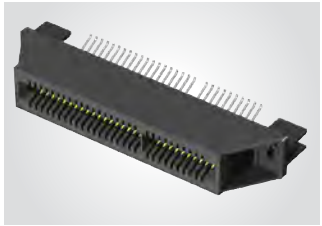
Leave blank for Tray Packaging

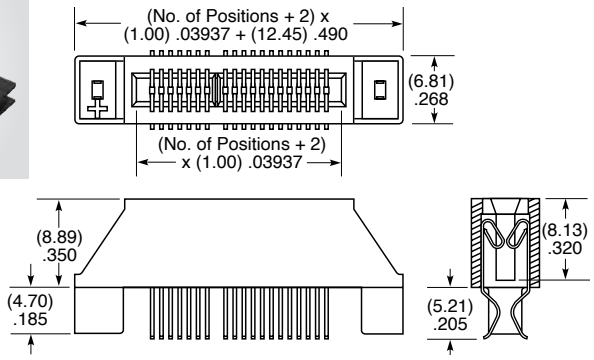
–TR
= Tape & Reel (not available with 60 & 70 positions)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (not available with 60 & 70 positions)

MEC1-EM

Card Mates:
(1.60 mm) .062" thick card





POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?MEC1-EM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(1.27 mm) .050" PITCH • MINI EDGE CARD SOCKET

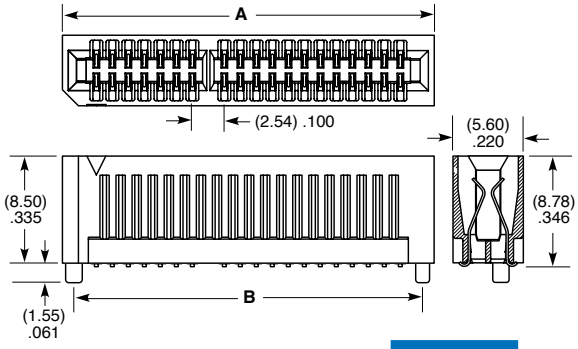
25 Gbps

MECF	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	OPTION	–	"X"R
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card –02 = (2.36 mm) .093" thick card		–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–WT = Weld Tabs (Standard on –02 card thickness, optional on –01 card thickness) –K Polyimide film pick & place pad (–"X"R only)		Leave blank for Tube Packaging –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

MECF

Card Mates:
(1.60 mm) .062" thick card
(2.36 mm) .093" thick card





POSITIONS PER ROW	A	B
–05	(10.46) .412	(8.64) .340
–08	(14.27) .562	(12.45) .490
–20	(29.51) 1.162	(27.69) 1.090
–30	(42.21) 1.662	(40.39) 1.590
–40	(54.91) 2.162	(53.09) 2.090
–50	(67.61) 2.662	(65.79) 2.590

POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42

View complete specifications at: samtec.com?MECF-DV

(2.00 mm) .0787" PITCH • MINI EDGE CARD SOCKET

14 Gbps

MEC2	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	TAIL OPTION	–	OPTION	–	"X"R
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card –02 = (2.36 mm) .093" thick card (-DV option only)		–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–DV Vertical Surface Mount –TH1 Through-hole		–WT = Weld Tabs (standard on –02 card, optional on –01 card) –K = Polyimide film pick & place pad (–"X"R & –DV only)		Leave blank for Tube Packaging –TR = Tape & Reel (05 thru 30 positions only) (Not available with -TH1) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (05 thru 30 positions only) (Not available with -TH1)

MEC2-DV

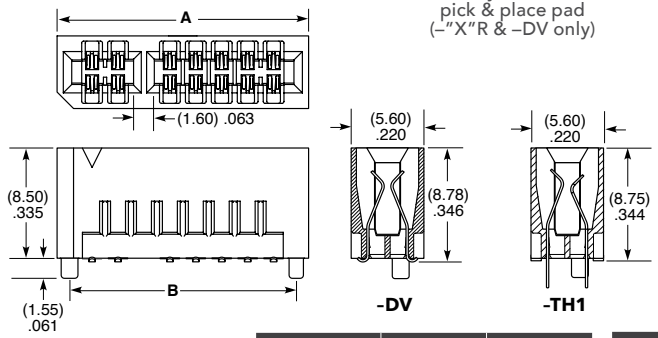
Card Mates:
(1.60 mm) .062" thick card
(2.36 mm) .093" thick card



MEC2-TH

Card Mates:
(1.60 mm) .062" thick card





POSITIONS PER ROW	A	B
–05	(13.40) .528	(11.50) .453
–08	(19.40) .764	(17.50) .689
–20	(43.40) 1.709	(41.50) 1.634
–30	(63.40) 2.496	(61.50) 2.421
–40	(83.40) 3.283	(81.50) 3.209
–50	(103.40) 4.071	(101.50) 3.996

POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42

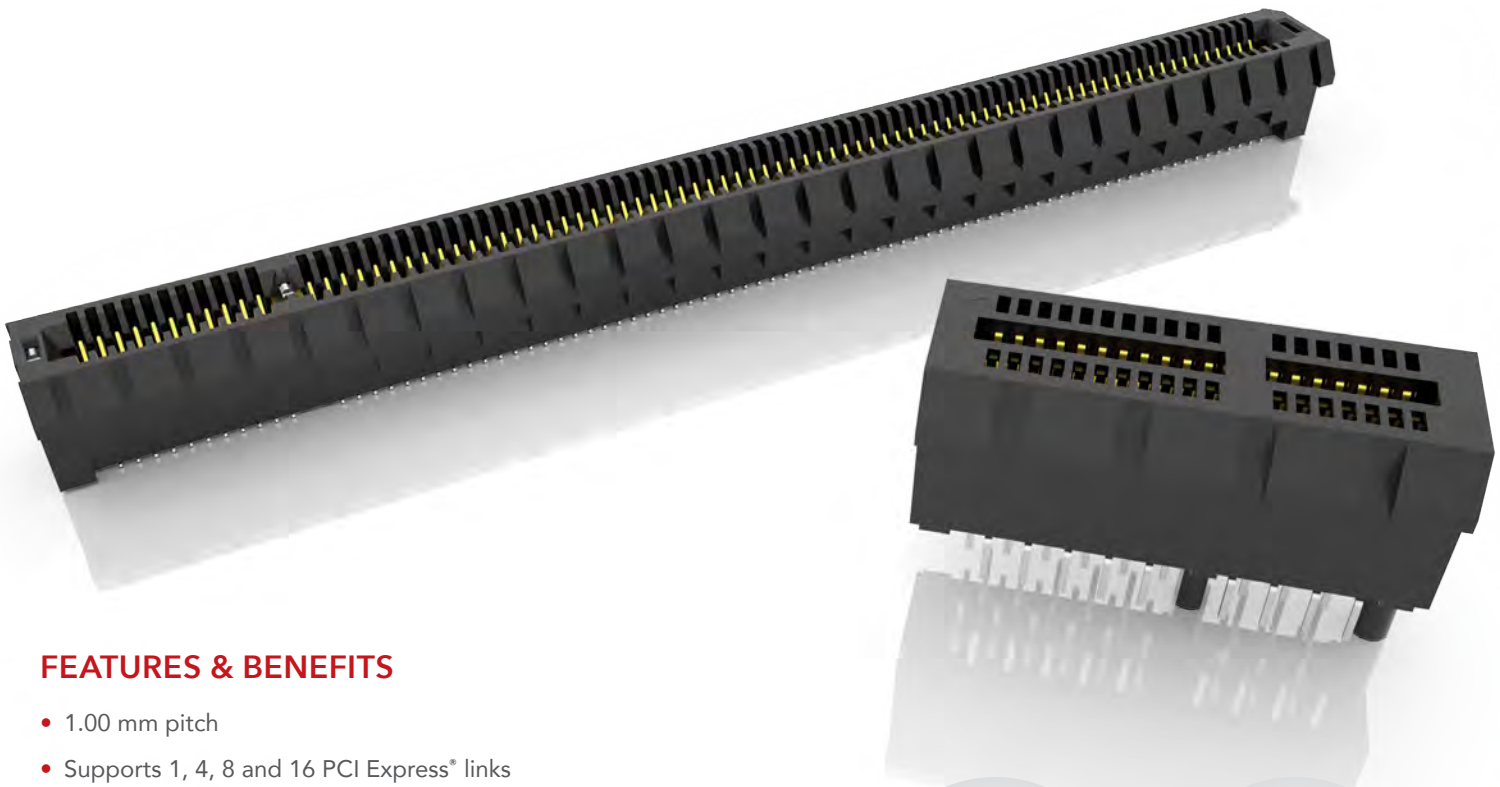
Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?MEC2-DV & samtec.com?MEC2-TH

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

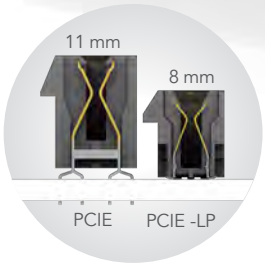
PCI EXPRESS® EDGE CARD SOCKETS

(1.00 mm) .0394" PITCH



FEATURES & BENEFITS

- 1.00 mm pitch
- Supports 1, 4, 8 and 16 PCI Express® links
- PCIE® 3.0 Solution (PCIE)
- PCIE® 4.0 Solution with low profile design for space savings (PCIE-LP)
- PCIE® 4.0 with slim body design (PCIE-G4)
- PCIE® 5.0/6.0 Solution with differential pair signaling (PCIE-G5)
- Vertical, right-angle and edge mount
- Mates with .062" (1.60 mm) thick cards
- Alignment pin and weld tab options



PCIE® 3.0 & 4.0 Edge Card connectors



PCIE® 4.0 slim body socket with Edge Rate® contacts (PCIE-G4)

KEY SPECIFICATIONS

SERIES	TOTAL PINS (LANES)	INSULATOR MATERIAL	CONTACT MATERIAL	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	PCIE® COMPATIBILITY
PCIE	36 (x1), 64 (x4), 98 (x8), 164 (x16)	-TH = Black Nylon -EMS2 & -TH = LCP	Phosphor Bronze	-55 °C to +125 °C	2.4 A (2 pins)	215 VAC/304 VDC	3.0
PCIE-LP	36 (x1), 64 (x4), 98 (x8), 164 (x16)	LCP	Phosphor Bronze	-55 °C to +125 °C	2.1 A (2 pins)	215 VAC/304 VDC	4.0
PCIE-G4	36 (x1), 64 (x4), 98 (x8), 164 (x16)	LCP	Copper Alloy	-55 °C to +125 °C	2.2 A (2 pins)	300 VAC/424 VDC	4.0
PCIE-G5	36 (x1), 64 (x4), 98 (x8), 164 (x16)	LCP	Copper Alloy	-55 °C to +125 °C	3.2 A (2 pins)	220 VAC/311 VDC	5.0/6.0

PCI-SIG®, PCI Express® andthe PCIe® design marks areregistered trademarks and/orservice marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

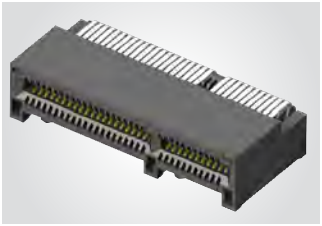
(1.00 mm) .0394" PITCH • PCI EXPRESS® CARD SOCKETS

PCIE	–	NUMBER OF POSITIONS	–	02	–	PLATING OPTION	–	D	–	TAIL OPTION
		–036, –064, –098, –164				–F =Gold flash on contact, Tin on tail				–EMS2 = Edge Mount –TH =Through-hole –RA =Right-angle

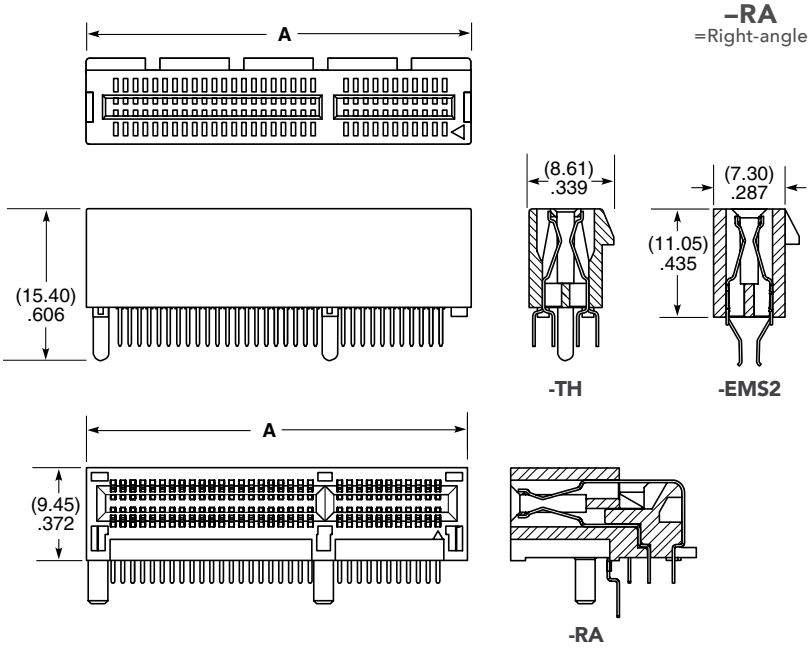
PCIE

Card Mates:
(1.60 mm)
.062" card

Cable Mates:
PCIEC



POSITIONS	A
–036 (x1)	(25.00) .984
–064 (x4)	(39.00) 1.535
–098 (x8)	(56.00) 2.205
–164 (x16)	(89.00) 3.504



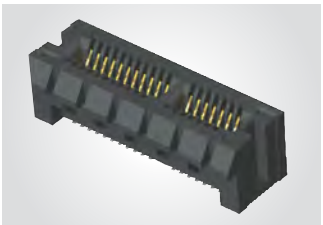
View complete specifications at: samtec.com?PCIE

PCIE	–	LP	–	NUMBER OF LANES	–	01	–	PLATING OPTION	–	DV	–	A	–	OPTION	–	PACKAGING
				–01, –04, –08, –16				–F = Gold Flash on contact, Matte Tin on tail						–WT = Weld Tab –K = Polyimide film Pick & Place Pad		(For -16 lanes only leave blank for Tray Packaging) –TR = Tape & Reel ("X"R required with –01, –04, –08 lanes) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) ("X"R required with –01, –04, –08 lanes)

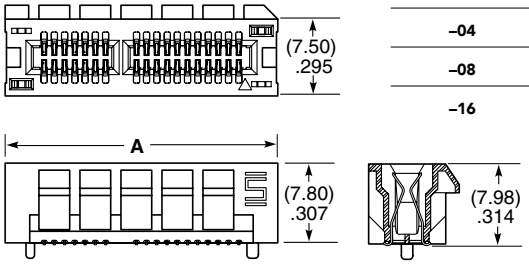
PCIE-LP

Card Mates:
(1.60 mm)
.062" card

Cable Mates:
PCIEC



NUMBER OF LANES	A
–01	(26.60) 1.047
–04	(40.60) 1.598
–08	(57.60) 2.268
–16	(90.60) 3.567



PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?PCIE-LP

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PCI EXPRESS®
4.0 & 5.0/6.0 SOLUTIONS

(1.00 mm) .0394" PITCH • PCI EXPRESS® 4.0 SOCKET

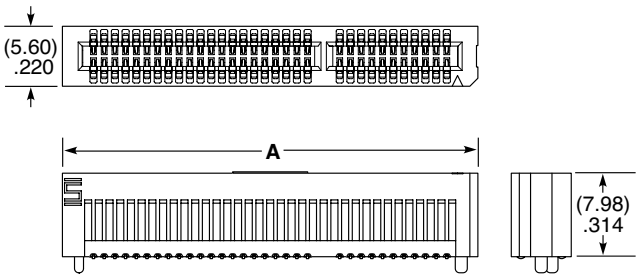
PCIE	–	G4	–	NUMBER OF LANES	–	01	–	PLATING OPTION	–	DV	–	OPTION 1	–	OPTION 2	–	PACKAGING
				–01, –04, –08, –16				–F = Gold flash on contact, Matte Tin on tail				–A = Alignment Pin (Not available with -WT) –WT = Weld Tab (Not available with -A)		–K = (7.00 mm) .275" DIA Polyimide Pick & Place Pad		(For -16 lanes only leave blank for Tray Packaging) –TR = Tape & Reel ("X"R required with –01, –04, –08 lanes) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) ("X"R required with –01, –04, –08 lanes)

PCIE-G4

Card Mates:
(1.60 mm)
.062" card

Cable Mates:
PCIEC-G4





NUMBER OF LANES	A
–01	(24.80) .976
–04	(38.80) 1.528
–08	(55.80) 2.197
–16	(88.80) 3.496

View complete specifications at: samtec.com?PCIE-G4

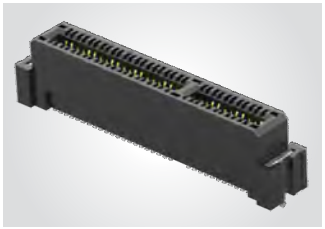
(1.00 mm) .0394" PITCH • PCI EXPRESS® 5.0/6.0 SOCKET

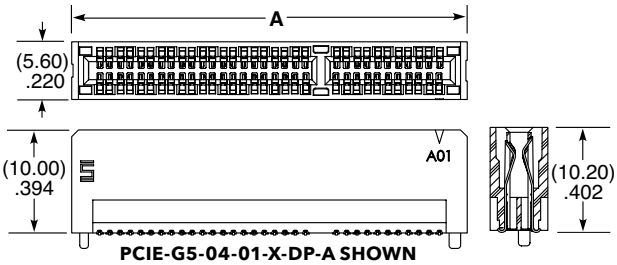
PCIE	–	G5	–	NUMBER OF LANES	–	01	–	PLATING OPTION	–	TYPE	–	OPTION	–	PACK°AGING
				–01, –04, –08, –16				–F = Gold flash on contact, Matte Tin on tail		–DP–A = Vertical –EM = Edge Mount		–WT = Weld Tab		(For -16 lanes only leave blank for Tray Packaging) –TR = Tape & Reel ("X"R required with –01, –04, –08 lanes) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) ("X"R required with –01, –04, –08 lanes)

PCIE-G5

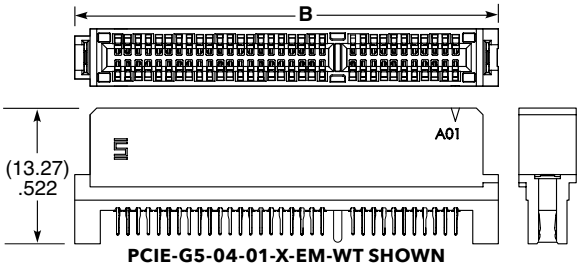
Card Mates:
(1.60 mm)
.062" card

Cable Mates:
PCIEC-G5





PCIE-G5-04-01-X-DP-A SHOWN



PCIE-G5-04-01-X-EM-WT SHOWN

NUMBER OF LANES	A	B
–01	(24.40) .961	(27.40) 1.079
–04	(38.40) 1.512	(41.40) 1.630
–08	(55.40) 2.181	(58.40) 2.299
–16	(88.40) 3.480	(91.40) 3.598

View complete specifications at: samtec.com?PCIE-G5

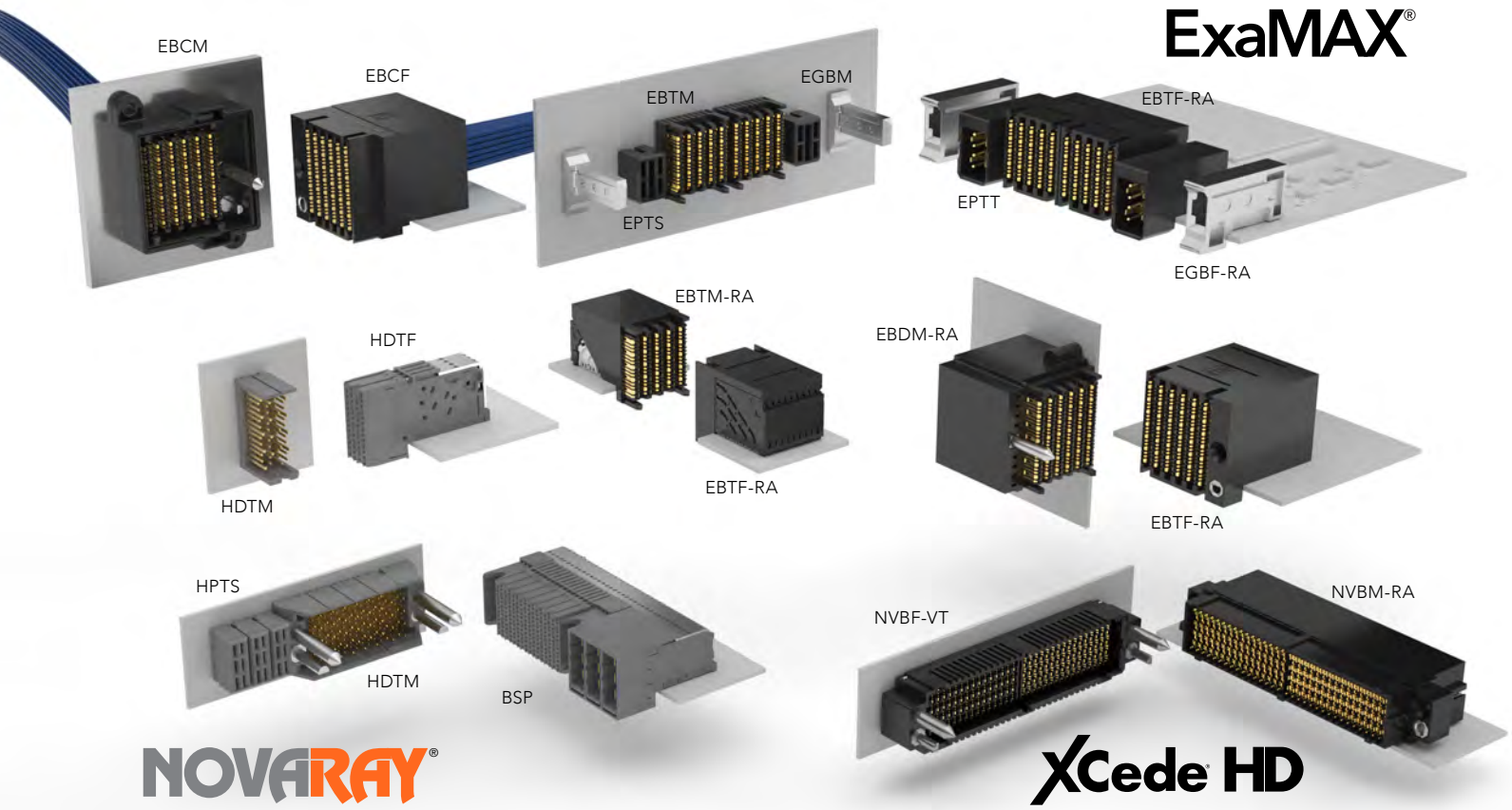
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED BACKPLANE SYSTEMS

HIGH-DENSITY • DESIGN FLEXIBILITY • HIGH RELIABILITY



82-85 **NovaRay®**

Micro Rugged Backplane Header and Socket (NVBF, NVBM) 83
Micro Rugged Backplane Cable System (NVCF, NVCM) 84-85

86-91 **ExaMAX®**

ExaMAX® Vertical & Right-Angle Headers (EBTM) 87
ExaMAX® Right-Angle Receptacles (EBTF-RA) 88
ExaMAX® Direct-Mate Orthogonal Headers (EBDM-RA) 88
ExaMAX® Cables (EBCM, EBCF) 89-90
Power Modules for ExaMAX® (EPTT, EPTS) 91
Guidance Modules for ExaMAX® (EGBM, EGBF) 91
Panel Retention Brackets & Latching Shrouds for ExaMAX® Cables (EBCB, EBCL) 91

92-94 **XCede® HD**

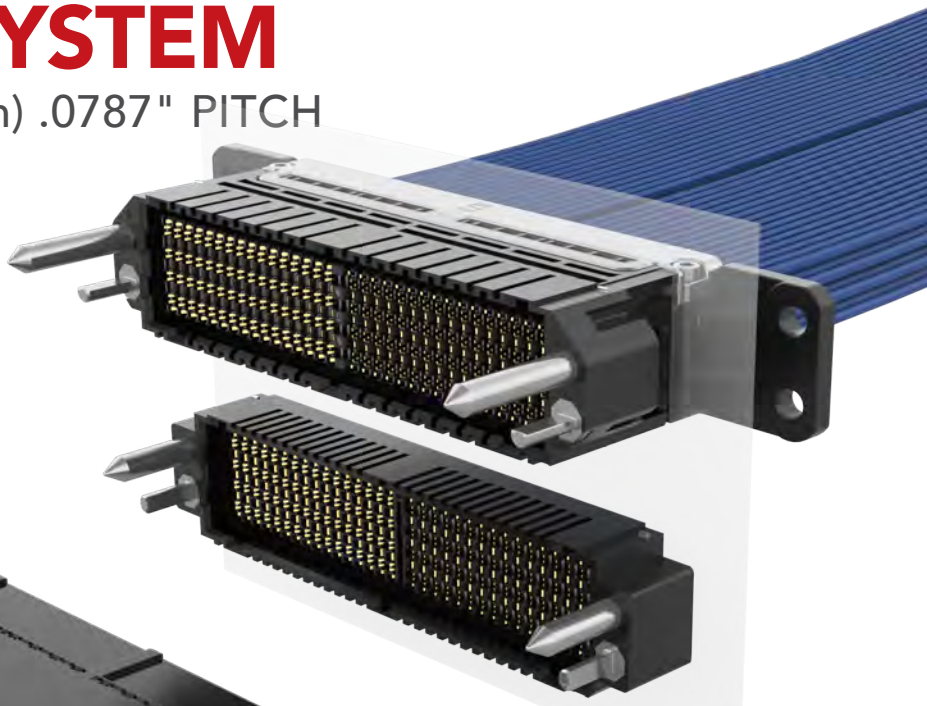
XCede® HD Backplane Headers & Receptacles (HDTM, HDTF) 93-94
XCede® HD Power Modules (HPTS, HPTT) 94

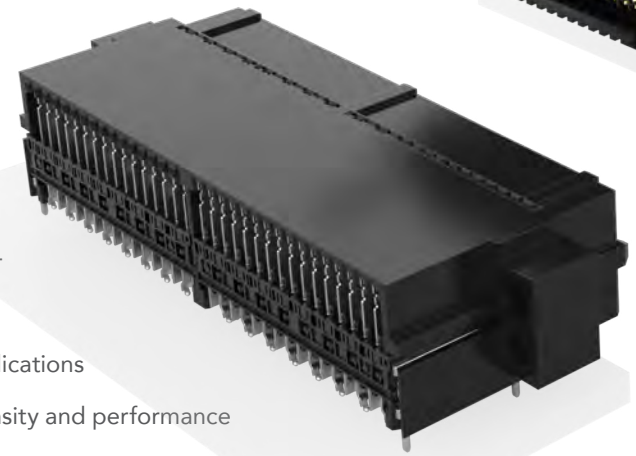
NOVARAY®

MICRO RUGGED BACKPLANE SYSTEM

(0.90 mm) .0354" x (2.00 mm) .0787" PITCH

PAM4 128 Gbps



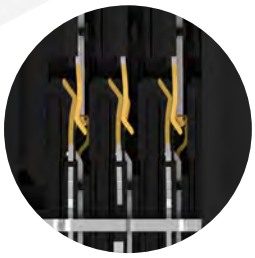


FEATURES & BENEFITS

- Ultra-high density with up to 128 DPs in a single connector
- PCIe® 7.0 capable
- Designed for blind mate applications
- Surface mount for better density and performance
- Innovative wafer design eliminates intra-pair skew
- Configurable signal banks for design flexibility
- Offset footprint for optimal signal integrity performance
- Large continuous ground blades between and surrounding the differential pairs eliminates resonances
- Optional guidance and keying
- Standard weld tabs for a secure connection to the board



Ultra-high density; single-ended or differential pair wafers



Precision insert molded contact system with 2.50 mm wipe



Flyover® cable assembly for extended signal reach

KEY SPECIFICATIONS

SERIES	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
NVBM/NVBF	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	Testing Now!	Testing Now!	Testing Now!	Yes
NVCF/NVCM	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	Testing Now!	Testing Now!	Testing Now!	No

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SERIES	STYLE	NO. OF ROWS	ORIENTATION	PLATING OPTION	SOLDER TYPE	GUIDANCE	KEYING
NVBF Socket **NVBM** Terminal	**–DP** = 4 Pairs per rows	**–04, –16, –32**	**–VT** = Vertical (NVBF) **–RA** = Right-Angle (NVBM)	**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	**–2** = Lead-Free Solder Charge	(Leave Blank for no Guidance) **–L** = Left Guidance **–R** = Right Guidance **–B** = Both	(Only available with Guidance) **–N** = No Key **–A thru –H** = Position of flat on Key (See Table)

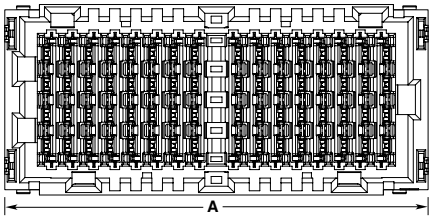
PRELIMINARY

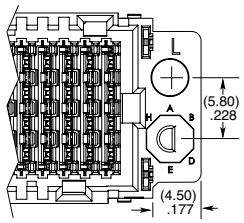
NVBF

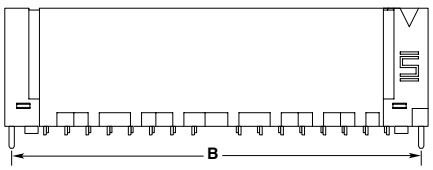
Board Mates:
NVBM-RA

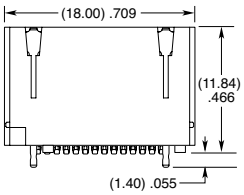


NO. OF ROWS	A	B
–04	(16.00) 0.630	(14.70) 0.579
–16	(40.00) 1.575	(38.70) 1.524
–32	(72.00) 2.835	(70.70) 2.783









KEYING (-VT)

	–A	–B	–C	–D	–E	–F	–G	–H
–L / –R / –B								

Notes:
Some sizes, styles and options are non-standard, non-returnable

View complete specifications at: samtec.com?NVBF

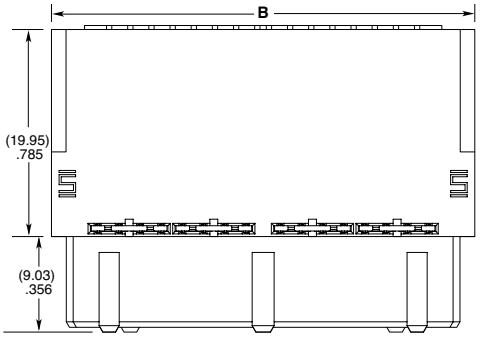
NVBM-RA

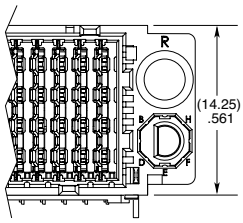
Board Mates:
NVBF-VT

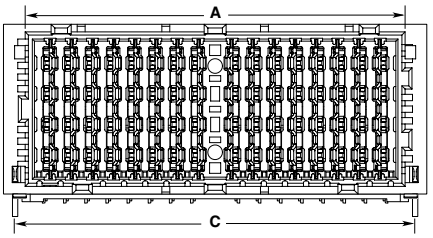


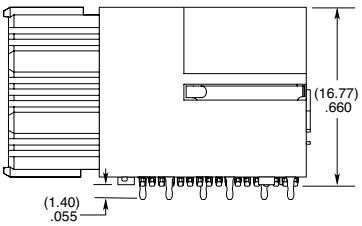
PRELIMINARY

NO. OF ROWS	A	B	C
–04	(11.90) 0.469	(16.00) 0.630	(13.80) 0.543
–16	(35.90) 1.413	(40.00) 1.575	(37.80) 1.488
–32	(67.90) 2.673	(72.00) 2.835	(69.80) 2.748

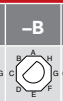
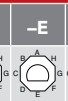
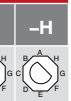








KEYING (-RA)

	–A	–B	–C	–D	–E	–F	–G	–H
–L / –R / –B								

View complete specifications at: samtec.com?NVBM-RA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

NOVARAY®

PAM4 128 Gbps

0.90 mm x 2.00 mm PITCH • MICRO RUGGED BACKPLANE CABLE

NVCF	SIGNAL TYPE	NO. OF ROWS	V	3	CABLE LENGTH	GUIDANCE MOUNTING	KEYING	GUIDANCE MOUNTING	KEYING	PIN OUT
	–DP = Differential Twinax pairs (4 pairs per row)	**–04, –16, –32**			**–"XX"** = Length in Inches 10" (152.4 mm) minimum	**–0** = No Guidance **–8** = Both Guidance, side mounting lugs	(Only available with Guidance) **–N** = No Key **–A thru –H** = Position of flat on Key (See Table)	**–0** = No Guidance **–8** = Both Guidance, side mounting lugs	(Only available with Guidance) **–N** = No Key **–A thru –H** = Position of flat on Key (See Table)	**–1** = Pin A01 to Pin A01 **–2** = Pin A01 to Pin R01 **–3** = Pin A01 to Pin AN (N equals last row)

NVCF

Board Mates:
NVBM-RA

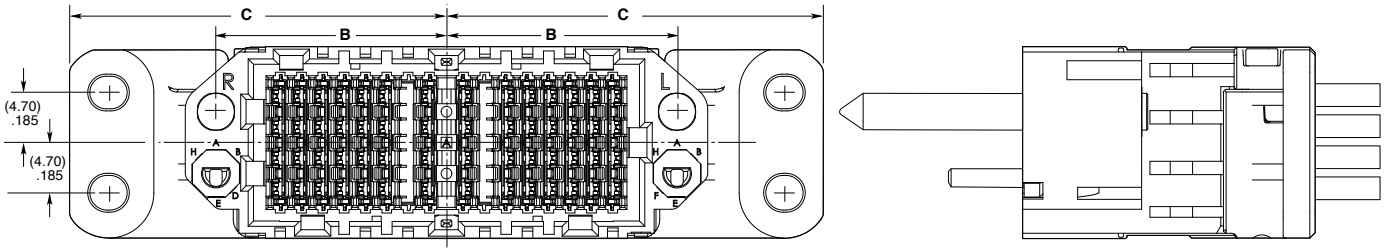
Cable Mates:
NVCM



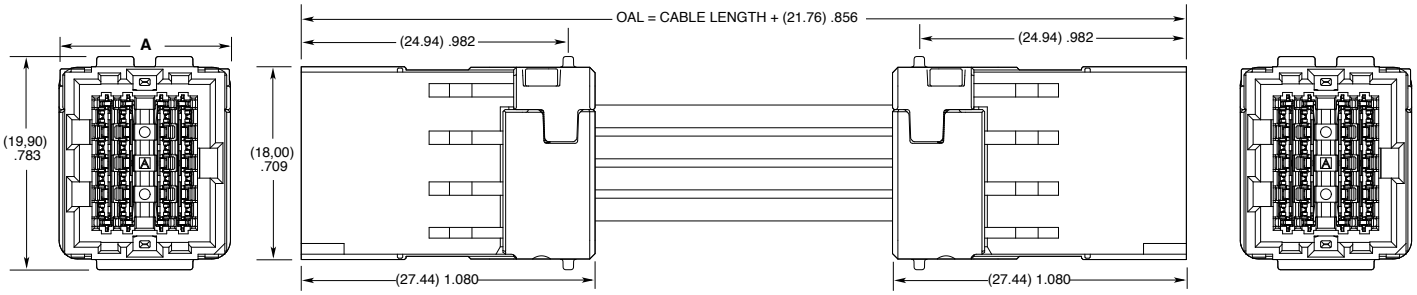
KEYING (-VT)

–L / –R / –B	–A	–B	–C	–D	–E	–F	–G	–H
								

NO. OF ROWS	A	B	C
–04	(16.00) 0.630	(19.70) 0.776	(23.35) .919
–16	(40.00) 1.575	(31.70) 1.248	(35.35) 1.392
–32	(72.00) 2.835	(47.70) 1.878	(51.35) 2.022



NVCF–DP–16–V–3–XX–8–A–8–A–X SHOWN



NVCF–DP–04–V–3–XX–0–N–0–N–X SHOWN

Notes:
Cable lengths longer than 1 meter (40.00") are not supported with S.I. test data.

Maximum standard cable length is 99 inches. For lengths greater than 99 inches contact HDR@samtec.com.

Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?NVCF

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

0.90 mm x 2.00 mm PITCH • MICRO RUGGED BACKPLANE CABLE

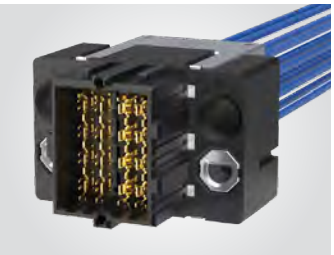
NVCM	–	SIGNAL TYPE	–	NO. OF ROWS	–	R	–	CABLE STYLE	–	CABLE LENGTH	–	END 1 GUIDANCE	–	END 1 KEYING	–	END 2 GUIDANCE	–	END 2 KEYING	–	PIN OUT
		–DP = Differential Twinax pairs (4 pairs per row)		**–04, –16, –32**				**–3** = 34 AWG 92 Ω ultra low skew Thinax™		**–XX** = Length in inches 10" (254 mm) minimum		**–0** = No Guidance **–1** = Left Guidance **–2** = Right Guidance **–3** = Both		(Only available with Guidance) **–N** = No Key **–A thru –H** = Position of flat on Key		**–0** = No Guidance **–1** = Left Guidance **–2** = Right Guidance **–3** = Both		(Only available with Guidance) **–N** = No Key **–A thru –H** = Position of flat on Key (See Table)		**–1** = Pin A01 to Pin A01 **–2** = Pin A01 to Pin R01 **–3** = Pin A01 to Pin AN (N equals last row)

PRELIMINARY

NVCM

Board Mates:
NVBF-VT

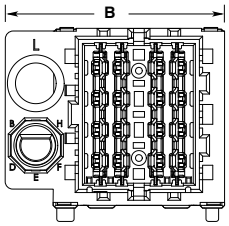
Cable Mates:
NVCF



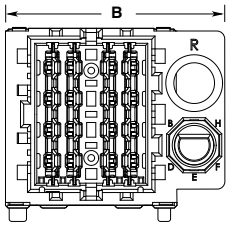
KEYING

–L / –R / –B	–A	–B	–C	–D	–E	–F	–G	–H
								

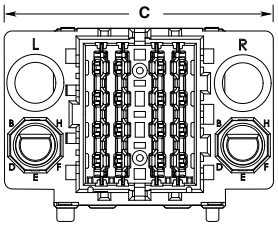
NO. OF ROWS	A	B	C
–04	(16.00) 0.630	(20.50) .807	(25.00) .984
–16	(40.00) 1.575	(44.50) 1.752	(49.00) 1.929
–32	(72.00) 2.835	(76.50) 3.012	(81.00) 3.189



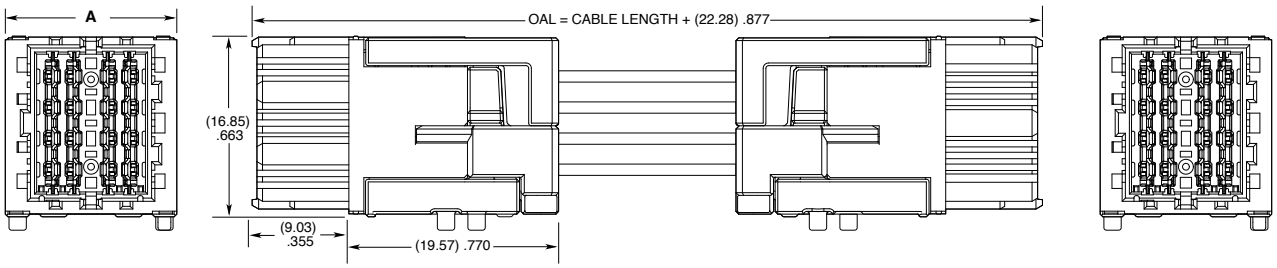
–1 GUIDANCE



–2 GUIDANCE



–3 GUIDANCE



NVCM–DP–04–R–3–XX–0–N–0-N-X SHOWN

Notes:
Cable lengths longer than 1 meter (40.00") are not supported with S.I. test data.

Maximum standard cable length is 99 inches. For lengths greater than 99 inches contact HDR@samtec.com.

Some sizes, styles and options are non-standard, non-returnable.

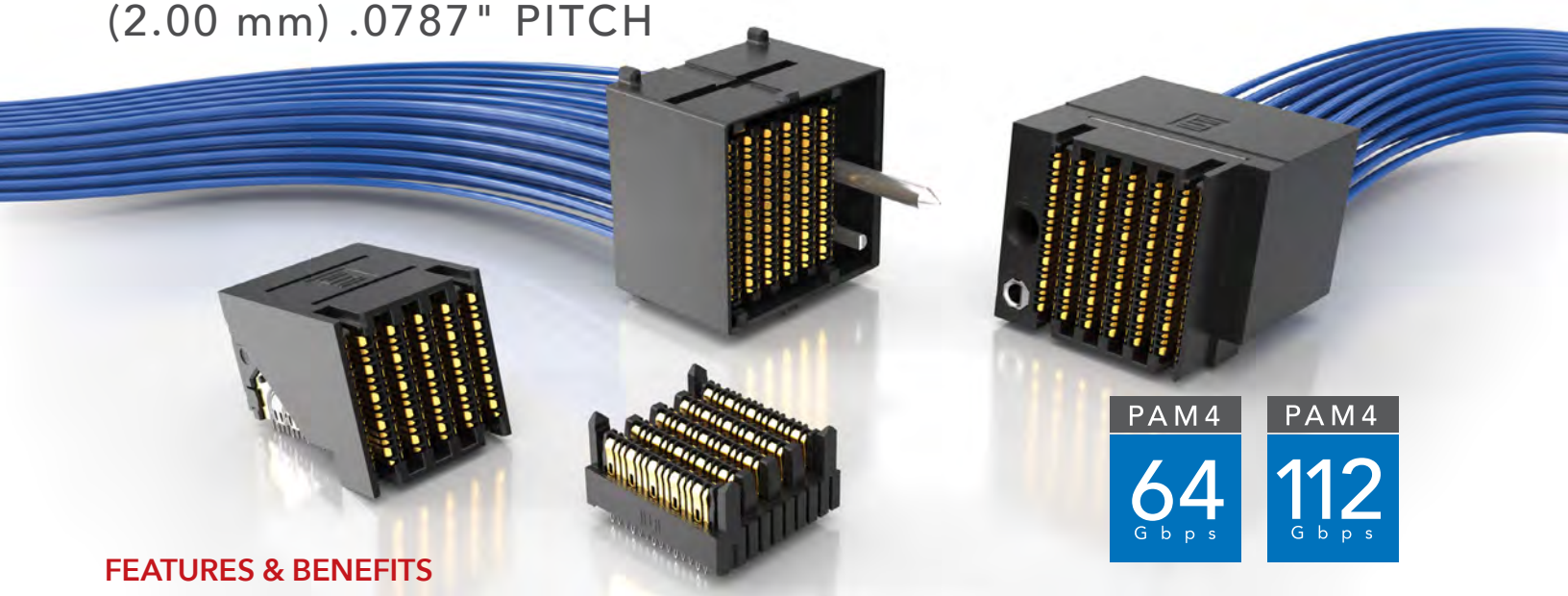
View complete specifications at: samtec.com?NVCM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ExaMAX®

HIGH-SPEED BACKPLANE CONNECTOR & CABLE SYSTEMS

(2.00 mm) .0787" PITCH



PAM4 64 Gbps

PAM4 112 Gbps

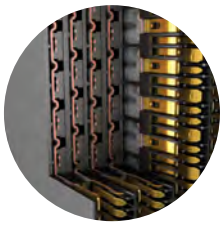
FEATURES & BENEFITS

ExaMAX® High-Speed Backplane System

- Meets a variety of industry specifications
- Traditional, coplanar and direct mate orthogonal
- 24 - 72 pair designs (4 and 6 pairs; 6, 8, 10 and 12 columns)
- Shielded wafer design reduces crosstalk and includes one sideband signal per column
- Press-fit tails provide a reliable electrical connection
- PCIe® 6.0/CXL® 3.2 capable

ExaMAX® High-Speed Backplane Cable Assemblies

- 30 & 34 AWG Eye Speed® ultra low skew twinax cable
- 34 AWG Eye Speed Thinax™ ultra low skew twinax cable
- Offers improved signal integrity, increased flexibility and routability
- Highly customizable with modular flexibility
- Reduce costs due to lower layer counts
- PCIe® 6.0/CXL® 3.2 capable



Staggered Differential Pair Design



Two Reliable Points of Contact with a 2.4 mm Wipe



In Development: Open-Pin-Field, Coplaner Configuration



In Development: 2 Pair Design for a Lower Profile



In Development: ExaMAX2® 8 Pairs for 112 Gbps PAM4 Performance

KEY SPECIFICATIONS

SERIES	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
EBTM/EBTF/EBDM	Liquid Crystal Polymer	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C	4 A per pin	150 VAC/212 VDC	Yes
EPTT/EPTS	High Temperature Thermoplastic	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C	14.1 A per pin	150 VAC/212 VDC	Yes
EBCM/EBCF	Liquid Crystal Polymer	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	-40 °C to +105 °C	2.6 A per pin	125 VAC/177 VDC	N/A

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ExaMAX®

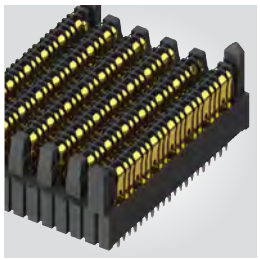
(2.00 mm) .0787" PITCH • VERTICAL & RIGHT-ANGLE HEADERS

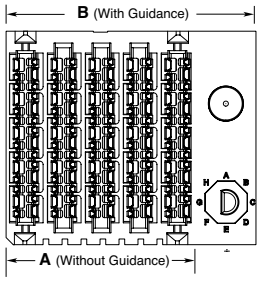
EBTM	NO. OF PAIRS PER COLUMN	COLUMNS	COLUMN PITCH	PLATING	ORIENTATION	1	GUIDANCE	KEYING
	–4 = 4 Pairs **–6** = 6 Pairs	**–06, –08, –10, –12** (-12 column only available in -6 pairs)	**–2.0** = (2.0 mm) .0787"	**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	**–VT** = Vertical **–RA** = Right-Angle		(Leave Blank for no Guidance) **–L** = Left Guidance **–R** = Right Guidance	(Only available with –L or –R Guidance) (Leave Blank for no Keying) **–A thru –H** = Position of flat on Key (See Table)

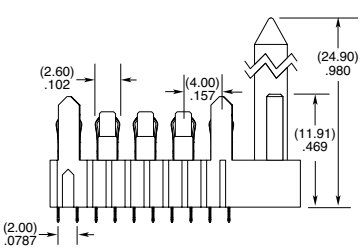
EBTM-VT

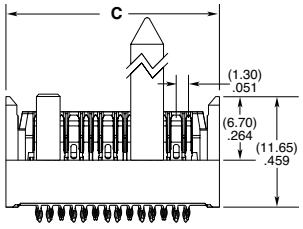
Board Mates:
EBTF-RA

Cable Mates:
EBCF

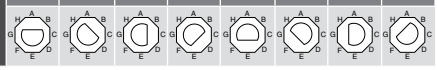








KEYING (-VT)

–L / –R	–A	–B	–C	–D	–E	–F	–G	–H
								

COLUMNS	A	B
–06	(11.90) .469	(18.35) .722
–08	(15.90) .626	(22.35) .880
–10	(19.90) .783	(26.35) 1.037
–12	(23.90) .941	(30.35) 1.195

NO. OF PAIRS PER COLUMN	C
–4	(22.50) .886
–6	(29.70) 1.169

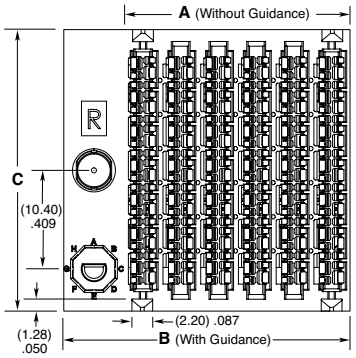
View complete specifications at: samtec.com?EBTM

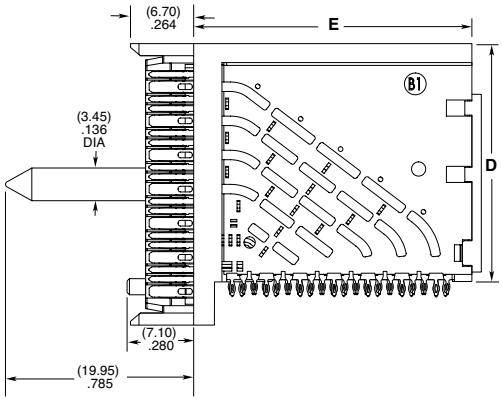
EBTM-RA

Board Mates:
EBTF-RA

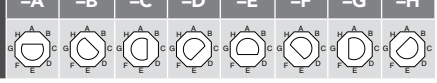
Cable Mates:
EBCF







KEYING (-RA)

–L / –R	–A	–B	–C	–D	–E	–F	–G	–H
								

COLUMNS	A	B
–06	(11.90) .469	(18.35) .722
–08	(15.90) .626	(22.35) .880
–10	(19.90) .783	(26.35) 1.037
–12	(23.90) .941	(30.35) 1.195

NO. OF PAIRS PER COLUMN	C	D	E
–4	(22.50) .886	(17.90) .705	(23.30) .917
–6	(29.70) 1.169	(25.10) .988	(30.50) 1.201

Notes:
Some lengths, styles and options are non-standard, non-returnable.

ExaMAX® is a registered trademark of Amphenol FCI Asia Pte. Ltd. Used with permission.

View complete specifications at: samtec.com?EBTM-RA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ExaMAX®

PAM4 64 Gbps

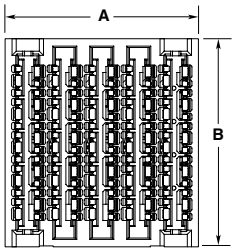
(2.00 mm) .0787" PITCH • RIGHT-ANGLE SOCKET & DIRECT-MATE ORTHOGONAL

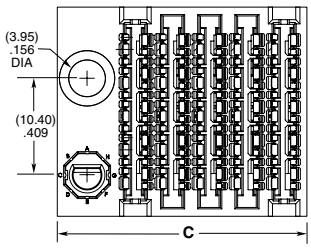
EBTF	NO. OF PAIRS PER COLUMN	COLUMNS	COLUMN PITCH	PLATING	RA	1	GUIDANCE	KEYING
	–4 = 4 Pairs **–6** = 6 Pairs	**–06, –08, –10, –12** (-12 column only available in -6 pairs)	**–2.0** = (2.0 mm) .0787"	**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tails			(Leave Blank for no Guidance) **–L** = Left Guidance **–R** = Right Guidance	(Only with –L or –R Guidance; Leave Blank for no Keying) **–A thru –H** = Position of Flat on Key (See Table)

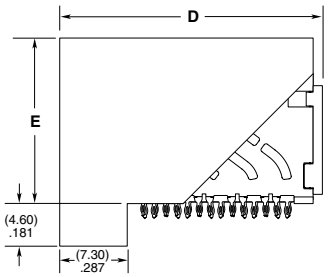
EBTF-RA
Board Mates:
EBTM,
EBDM-RA

Cable Mates:
EBCM









KEYING (-RA)

	–A	–B	–C	–D	–E	–F	–G	–H
–L / –R								

NO. OF COLUMNS	A	C
–06	(12.90) .508	(18.85) .742
–08	(16.90) .665	(22.85) .900
–10	(20.90) .823	(26.85) 1.057
–12	(24.90) .980	(30.85) 1.215

NO. OF PAIRS PER COLUMN	B	D	E
–4	(22.50) .886	(28.40) 1.118	(17.90) .705
–6	(29.70) 1.169	(35.60) 1.402	(25.10) .988

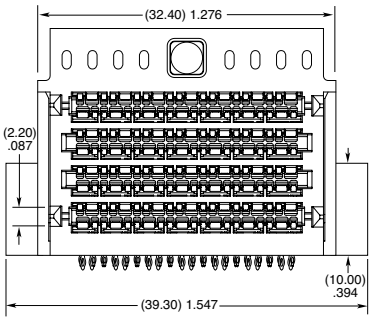
View complete specifications at: **samtec.com?EBTF-RA**

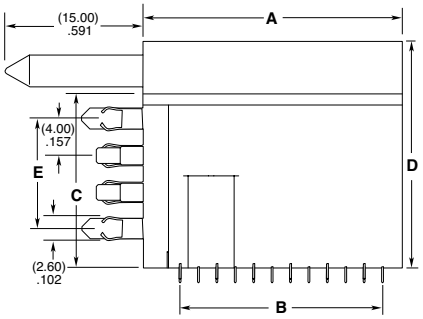
EBDM	PAIRS	COLUMNS	2.0	PLATING	RA	1	GUIDANCE	SCREW MOUNT
	–6 = 6 Pairs	**–06, –08, –10, –12**		**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tails			(Leave Blank for no Pin) **–G** = Guide Pin	(Leave Blank for no Screw Mount) **–S** = Screw Mount

EBDM-RA
Board Mates:
EBTF-RA

Cable Mates:
EBCF







COLUMNS	A	B	C (without –G)	D (with –G)	E
–06	(16.15) .636	(10.00) .394	(15.00) .591	(20.65) .813	(8.00) .315
–08	(20.15) .793	(14.00) .551	(19.00) .748	(24.65) .970	(12.00) .472
–10	(24.15) .951	(18.00) .709	(23.00) .906	(28.65) 1.128	(16.00) .630
–12	(28.15) 1.108	(22.00) .866	(27.00) 1.063	(32.65) 1.285	(20.00) .787

Notes:
Some lengths, styles and options are non-standard, non-returnable.

ExaMAX® is a registered trademark of Amphenol FCI Asia Pte. Ltd. Used with permission.

View complete specifications at: **samtec.com?EBDM-RA**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

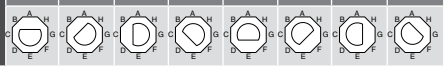
ExaMAX®

PAM4 112 Gbps

(2.00 mm) .0787" PITCH • BACKPLANE CABLES

EBCM	CABLE/ SIG. MAP	PAIRS PER COLUMN	COLUMNS	END 1 PIN	END 1 GUIDE	END 1 KEY	CABLE LENGTH	END 2 PIN	END 2	END 2 KEY
Cable Header	**–1** = 34 AWG ultra low skew twinax cable/ Tx to Rx Sig. Map **–2** = 30 AWG ultra low skew twinax cable/ Tx to Rx Sig. Map **–3** = 34 AWG ultra low skew twinax cable/ 1:1 Sig. Map **–4** = 30 AWG ultra low skew twinax cable/ 1:1 Sig. Map **–6** = 34 AWG Thinax™ ultra low skew twinax cable/ Tx to Rx Sig. Map **–8** = 34 AWG Thinax™ ultra low skew twinax cable/ 1:1 Sig. Map	**–4** = 4 Pairs **–6** = 6 Pairs	**–04, –06, –08, –10, –12, –14, –16**	**–1** = Standard	**–L** = Left Guidance **–R** = Right Guidance	**–A thru –H** = Position of Flat on Key (See Table) **–N** = No Key	**–"XX"** = Length in Inches 4 Pairs: 06" (152.4 mm) minimum 6 Pairs: 08" (203.2 mm) minimum	**–1** = Standard	**–L** = Male, Left Guidance **–R** = Male, Right Guidance **–FL** = Female, Right-angle Left Guidance (–3 , –4 & –8 Signal Map only) **–FR** = Female, Right-angle Right Guidance (–3 , –4 & –8 Signal Map only) **–FV** = Female, Vertical (–3 , –4 & –8 Signal Map only)	(Leave Blank for –FV End 2) **–A thru –H** = Position of Flat on Key (See Table) **–N** = No Key

KEYING

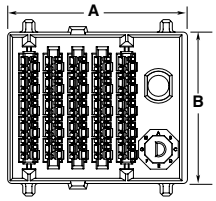
–L / –R	–A	–B	–C	–D	–E	–F	–G	–H
								

EBCM
Mates with:
EBCF, EBTF
Retention Bracket:
EBCB

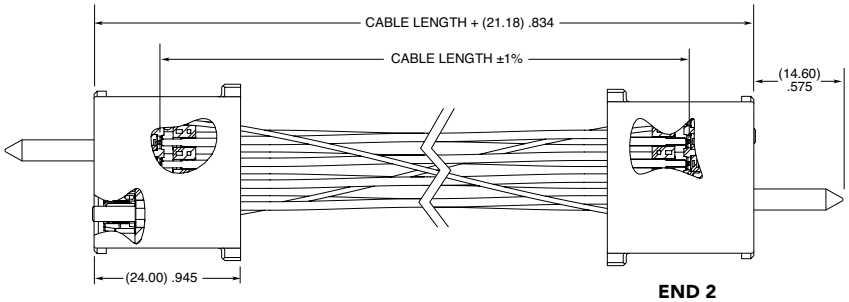


NO. OF COLUMNS	A
–04	(17.45) .687
–06	(21.45) .845
–08	(25.45) 1.002
–10	(29.45) 1.159
–12	(33.45) 1.317
–14	(37.45) 1.474
–16	(41.45) 1.632

PAIRS PER COLUMN	B
–4	(24.80) .976
–6	(32.00) 1.260



END 1: –L–G SHOWN



END 2

Notes:
Some lengths, styles and options are non-standard, non-returnable.

ExaMAX® is a registered trademark of Amphenol FCI Asia Pte. Ltd. Used with permission.

View complete specifications at: samtec.com?EBCM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

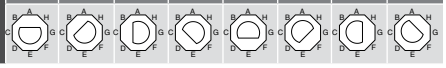
ExaMAX®

PAM4 112 Gbps

(2.00 mm) .0787" PITCH • BACKPLANE CABLES

EBCF	CABLE/ SIG. MAP	PAIRS / COLUMN	COLUMNS	END 1	END 1 PIN	CABLE LENGTH	END 2 OPTION	END 2 PIN	END 2 GUIDE	END 2 KEY
Cable Socket	**–1** = 34 AWG ultra low skew twinax cable/ Tx to Rx Sig. Map **–2** = 30 AWG ultra low skew twinax cable/ Tx to Rx Sig. Map **–3** = 34 AWG ultra low skew twinax cable/ 1:1 Sig. Map **–4** = 30 AWG ultra low skew twinax cable/ 1:1 Sig. Map **–6** = 34 AWG Thinax™ ultra low skew twinax cable/ Tx to Rx Sig. Map **–8** = 34 AWG Thinax™ ultra low skew twinax cable/ 1:1 Sig. Map	**–4** = 4 Pairs **–6** = 6 Pairs	**–04, –06, –08, –10, –12, –14, –16**	**–V** = Vertical Latch	**–1** = Standard	**–"XX"** = Length in Inches 4 Pairs: 06" (152.4 mm) minimum 6 Pairs: 08" (203.2 mm) minimum	**–V** = Vertical Latch **–R** = Right-Angle	**–1** = Standard	(–R End Only) **–L** = Left Guidance **–R** = Right Guidance	(Leave Blank for no Key; –R End Only) **–A thru –H** = Position of Flat on Key (See Table)

KEYING

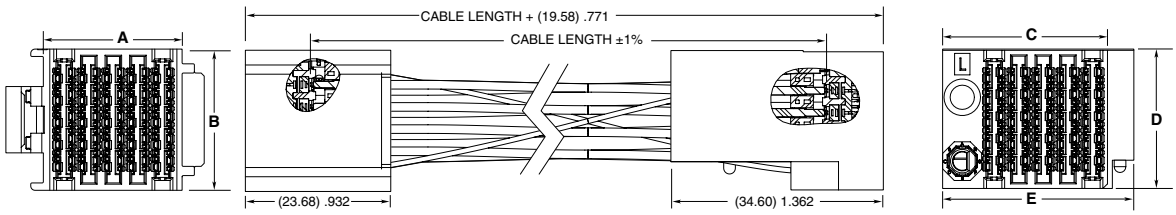
–L / –R	–A	–B	–C	–D	–E	–F	–G	–H
								

EBCF
Mates with:
EBCM, EBTM
Latching Shroud:
EBCL



NO. OF COLUMNS	A	C	E
–04	(10.60) .417	(14.85) .585	(19.15) .754
–06	(14.60) .575	(18.85) .742	(23.15) .911
–08	(18.60) .732	(22.85) .900	(27.15) 1.069
–10	(22.60) .890	(26.85) 1.057	(31.15) 1.226
–12	(26.60) 1.047	(30.85) 1.215	(35.15) 1.384
–14	(30.60) 1.205	(34.85) 1.372	(39.15) 1.541
–16	(34.60) 1.362	(38.85) 1.530	(43.15) 1.699

PAIRS PER COLUMN	B	D
–4	(23.00) .906	(22.70) .894
–6	(30.20) 1.189	(29.90) 1.177



END 1: –V SHOWN

END 2: –L–G SHOWN

Notes:
Some lengths, styles and options are non-standard, non-returnable.

ExaMAX® is a registered trademark of Amphenol FCI Asia Pte. Ltd. Used with permission.

View complete specifications at: samtec.com?EBCF

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER MODULES



EPTT
Terminal



EPTS
Socket

- 2.00 mm (.0787") pitch
- 4 total positions (2 positions per row)
- Vertical and right-angle for coplanar and perpendicular applications
- Pin staging options (EPTS)
- Plating: Palladium with flash gold on contacts, matte tin on tails
- Part numbers and specifications available at **samtec.com?eptt** or **samtec.com?epts**

GUIDE MODULES



EGBM
Terminal

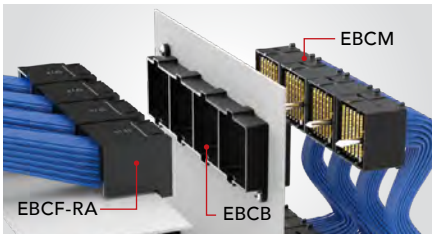


EGBF
Socket

- Vertical and right-angle for coplanar and perpendicular applications
- External or internal threading (EGBM)
- 20 mm (.787") card spacing (EGBF)
- Insulator material: Zinc Alloy
- Part numbers and specifications available at **samtec.com?egbm** or **samtec.com?egbf**

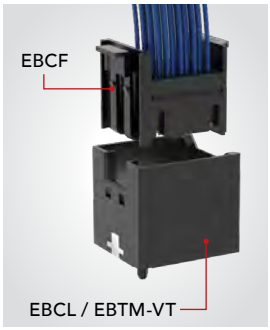
PANEL RETENTION BRACKETS & LATCHING SHROUDS

EBCB
Panel Retention Bracket



- ExaMAX® cable assemblies lock into the retention bracket for a secure connection on the panel
- Variety of sizes to accommodate ExaMAX® interconnects with 4 or 6 differential pairs in 4 to 16 column widths
- 1, 2 or 4 banks; side lugs available for mounting
- Part numbers and specifications available at **samtec.com?ebcb**

EBCL
Vertical Latching Shroud



- Vertical latching shroud provides a secure cable-to-board connection
- Single bank only
- Accommodates ExaMAX® interconnects with 4 or 6 differential pairs in 6 to 12 column widths
- Part numbers and specifications available at **samtec.com?ebcl**

Note: ExaMAX® is a registered trademark of Amphenol FCI Asia Pte. Ltd. Used with permission.

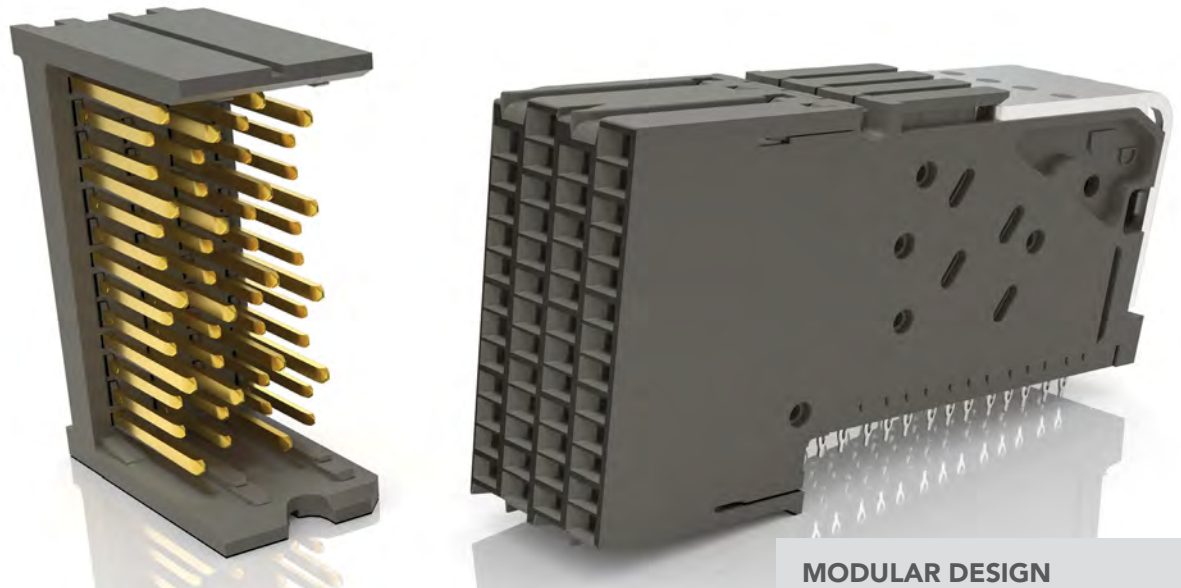
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

XCede® HD

HIGH-DENSITY BACKPLANE HEADERS & SOCKETS

(1.80 mm) .071" PITCH

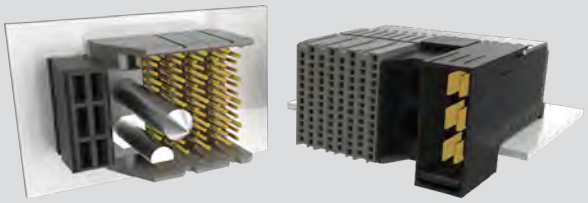
16 Gbps



FEATURES & BENEFITS

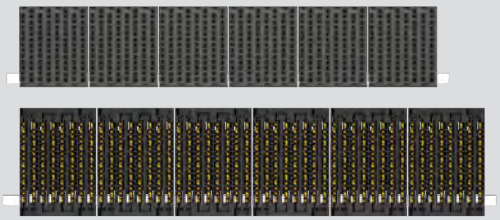
- Small form factor and modular design provides significant space-savings and flexibility
- High-performance system
- Up to 84 differential pairs per linear inch
- 3, 4 and 6-pair designs on 4, 6 and 8 columns
- Integrated power, guidance, keying and side walls available
- 85 Ω and 100 Ω options
- Combine any configuration of modules to create one integrated receptacle (BSP Series); corresponding terminal modules are individually mounted to the backplane. Visit **samtec.com?BSP** or contact **HSBP@samtec.com**
- Press-fit extraction and insertion tool options; please visit **samtec.com/tooling** for details

MODULAR DESIGN



Signal, Power & Keying / Guidance options can be customized in any configuration

HIGH-DENSITY, SMALL FORM FACTOR



XCede® HD
Up to 84 pairs per linear inch

Traditional Backplane
Up to 76 pairs per linear inch

(Both shown with six 4-pair, 8 column receptacles)

KEY SPECIFICATIONS

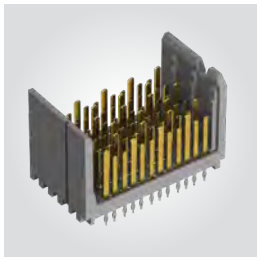
SERIES	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
HDTM/HDTF	LCP	Phosphor Bronze (HDTM) Copper Alloy (HDTF)	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to + 105 °C	1.5 A per contact	48 VAC/ /68 VDC
HPTS/HPTT	LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to + 105 °C	10 A per blade	48 VAC/ /68 VDC

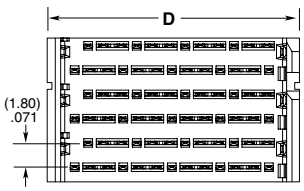
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

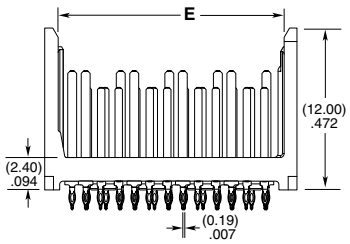
HDTM	PAIRS	NO. OF COLUMNS	TAIL SIZE	S	VT	SIDE WALLS	GUIDANCE	STAGE COMBO	KEYING
	–3, –4, –6 =Pairs Per Column	**–04, –06, –08**	**–1** =(.4495 mm) .0177" Drill **–2** =(.5511 mm) .0217" Drill			**–0** = Open (No Walls) **–1** = Left **–2** = Right **–4** = Left Polarizing with left guidance (–4 Pairs N/A) **–5** = Right Polarizing with right guidance (–4 Pairs N/A)	–4 or –5 Polarizing Only; Leave Blank for No Guidance **–L** = Left Side Guide Pin (–4 Pairs N/A) **–R** = Right Side Guide Pin (–4 Pairs N/A)	**–1** = 3 mm Wipe Signal / 4 mm Wipe Ground **–2** = 2 mm Wipe Signal / 4 mm Wipe Ground **–3** = 3 mm Wipe Signal / 3 mm Wipe Ground **–4** = 2 mm Wipe Signal / 3 mm Wipe Ground **–5** = 2 mm Wipe Signal / 2 mm Wipe Ground	–4 or –5 Polarizing Only; Leave Blank for No Keying **–A thru –H** = Position of Flat on Key (See Table)

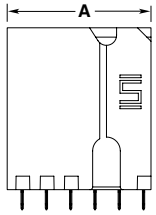
HDTM

Board Mates:
HDTF, BSP





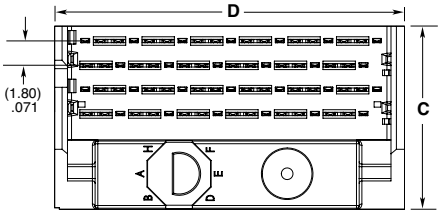


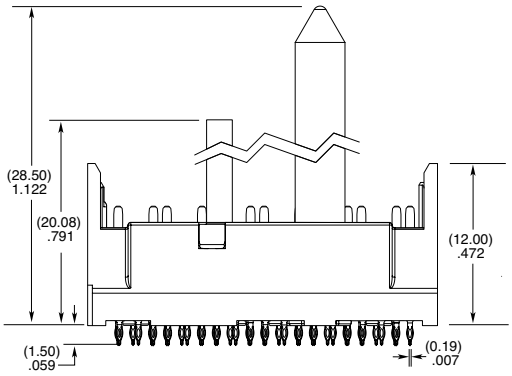


HDTM-4-06-1-S-VT-0-1 SHOWN

NO. OF COLUMNS	A			C	
	No Walls	Left Wall	Right Wall	Left Polarize	Right Polarize
–04	(7.06) .278	(8.20) .323	(8.06) .317	N/A	N/A
–06	(10.66) .420	(11.80) .465	(11.66) .459	(17.14) .675	(16.65) .656
–08	(14.26) .561	(15.40) .606	(15.26) .600	(20.74) .817	(20.25) .797

PAIRS PER COLUMN	D	E
	Standard Wall	
–03	(15.10) .594	(13.15) .518
–04	(18.70) .736	(16.75) .659
–06	(25.90) 1.020	(23.95) .943





HDTM-6-04-X-X-VT-4-L-X-A SHOWN

KEYING								
–L / –R	–A	–B	–C	–D	–E	–F	–G	–H

Notes:
Some lengths, styles and options are non-standard, non-returnable.

XCede® is a registered trademark of Amphenol.

View complete specifications at: samtec.com?HDTM

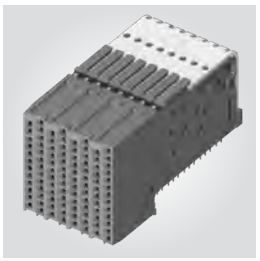
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

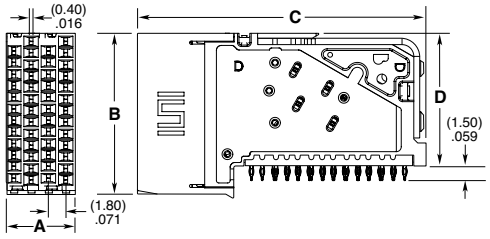
XCede HD

(1.80 mm) .071" PITCH • HIGH-DENSITY BACKPLANE RECEPTACLE

HDTF	–	PAIRS PER COLUMN	–	NO. OF COLUMNS	–	PLATING	–	RA	–	WAFERS	–	IMPEDANCE
		–3, –4, –6		–04, –06, –08		–S = 30 µ" (0.76 µm) Gold on Contact Area, Matte Tin on Tail				–LC = Standard –HS = High-Speed		–100 = 100 Ω –085 = 85 Ω

HDTF
Board Mates:
HDTM





View complete specifications at: samtec.com?HDTF

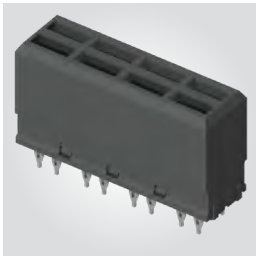
NO. OF COLUMNS	A
–04	(7.2) .283
–06	(10.8) .425
–08	(14.4) .567

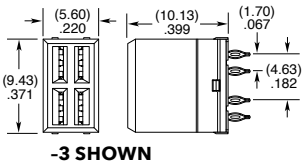
PAIRS PER COLUMN	B	C	D
–3	(12.8) .504	(26.0) 1.02	(9.9) .390
–4	(16.4) .646	(29.4) 1.16	(13.5) .531
–6	(23.6) .929	(36.6) 1.44	(20.7) .815

(3.20 mm) .126" PITCH • POWER MODULES

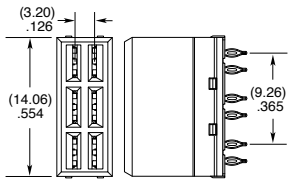
HPTS	–	BODY HEIGHT	–	PLATING	–	D	–	ORIENTATION
= Socket		Based on Pair Count of Signal Modules (HDTM) –3, –4, –6		–S = Standard Gold on Contact Area, Matte Tin on Tail				–VT = Vertical

HPTS
Mates with:
HPTT, BSP

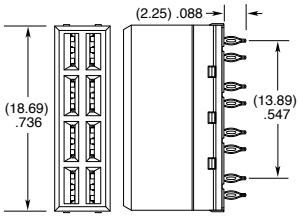




-3 SHOWN



-4 SHOWN



-6 SHOWN

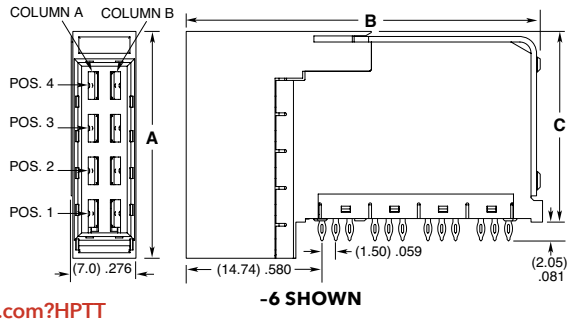
View complete specifications at: samtec.com?HPTS

HPTT	–	BODY HEIGHT	–	PLATING	–	POSITION NO. 1	–	POSITION NO. 2	–	POSITION NO. 3	–	POSITION NO. 4	–	D	–	ORIENTATION
= Terminal		Based on Pair Count of Signal Modules (HDTF, BSP) –3, –4, –6		–S = Standard Gold on Contact Area, Matte Tin on Tail		Contact Wipe Column A & B –3 = (4.5 mm) 0.18" –6 = (5.5 mm) 0.22"		Contact Wipe Column A & B –3 = (4.5 mm) 0.18" –6 = (5.5 mm) 0.22"		Contact Wipe Column A & B (–4 & –6 Height Only) –3 = (4.5 mm) 0.18" –6 = (5.5 mm) 0.22"		Contact Wipe Column A & B (–6 Height Only) –3 = (4.5 mm) 0.18" –6 = (5.5 mm) 0.22"				–RA = Right-angle

HPTT
Mates With:
HPTS



BODY HEIGHT	A	B	C
–3	(13.8) .543	(28.1) 1.11	(9.80) .386
–4	(17.4) .685	(31.2) 1.23	(13.50) .531
–6	(24.6) .969	(38.7) 1.52	(20.70) .815



-6 SHOWN

Notes:
Some lengths, styles and options are non-standard, non-returnable. XCede® is a registered trademark of Amphenol.

View complete specifications at: samtec.com?HPTT

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED CABLE PANEL ASSEMBLIES

FLYOVER® TECHNOLOGY • UP TO 128 Gbps PAM4 PER CHANNEL • VARIETY OF END OPTIONS

98-103 FLYOVER® SFP, OSFP, QSFP CABLE SYSTEMS (FSFP, FOSFP-1, FOSFP-2, FQSFP-D8, FQSFP)

104-107 NOVARAY® I/O EXTREME PERFORMANCE SYSTEMS (NVACP, NVC, NVACE, NVA3E, NVA3P)

108-109 EXAMAX® I/O SHIELDED CABLE SYSTEM (EBTC, EBCE)



FLYOVER®



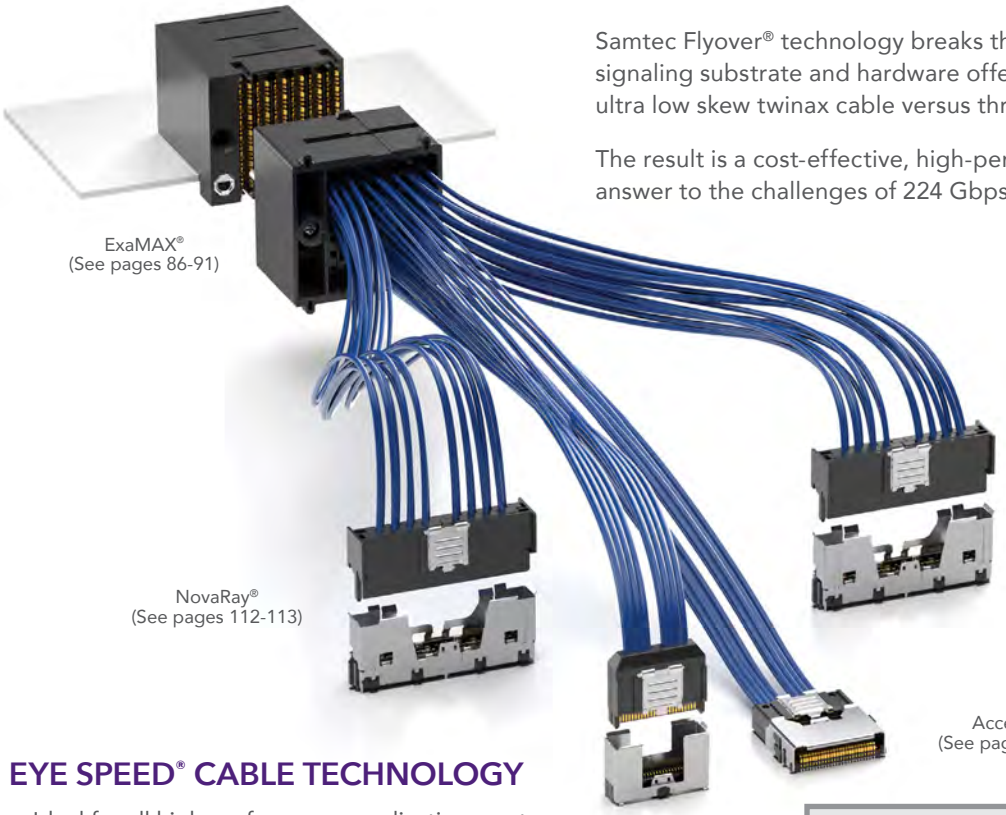
NOVARAY® I/O



ExaMAX®

FLYOVER®

FLYOVER® TECHNOLOGY



Samtec Flyover® technology breaks the constraints of traditional signaling substrate and hardware offerings by routing signals via ultra low skew twinax cable versus through lossy PCB.

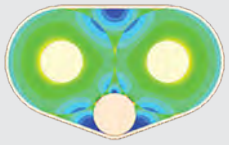
The result is a cost-effective, high-performance and heat efficient answer to the challenges of 224 Gbps bandwidths and beyond.

PAM4 112 Gbps | PAM4 224 Gbps

EYE SPEED® CABLE TECHNOLOGY

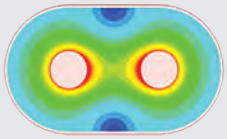
- Ideal for all high-performance applications up to 224+ Gbps PAM4 data rates
- Tight coupling between signal conductors
- Ultra low skew twinax 3.5 ps/meter max. (intrapair)
- Hyper low skew twinax 1.75 ps/meter max. (intrapair)
- Improved signal integrity and eye pattern opening
- Increased bandwidth and reach
- Differential pair, single-ended (Eye Speed ThinSE™) and mixed signaling available
- Taped jacket miniaturizes the cable for easier routing, overall weight reduction and increased air flow (Eye Speed Thinax™ and hyper low skew twinax)

INDUSTRY CABLE



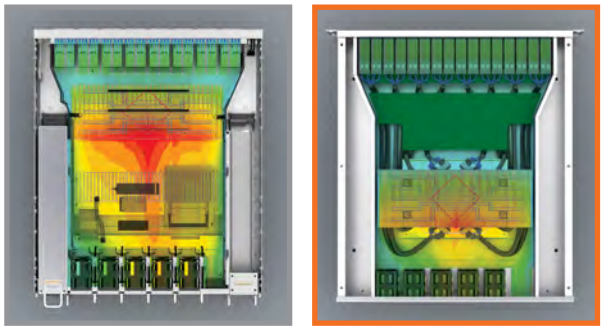
✖ **Bad** design coupling with individually extruded conductors & drain wire

SAMTEC CABLE



✓**Good** design coupling with Samtec's co-extruded ultra low skew twinax

THERMAL IMPROVEMENT



Standard Network Switch vs. Samtec Flyover® Technology

PERFORMANCE & COST ADVANTAGES

- Up to 224 Gbps PAM4 and beyond
- Simplified board layout
- Less expensive PCB materials, fewer PCB layers
- Eliminates expensive re-timers

SUPPORT

Fully integrated technology teams for full system optimization from Silicon-to-Silicon™, including Samtec's High-Speed Cable Plants.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

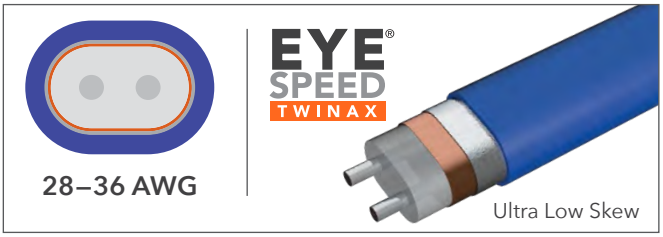
CABLE SPECIFICATIONS

EYE SPEED® CABLE TECHNOLOGY INCLUDES 4 VARIETIES:

EYE SPEED® TWINAX

- Ultra low skew: 3.5 ps/meter max
- Co-extruded: tight coupling between signal conductors
- Impedance control and perfect intra-pair sequencing
- Impedance (Ω): 92, 85 or 100

PAM4 112 Gbps



Series: ARC6, ARM6, CPC, EBCF, EBCM, EBCE, FQSFP, FQSFP-DD, FQSFP-D8, NVA3E, NVA3P, NVAC, NVACE, NVACP

EYE SPEED THINAX™

- 40% smaller cross-sectional area versus Eye Speed® Twinax
- Reduction in overall weight and maximizes air flow
- Easy to route through systems
- Ultra low skew: 3.5 ps/meter max
- Impedance (Ω): 92

PAM4 112 Gbps

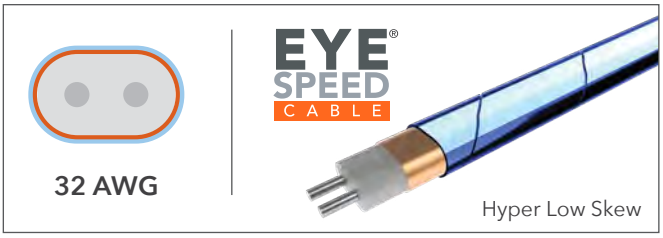


Series: ARC6, ARM6, ARP6, EBCF, EBCM, FOSFP, FQSFP, FQSFP-D8, FSFP, NVAC, NVACE, NVACP

EYE SPEED® HYPER LOW SKEW TWINAX

- Hyper low skew: 1.75 ps/meter max
- Insertion Loss: 14.3 dB (1 m length at 56 GHz)
- Easy to route through systems
- Impedance (Ω): 92
- 28 AWG in development

PAM4 224 Gbps



Series: SFCC, SFNC

EYE SPEED THINSE™

- Small .024" outer diameter cable for 34 AWG variant
- Min. bend radius: 0.125-inch (one-time bend)
- Supports single-ended and mixed signaling (-DP & -SE) of Samtec high-performance cable assemblies
- Impedance (Ω): 50



Series: ARP6, EBCF, EBCM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER® SFP, QSFP & OSFP PANEL ASSEMBLIES



FEATURES & BENEFITS

Flyover® panel cable systems utilize Samtec Flyover® cable technology to route data above lossy PCB through Eye Speed® ultra low skew twinax cable, simplifying board layout and extending signal reach. The modular design enables optimized systems that improve heat management, increase signal integrity performance, build in scalability for future upgrades and reduce costs by creating a multifunction board.

- High-speed contacts directly terminated to Eye Speed® ultra low skew twinax
- Low-speed and power positions transmitted through press-fit contact tails
- Multiple end 2 (co-packaged and near-chip) options for design flexibility
- Cages and heat sinks available for optimized thermal performance
- SI Evaluation Kits available, visit **samtec.com/kits**





FLYOVER® SFP SYSTEM

- 112 Gbps PAM4 performance
- Belly-to-belly capable for maximum density
- Accepts all MSA compliant SFP pluggable modules
- Eye Speed Thinax™ ultra low skew twinax cable (3.5 ps/m max)

FLYOVER® OSFP SYSTEM

- Up to 1600 Gbps aggregate (224 Gbps PAM4)
- 8 Channels (x8 bidirectional, 16 differential pairs)
- Belly-to-belly capable for maximum density
- Eye Speed Thinax™ ultra low skew twinax cable (3.5 ps/m max) or Eye Speed® hyper low skew twinax (1.75 ps/m max)

FLYOVER® QSFP SYSTEM

- 4 Channels (x4 bidirectional, 8 differential pairs)
- Up to 400 Gbps aggregate (112 Gbps PAM4)
- Compatible with all MSA QSFP pluggables
- Eye Speed® ultra low skew twinax cable (3.5 ps/m max)

FLYOVER® QSFP DOUBLE DENSITY

- 8 Channels (x8 bidirectional, 16 differential pairs)
- Up to 800 Gbps aggregate (112 Gbps PAM4)
- PCIe® 6.0/CXL® 3.2 capable
- Belly–to–belly capable for maximum density
- Backward compatible with QSFP and QSFP-DD modules
- Eye Speed® ultra low skew twinax or Eye Speed Thinax™ twinax cable (3.5 ps/m max)

The PCIe® design mark is a registered trademark and/or service mark of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER®

PAM4 112 Gbps

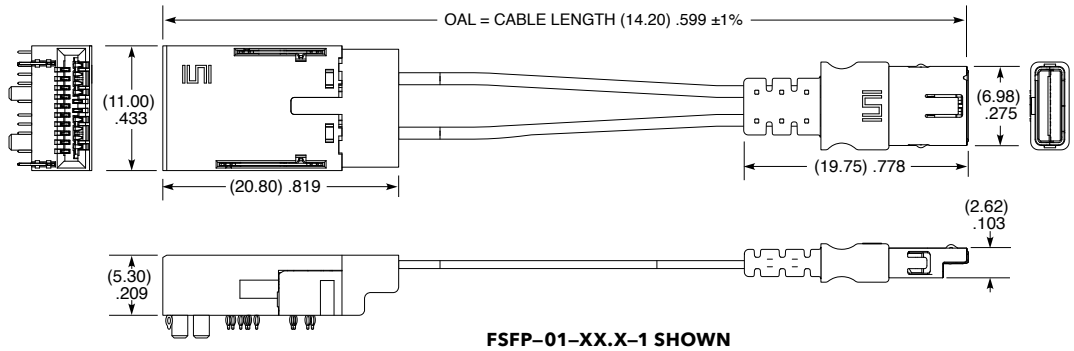
samtec

FLYOVER® SFP CABLE ASSEMBLY

FSFP	–	CABLE TYPE	–	CABLE LENGTH	–	END 2 OPTION
		–01 = 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable, 2 pairs		**–"XX.X"** = Length in inches 04.0" (101.6 mm) minimum		**–1** = ARM6-02 (AcceleRate®) **–2** = NVAC 2x1 (NovaRay®)

FSFP





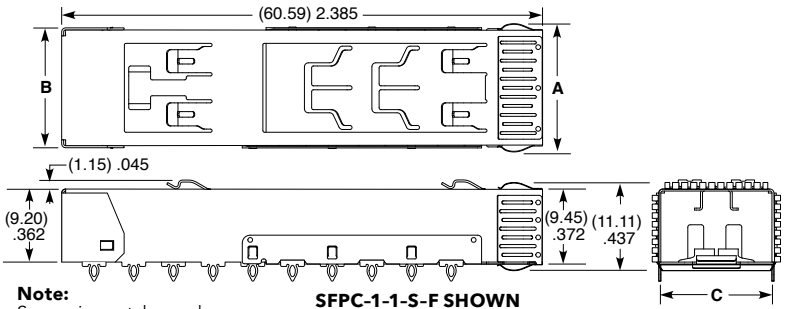
FSFP–01–XX.X–1 SHOWN

SFPC	–	STACK	–	NO. OF PORTS	–	EMI PANEL OPTION	–	OPTION	–	STYLE
		–1 =Single High		**–1** = One Port **–2** = Two Ports		**–S** = Spring Fingers		(Leave blank for no light pipes) **–LP** = Light Pipe **–N** = No Heat Sink, Closed Top **–H** = Closed Top With Holes **–A** = Absorber		**–F** = Flyover®

SFPC-F



NO. OF PORTS	A	B	C
–1	(16.16) .636	(15.10) .594	(14.25) 561
–2	(30.41) 1.197	(29.35) 1.156	(28.50) 1.122

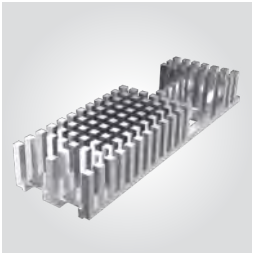


Note:
Some sizes, styles and options are non-standard, non-returnable.

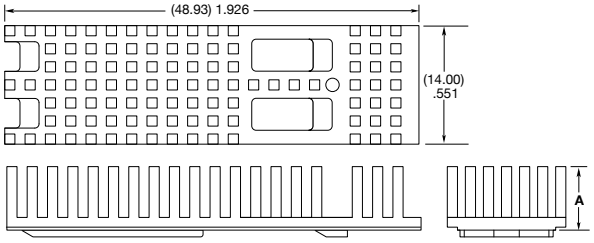
SFPC-1-1-S-F SHOWN

HS-SFP	–	HEAT SINK STYLE	–	HEAT SINK HEIGHT	–	LIGHTPIPE
		–P1 = Pin (AL) **–F1** = Front to Back Fin (AL)		**–01** = (7.50 mm) .295" height **–02** = (13.50 mm) .531" height (Not available with –F1)		(Leave blank for no light pipe) **–LP** = Light Pipe

HS-SFP



HEAT SINK HEIGHT	A
–01	(7.50) .295
–02	(13.50) .531



HS-SFP-P1-01 SHOWN

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER®

PAM4 112 Gbps | PAM4 224 Gbps

samtec

FLYOVER® OSFP CABLE ASSEMBLIES

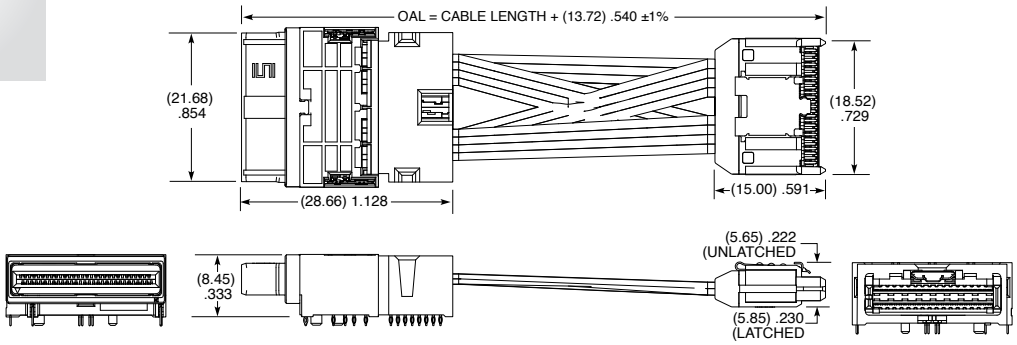
FOSFP	–	SIGNAL INTEGRITY	–	CABLE TYPE	–	CABLE LENGTH	–	END 2 OPTION
		–1 = Up to 112 Gbps PAM4 per differential pair		**–01** = 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable, 16 pairs		**–"XX.X"** = Length in inches (See chart for minimum)		**–1** = ARC6-16 (AcceleRate®) **–2** = NVAC 2x2 (NovaRay®) **–3** = CPC-16 (Si-Fly® LP)

FOSFP-1

Panel Cage:
OSFPC
Heat Sink:
HS-OSFP



END 2 OPTION	CABLE LENGTH (Minimum in Inches)
–1	05.0" (127.0)
–2	05.0" (127.0)
–3	07.0" (177.8)



FOSFP–1–01–XX.X–1 SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

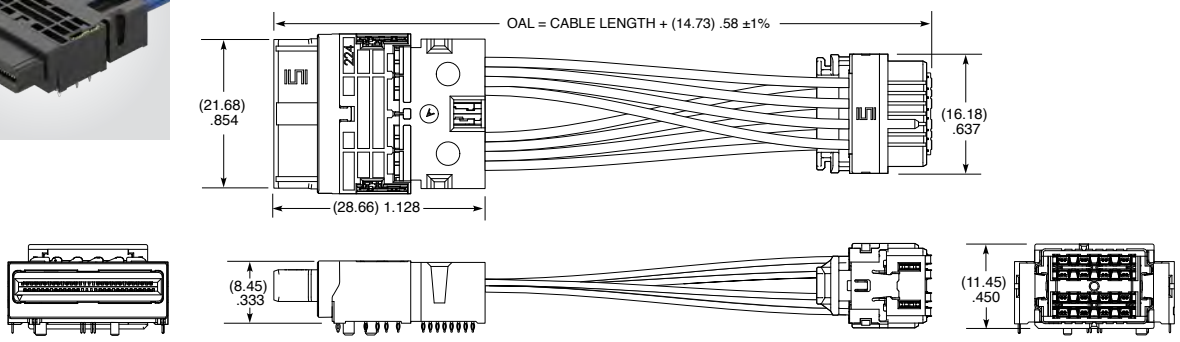
FOSFP	–	SIGNAL INTEGRITY	–	CABLE TYPE	–	CABLE LENGTH	–	END 2 OPTION
		–2 = Up to 224 Gbps PAM4 per differential pair		**–01** = 32 AWG, 92 Ω Thinax™ ultra low skew twinax cable, 16 pairs		**–"XX.X"** = Length in inches 06.0" (152.4 mm) minimum		**–1** = SFNC Vertical (Si-Fly® HD Near-Chip) **–3** = SFCC Right-Angle (Si-Fly® HD Co-Packaged)

FOSFP-2

Panel Cage:
OSFPC
Heat Sink:
HS-OSFP



PRELIMINARY



FOSFP–2–01–XX.X–1 SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

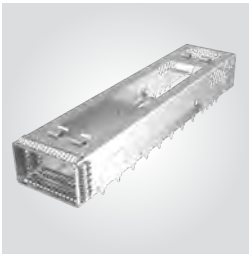
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER® OSFP CAGE & HEAT SINK

OSFPC	-	STACK	-	NUMBER OF PORTS	-	EMI PANEL OPTION	-	FLYOVER®
		–1 =Single Stack		–1 = One Port –6 = Six Ports		–S = Spring Fingers		–F = Flyover®

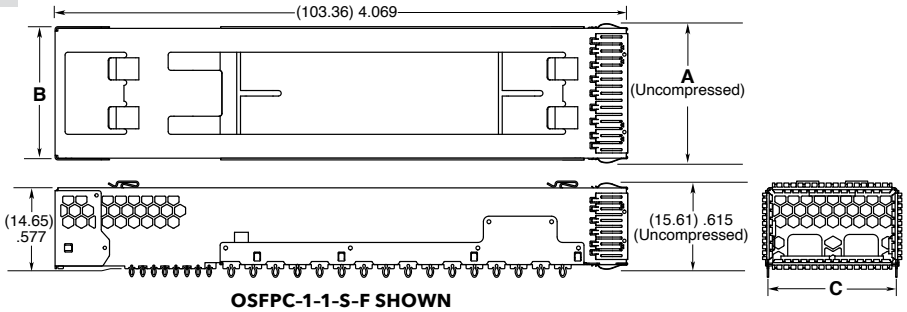
OSFPC

Use With:
FOSFP-1,
FOSFP-2,
HS-OSFP



PRELIMINARY

NO OF PORTS	A	B	C
–1	(25.19) .992	(24.10) .949	(23.23) .915
–6	(141.34) 5.565	(140.25) 5.522	(139.38) 5.487



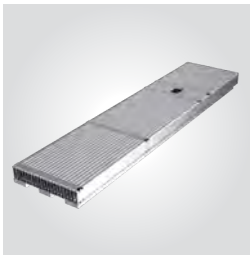
OSFPC-1-1-S-F SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

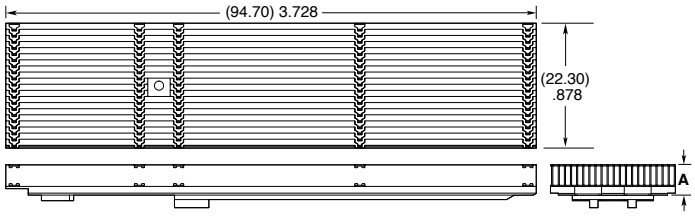
HS-OSFP	-	HEAT SINK STYLE	-	HEAT SINK HEIGHT
		–1 =Zipper Fin –2 =Extruded Fin		–1 = (5.40 mm) .213" height –2 = (12.40 mm) .488" height

HS-OSFP

Use With:
FOSFP-1,
FOSFP-2,
OSFPC



PRELIMINARY



HS-OSFP-1-1 SHOWN

HEAT SINK HEIGHT	A
–1	(5.40) .213
–2	(12.40) .488

Note:
Some sizes, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER®

PAM4 112 Gbps

samtec

FLYOVER® QSFP DOUBLE DENSITY CABLE ASSEMBLY

FQSFP	–	D8	–	CABLE TYPE	–	FOOTPRINT	–	CABLE LENGTH	–	END 2 OPTION

–03
= 34 AWG, 92 Ω ultra low skew twinax cable, 16 pairs

–05
= 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable, 16 pairs

–A
= Primary

–B
= Secondary (Belly-to-Belly only)

–"XX.X"
= Length in inches
06.0" (152.4 mm) min. (–1 & –2 End 2 options)
07.0" (177.8 mm) min. (–3 End 2 option)

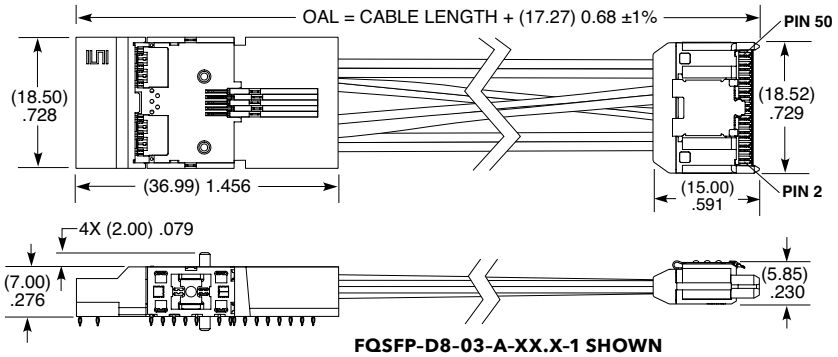
–1
= ARC6-16 (AcceleRate®)

–2
= NVAC 2x2 (NovaRay®)

–3
= CPC (Si-Fly® LP)

FQSFP-D8





FQSFP-D8-03-A-XX.X-1 SHOWN

PRESS-FIT TOOLING

CAT-PT-FQSFP-DD-01
For more information, visit www.samtec.com/tooling

OTHER SOLUTIONS

400G/56 Gbps PAM4 double density cable assembly; visit samtec.com?fqsfp-dd

QSFPC	–	D8	–	STACK	–	NO. OF PORTS	–	OPTION	–	STYLE

–1
=Single Stack

–1
= One Port

–2
= Two Ports

–3
= Three Ports

–S
= Spring Fingers

–F
= Flyover®

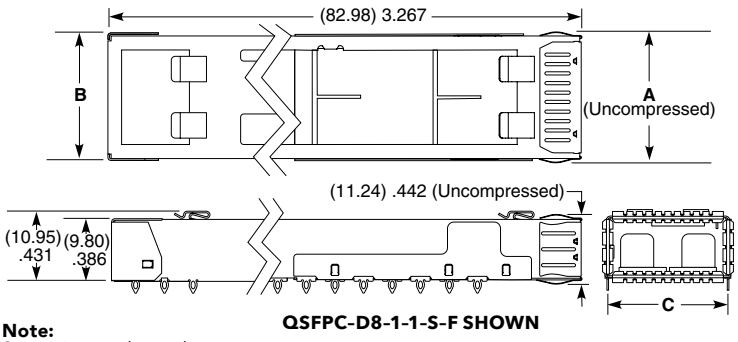
PRESS-FIT TOOLING

CAT-PT-FQSFP-03-XX
For more information, visit www.samtec.com/tooling

QSFPC-D8



NO. OF PORTS	A	B	C
–1	(20.96) .825	(19.87) .782	(19.00) .748
–2	(39.96) 1.573	(38.87) 1.530	(38.00) 1.496
–3	(58.96) 2.321	(57.87) 2.278	(57.00) 2.244



QSFPC-D8-1-1-S-F SHOWN

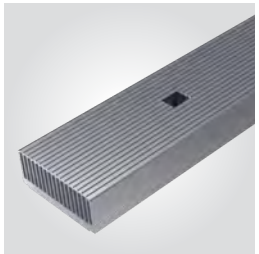
Note:
Some sizes, styles and options are non-standard, non-returnable.

HS-QSFP	–	D8	–	HEAT SINK HEIGHT

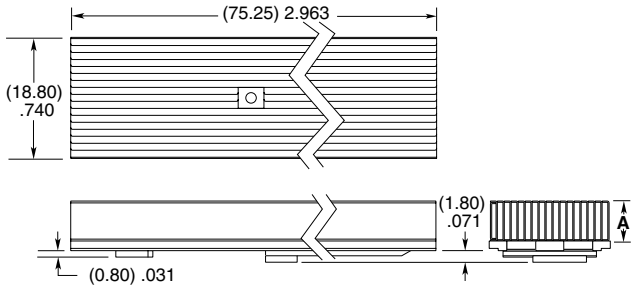
–1
= (6.20 mm) .244" height

–2
= (12.00 mm) .472" height

HS-QSFP-D8



HEAT SINK HEIGHT	A
–1	(6.20) .244
–2	(12.00) .472



HS-QSFP-D8-1 SHOWN

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER®

PAM4 56 Gbps

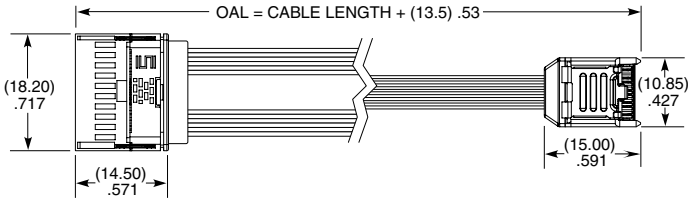
samtec

FLYOVER® QSFP CABLE ASSEMBLY

FQSFP	–	LEAD STYLE	–	CABLE LENGTH	–	PLATING	–	CONTACT TYPE	–	END OPTION
		–01 = 10 Low-Speed, 8 Pairs High-Speed		**–"XX.X"** = Length in inches 04.0" (101.6 mm) minimum		**–L** = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact area, Matte Tin on tail		**–PF** = Press-fit		**–3** = ECUE (FireFly™) **–4** = ARC6-8 (AcceleRate®; 34 AWG, 100 Ω Thinax™ ultra low skew twinax cable) **–5** = ARC6-8 (AcceleRate®; 34 AWG, 100 Ω ultra low skew twinax cable)

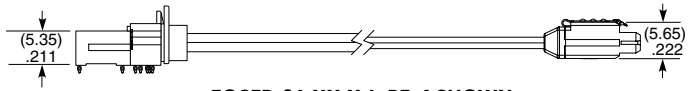
FQSFP





PRESS-FIT TOOLING

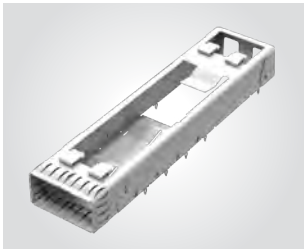
CAT-PT-FQSFP-01
For more information, visit www.samtec.com/tooling

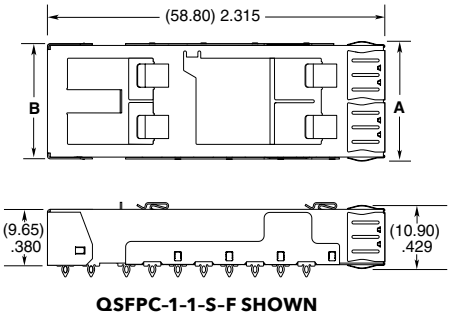


FQSFP-01-XX.X-L-PF-4 SHOWN

QSFPC	–	CAGE OPTION	–	NUMBER OF PORTS	–	EMI PANEL OPTION	–	OPTION	–	FLYOVER®
		–1 = Single Stack		**–1** = One Port **–2** = Two Ports **–4** = Four Ports		**–S** = Spring Fingers		(Leave blank for no Light Pipe) **–LP** = Light Pipe (1 & 4 ports only) **–N** = No heat sink closed top (Not available with –LP)		(Leave blank for no Flyover®) **–F** = Flyover®

QSFPC





QSFPC-1-1-S-F SHOWN

NO. OF PORTS	A	B	C
–1	(20.62) .812	(19.85) .781	(19.00) .748
–2	(39.62) 1.560	(38.85) 1.530	(38.00) 1.496
–4	(77.62) 3.056	(76.85) 3.026	(76.00) 2.992

PRESS-FIT TOOLING

CAT-PT-FQSFP-03–XX
For more information, visit www.samtec.com/tooling

HEAT SINKS

PART NUMBER	HEAT SINK HEIGHT
HS-QSFP-P1-01	(4.20 mm) .165"
HS-QSFP-P1-02	(6.50 mm) .256"
HS-QSFP-P1-03	(13.50 mm) .531"
HS-QSFP-P1-04	(1.50 mm) .059"

For Light Pipe, add -LP to the end of part number.
View complete specifications at samtec.com?HS-QSFP

LIGHT PIPES

PART NUMBER	NO. OF PORTS
LP-FQSFP-01	1 pipe
LP-FQSFP-02	2 pipes
LP-FQSFP-04	4 pipes

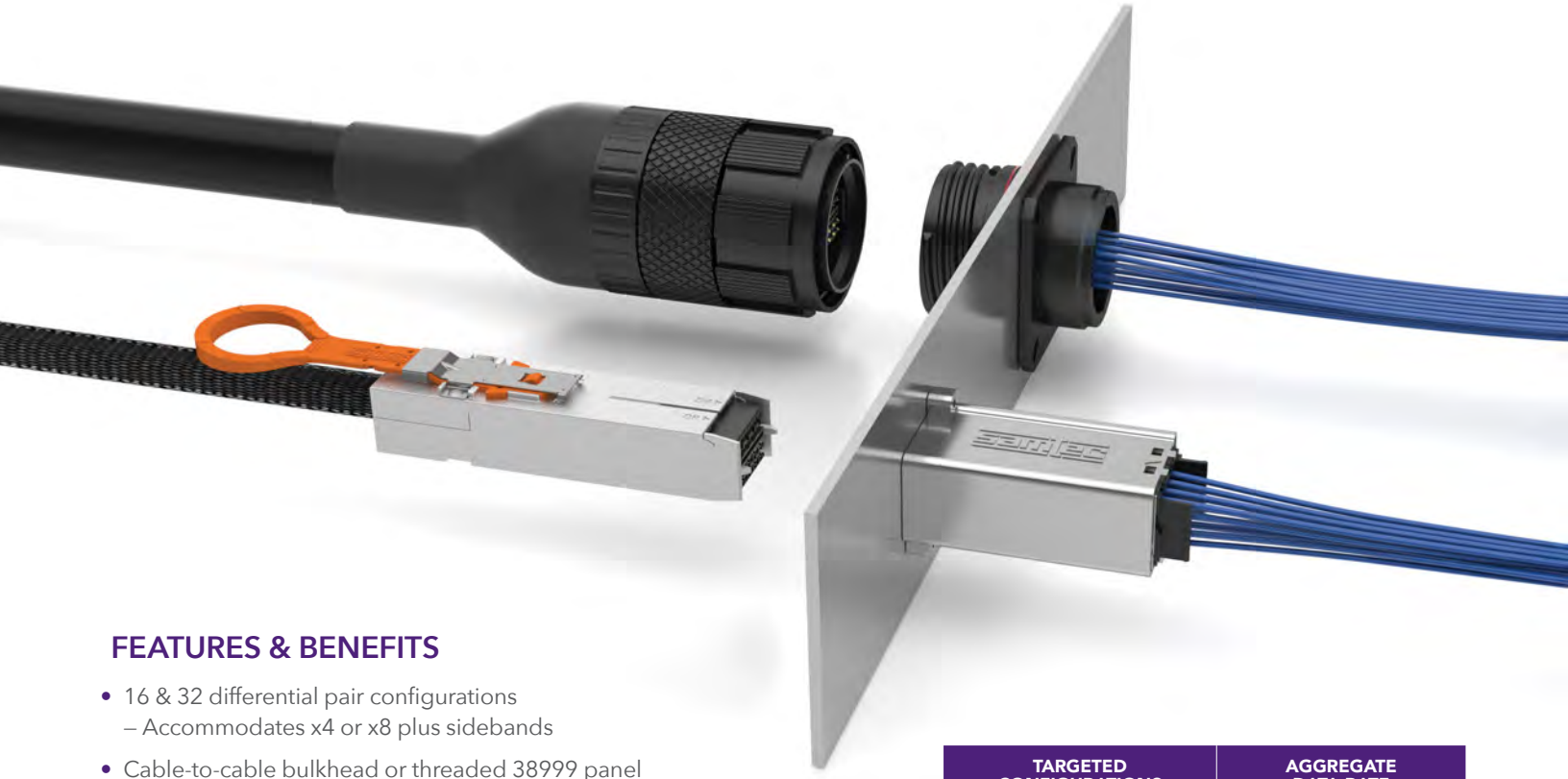
View complete specifications at samtec.com?LP-FQSFP

Notes:
Some sizes, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

NOVARAY® I/O

EXTREME PERFORMANCE PANEL MOUNT I/O ASSEMBLIES



FEATURES & BENEFITS

- 16 & 32 differential pair configurations – Accommodates x4 or x8 plus sidebands
- Cable-to-cable bulkhead or threaded 38999 panel connection using Flyover® Cable Technology
- Rugged 38999 shell is salt fog resistant to 48 hours and IP67 rated for dust and water applications
- Eye Speed® ultra low skew twinax cable
- Single-ended micro coax options also available
- Full external EMI shielding
- Multiple end 2 high-speed connector options on internal cable

	TARGETED CONFIGURATIONS	AGGREGATE DATA RATE
PAM4 128 Gbps	8 Pair (In Development)	1024 Gbps
	16 Pair	2048 Gbps
	32 Pair	4096 Gbps
PCI EXPRESS® PCIe® 7.0 CAPABLE	x4 (8 Pair + PCIe® Sidebands)	512 Gbps
	x8 (16 Pair + PCIe® Sidebands)	1024 Gbps

KEY SPECIFICATIONS

SERIES	CABLE	SIGNAL ROUTING	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
NVACE	34 or 28 AWG ultra low skew twinax; 34 AWG ThinSE™ micro coax	100 Ω Differential & 50 Ω Single-Ended	High Temp Thermoplastic	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	-40 °C to +105 °C	1.17 A (4 row)	211 VAC/ 298 VDC
NVACP	34 AWG ultra low skew twinax; 34 AWG Thinax™ twinax; 34 AWG ThinSE™ micro coax	92 Ω & 100 Ω Differential, 50 Ω Single-Ended						
NVA3E	34 or 28 AWG ultra low skew twinax	100 Ω Differential	Black LCP	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	Testing Now!	Testing Now!	Testing Now!
NVA3P	34 AWG ultra low skew twinax							

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

NOVARAY® I/O

PAM4 128 Gbps

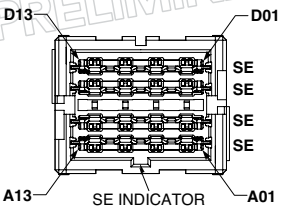
samtec

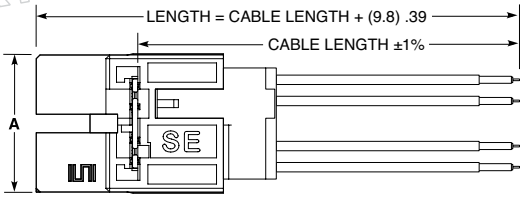
EXTREME PERFORMANCE PANEL MOUNT CABLE

NVACP	–	SIGNAL TYPE	–	CABLE STYLE	–	ROWS	–	CABLE LENGTH	–	END 2	–	PIN OUT	–	SPEED
		–DP = Differential pairs (–1, –3 or –7 cable only) **–SE*** = Single-ended (–8 cable only) **–DS*** = Mixed –DP & –SE (–1, –3 or –7 cable for DP; –8 cable for -SE)		**–1** = 34 AWG, 100 Ω ultra low skew twinax cable **–3** = 34 AWG, 92 Ω ultra low skew twinax cable **–7** = 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable **–8** = 34 AWG, 50 Ω ThinSE™micro coax cable		**–4** = 4 rows **–8** = 8 rows		**–XX.X** = Length in inches 06.0" (152.4 mm) minimum		**–A** = 1 ARC6 (34 AWG 100 Ω twinax only) **–B** = 1 NVAC		**–1** = Pin A01 to Pin A01 **–4** = Pin A01 to Pin AN (N equals last position)		(Differential twinax pairs only) **-1** = Up to 128G PAM4

*Contact HDRGroup@samtec.com for applications requiring –SE or –DS options

–8 CABLE PRELIMINARY





NVACP-SE-1-4-XX.X-X-X SHOWN
(End 2 connector not shown)

NVACP

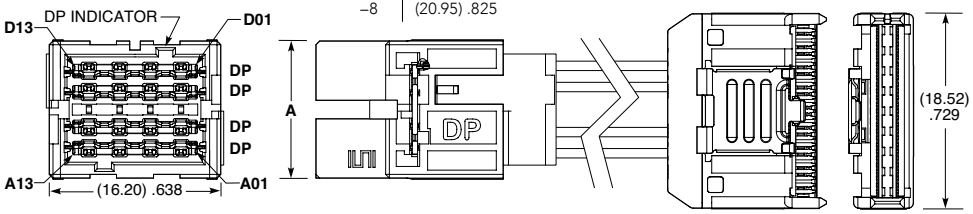
Cable Mates:
NVACE
Panel Cage:
NVC



Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.

ROW	A
–4	(12.95) .510
–8	(20.95) .825



NVACP-DP-1-4-XX.X-A-X-1 SHOWN

ARC6 CONNECTOR SHOWN

View complete specifications at: samtec.com?NVACP

DIE CAST PANEL CAGE

NVC	–	NO. OF PORTS	–	ROWS	–	PACKAGING
		–1 = 1 Port (4 row only) **–2** = 2 Ports (8 row only) **–4** = 4 Ports (8 row only)		**–04** = 4 rows **–08** = 8 rows		**–TY** = Trays

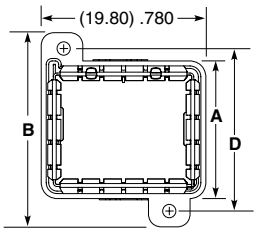
NVC

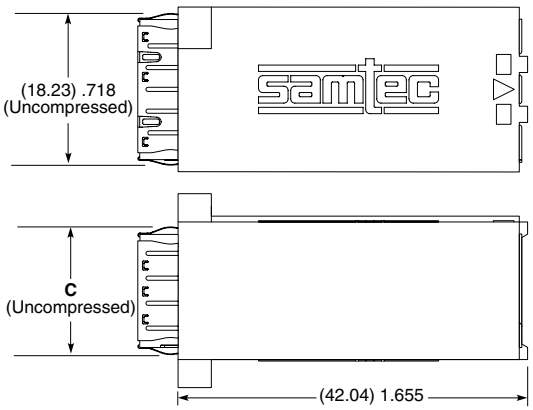
Use with:
NVACP, NVACE



ROW	A	B	C	D
–04	(16.55) .652	(23.35) .919	(15.36) .605	(19.56) .770
–08	(24.55) .967	(31.35) 1.234	(23.36) .920	(27.56) 1.085

Note:
Some sizes, styles and options are non-standard, non-returnable.





NVC-1-04-XX SHOWN

View complete specifications at: samtec.com?NVC

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

EXTREME PERFORMANCE I/O CABLE

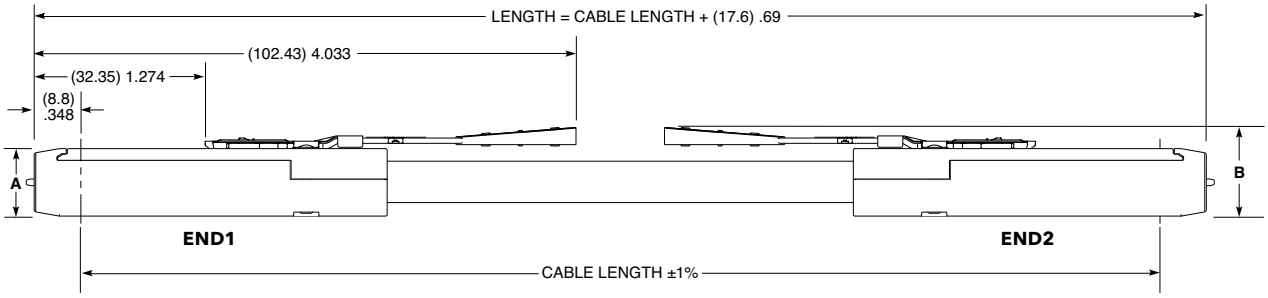
NVACE	–	SIGNAL TYPE	–	CABLE TYPE	–	ROWS	–	CABLE LENGTH	–	END 2	–	PIN OUT	–	SPEED
		–DP = Differential pairs (–1 or –5 cable only) **–SE*** = Single-ended (–9 cable only) **–DS*** = Mixed -DP & -SE (–1 or –5 cable for –DP; –9 cable for –SE)		**–1** = 34 AWG, 100 Ω ultra low skew twinax **–5** = 28 AWG, 100 Ω ultra low skew twinax **–9** = 34 AWG, 50 Ω ThinSE™ micro coax		**–4** = 4 rows **–8** = 8 rows		**–X.X** = Length in meters 0.5 meters (19.69") minimum		**–A** = NVACE		**–1** = Pin A01 to Pin A01 **–4** = Pin A01 to Pin N01		(Differential twinax pairs only) **–1** = Up to 128G PAM4

*Contact HDRGroup@samtec.com for applications requiring –SE or –DS options

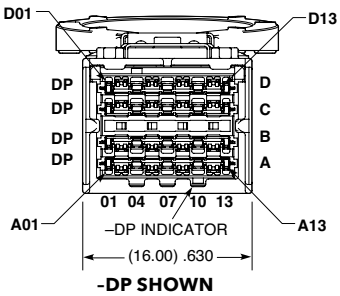
NVACE

Cable Mates:
NVACP
Panel Cage:
NVC



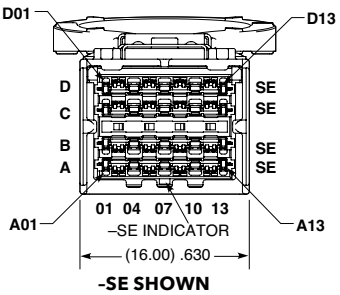


NVACE-XX-X-4-X.X-A-X-1 SHOWN



-DP SHOWN

ROW	A	B
–4	(12.75) .502	(17.00) .669
–8	(20.75) .817	(25.00) .984



-SE SHOWN

Notes:
Cable lengths longer than 3 meters (118") are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?NVACE

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RUGGED 38999 I/O CABLE

NVA3E	–	SIGNAL TYPE	–	CABLE TYPE	–	SHELL SIZE	–	CABLE LENGTH	–	END 2	–	PIN OUT	–	SPEED	–	FINISH	–	IP SEALING
		–DP = Differential (twinax pairs only)		**–1** = 34 AWG, 100 Ω ultra low skew twinax **–5** = 28 AWG, 100 Ω ultra low skew twinax		**–19** = 4 rows		(Standard lengths in meters) **–0.5** = (0.5 m) 19.69" Cable **–1.0** = (1.0 m) 39.37" Cable **–2.0** = (2.0 m) 78.74" Cable **–3.0** = (3.0 m) 118.11" Cable		**–A** = NVA3E		**–1** = Pin A01 to Pin A01 **–4** = Pin A01 to Pin N		**–1** = Up to 128G PAM4		**–Z** = Black Zinc Nickel		(Leave blank for no sealed) **–S** = Sealed

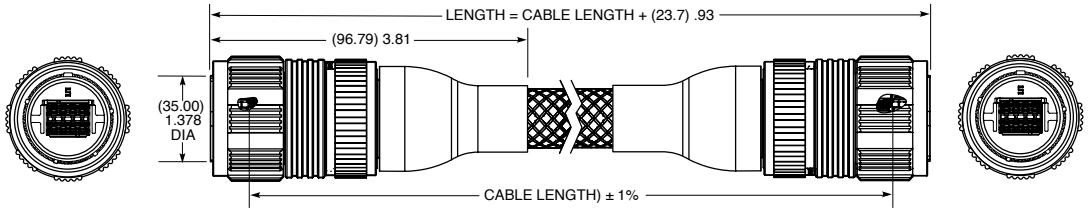
NVA3E

Cable Mate:
NVA3P



Notes:
Cable lengths longer than 3 meter (118.00") are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.



NVA3E–DP–X–19–X.X–A–X–1–Z–X SHOWN

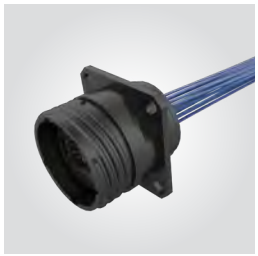
View complete specifications at: samtec.com?NVA3E

RUGGED 38999 PANEL MOUNT CABLE

NVA3P	–	SIGNAL TYPE	–	CABLE TYPE	–	SHELL SIZE	–	CABLE LENGTH	–	END 2	–	PIN OUT	–	SPEED	–	FINISH	–	IP SEALING
		–DP = Differential (twinax pairs only)		**–1** = 34 AWG, 100 Ω ultra low skew twinax		**–19** = 4 rows		(Standard lengths in inches) **–06.0** = (152.4 mm) 6.0" Cable **–10.0** = (254.0 mm) 10.0" Cable **–12.0** = (304.8 mm) 12.0" Cable **–20.0** = (508.0 mm) 20.0" Cable		**–A** = ARC6 **–B** = NVAC		**–1** = Pin A01 to Pin A01 **–4** = Pin A01 to Pin AN (N equals last position)		**–1** = Up to 128G PAM4		**–Z** = Black Zinc Nickel		(Leave blank for no sealed) **–S** = Sealed

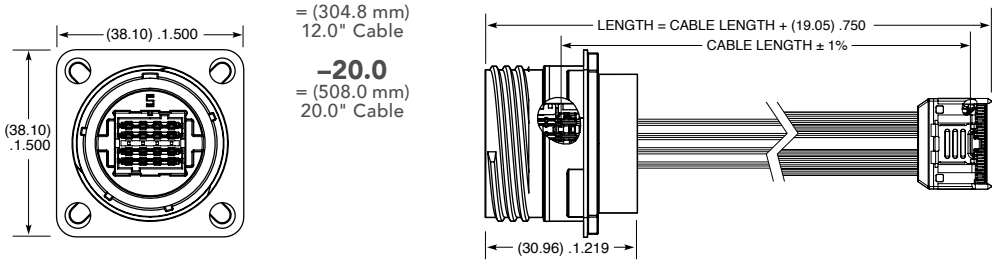
NVA3P

Cable Mate:
NVA3E



Notes:
Cable lengths longer than 1 meter (40.00") are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.



NVA3P–DP–1–19–XX.X–A–X–1–Z–X SHOWN

View complete specifications at: samtec.com?NVA3P

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ExaMAX® I/O

SHIELDED, HIGH-DENSITY I/O CABLE SYSTEM

(2.00 mm) .0787" PITCH

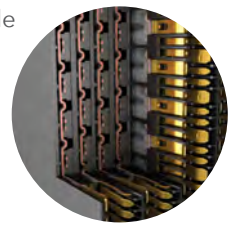
PAM4
64
Gbps

FEATURES & BENEFITS

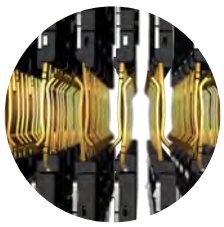
- Fully shielded external cable and cage for EMI protection
- Supports 64 Gbps PAM4 (32 Gbps NRZ) applications
- PCIe® 6.0/CXL® 3.2 capable
- Rugged pull latch for mating/unmating
- Single port cage designed for use with ExaMAX® right-angle board connector (EBTM-RA)
- 30 and 34 AWG Eye Speed® ultra low skew twinax
- 24 to 48 pairs (4 and 6 pairs; 6 and 8 columns)
- In Development: Cable-to-cable bulkhead panel connection for increased performance to 112 Gbps PAM4



Cable to right-angle panel mount



Staggered differential pair design



Two reliable points of contact at all times



Wafer design reduces crosstalk

KEY SPECIFICATIONS (EBCE/EBTC)

CABLE	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
30 & 34 AWG ultra low skew twinax	LCP	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	Testing Now!	Testing Now!	Testing Now!

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(2.00 mm) .0787" PITCH • SHIELDED PANEL MOUNT CABLE

EBCE	GAUGE/ SIGNAL MAP	PAIRS PER COLUMN	COLUMNS	END 1 LATCH	END 1 PIN	CABLE LENGTH	END 2 LATCH	END 2 PIN
	–1 = 34 AWG 100 Ω, Tx to Rx Signal Map **–2** = 30 AWG 100 Ω, Tx to Rx Signal Map **–3** = 34 AWG 100 Ω, 1:1 Signal Map **–4** = 30 AWG 100 Ω, 1:1 Signal Map	**–4** = 4 Pairs **–6** = 6 Pairs	**–06, –08**	**–LU** = Latch Up	**–1** = Standard	**–"XX"** = Length in Inches 12" (304.8 mm) minimum	**–LU** = Latch Up	**–1** = Standard

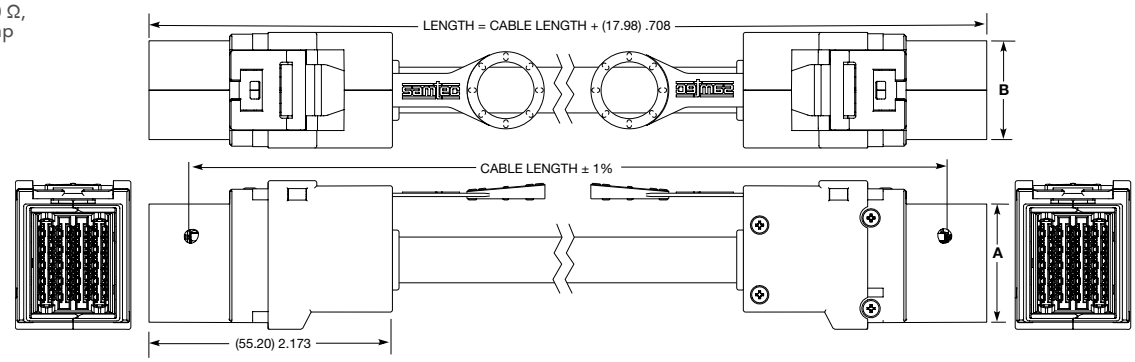
PRELIMINARY

NO. OF COLUMNS	B
–06	(18.40) .724
–08	(22.40) .882

EBCE

Mates With:
EBTM-RA/EBTC





EBCE–X–4–08-LU–1–XX-LU–1 SHOWN

PAIRS	A
–4	(26.80) 1.055
–6	(34.00) 1.339

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?EBCE

DIE CAST PANEL CAGE

EBTC	PAIRS PER COLUMN	COLUMNS	PORT SIZE
	–4 = 4 Pairs **–6** = 6 Pairs	**–06, –08**	**–1**

PRELIMINARY

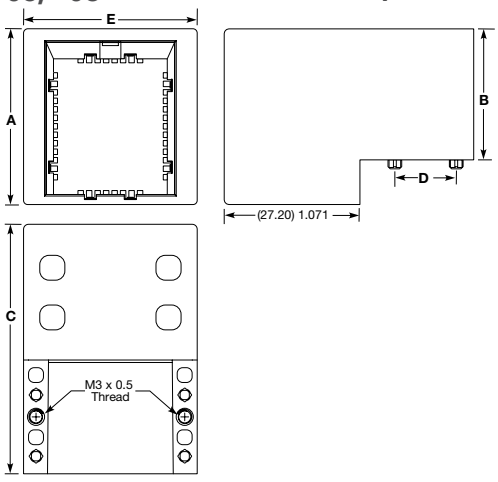
EBTC

Use With:
EBTM-RA, EBCE



NO. OF COLUMNS	E
–06	(30.80) 1.213
–08	(34.80) 1.370

PAIRS	A	B	C	D
–4	(35.20) 1.386	(26.25) 1.033	(50.00) 1.969	(12.30) .484
–6	(42.40)1.669	(33.45) 1.317	(57.20) 2.252	(19.50) .768



EBTC–4–08–1 SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?EBTC

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLYOVER® ASSEMBLIES BY SERIES & CABLE TYPE

USING EYE SPEED® CABLE TECHNOLOGY

FAMILY	SERIES	DIFFERENTIAL PAIR (-DP)			SINGLE ENDED (-SE)	MIXED SIGNALING (-DP & -SE)	PAGE NO.
		Ultra Low Skew Twinax	Thinax™	Hyper Low Skew Twinax	ThinSE™		
AcceleRate®	ARC6	ARC6	ARC6		ARC6	ARC6	117
AcceleRate® Boost	ABC6		ABC6				116
AcceleRate® Mini	ARM6	ARM6	ARM6				119
AcceleRate® HP	ARP6		ARP6		ARP6	ARP6	115
AcceleRate® HP Double Density	ART6		ART6				114
Si-Fly® LP	CPC	CPC	CPC				121
Si-Fly® HD Co-Packaged	SFCC			SFCC			123
Si-Fly® HD Near-Chip	SFNC			SFNC			124
ExaMAX®	EBCF	EBCF	EBCF		EBCF		90
ExaMAX®	EBCM	EBCM	EBCM		EBCM		89
ExaMAX® I/O	EBCE	EBCE					109
Flyover® OSFP 112	FOSFP-1		FOSFP-1				100
Flyover® OSFP 224	FOSFP-2		FOSFP-2	FOSFP-2			100
Flyover® QSFP	FQSFP	FQSFP	FQSFP				103
Flyover® QSFP Double Density 400	FQSFP-DD	FQSFP-DD	FQSFP-DD				102
Flyover® QSFP Double Density 800	FQSFP-D8	FQSFP-D8	FQSFP-D8				102
Flyover® SFP112	FSFP		FSFP				99
NovaRay® I/O 38999	NVA3E	NVA3E					107
NovaRay® I/O 38999	NVA3P	NVA3P					107
NovaRay®	NVAC	NVAC	NVAC				113
NovaRay® I/O	NVACE	NVACE			NVACE	NVACE	106
NovaRay® I/O	NVACP	NVACP	NVACP		NVACP	NVACP	105
NovaRay® Backplane*	NVCM-RA		NVCM-RA		NVCM-RA		85
NovaRay® Backplane*	NVCF		NVCF		NVCF		84

RELEASED IN DEVELOPMENT

*30 AWG power cable in development



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED CABLE MID-BOARD SYSTEMS

FLYOVER® TECHNOLOGY • UP TO 224 Gbps PAM4 PER CHANNEL • VARIETY OF END OPTIONS

112-113 NOVARAY® EXTREME DENSITY & PERFORMANCE SYSTEM (NVAC, NVAM-CT)

114-115 ACCELERATE® HP HIGH-PERFORMANCE CABLE SYSTEM (ARP6, APF6-L)

116-117 ACCELERATE® SLIM CABLE SYSTEM (ARC6, ARF6)

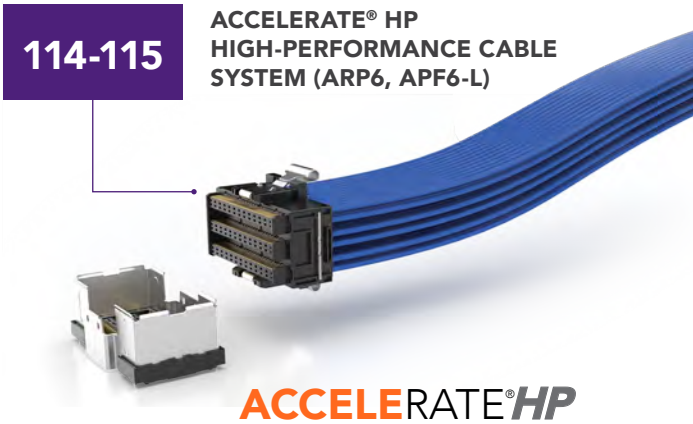
118-119 ACCELERATE® MINI EXTREME PERFORMANCE MINI FORM FACTOR (ARM6, AMF6)

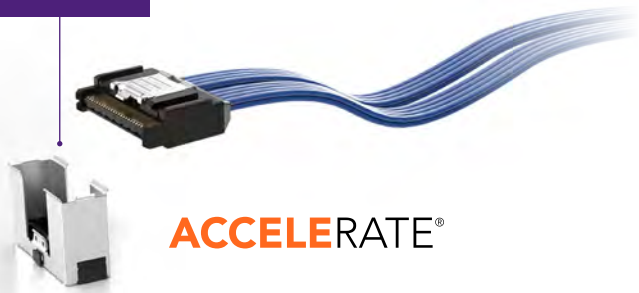
120-121 SI-FLY® LP LOW PROFILE, HIGH-DENSITY CABLE SYSTEM (CPC, CPI)

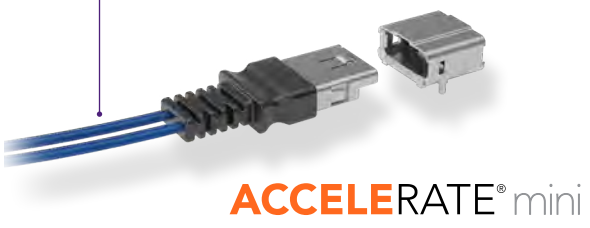
122-124 SI-FLY® HD 224 GBPS PAM4 CO-PACKED AND NEAR CHIP SYSTEMS (SFCC, SFCM, SFNC, SFNM)

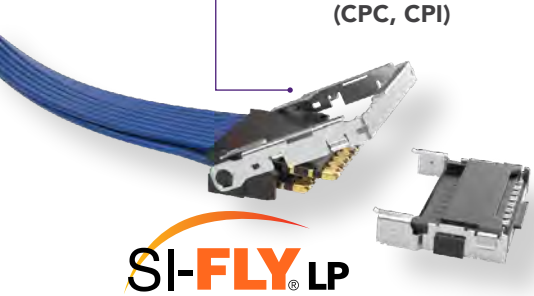
125-126 GENERATE® HIGH-SPEED EDGE CARD SYSTEMS (GC6, GC6-RF)

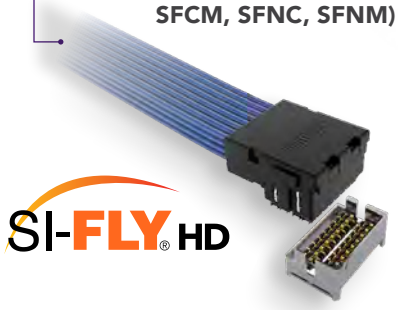








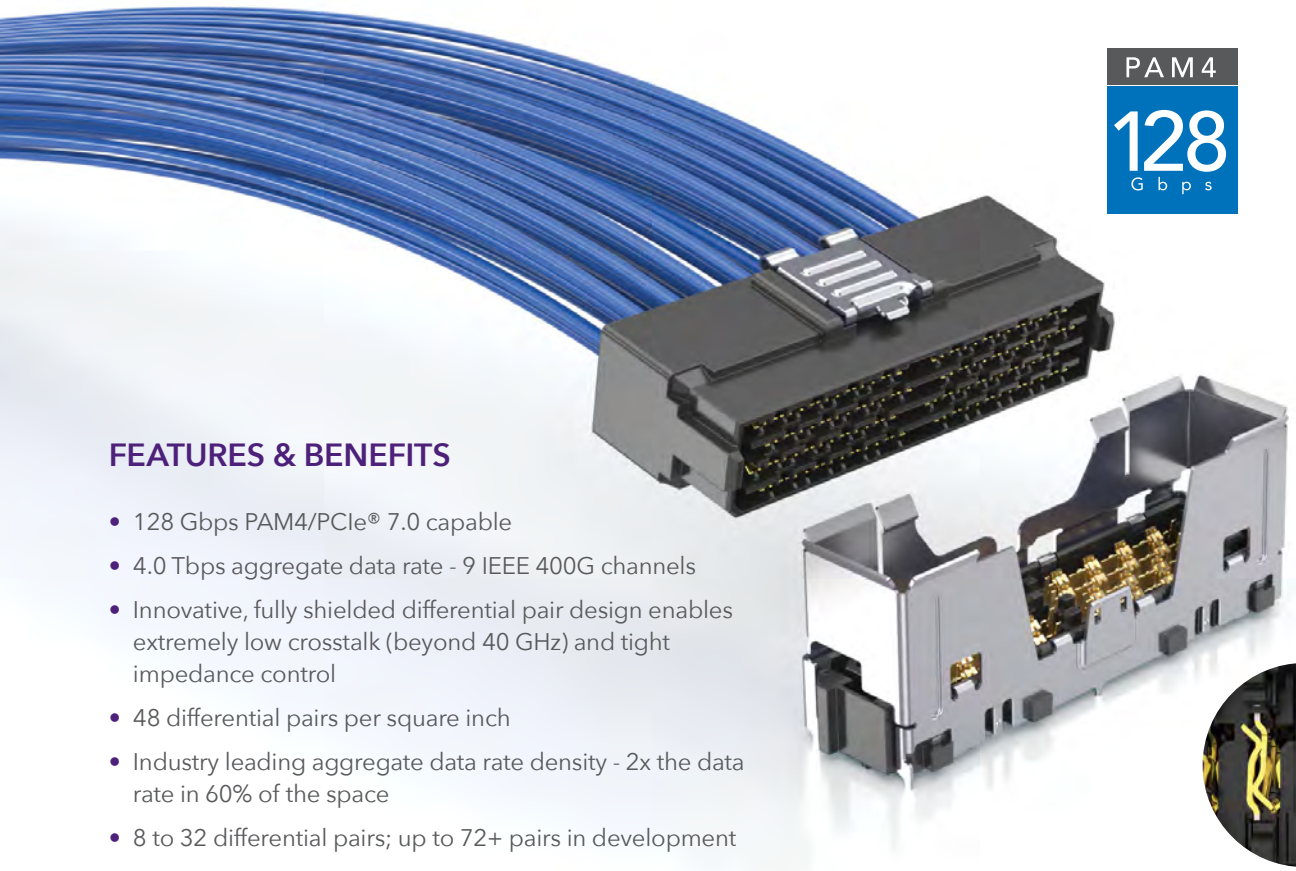






NOVARAY®

EXTREME HIGH-SPEED, HIGH-DENSITY CABLE



PAM4
128
Gbps

FEATURES & BENEFITS

- 128 Gbps PAM4/PCIe® 7.0 capable
- 4.0 Tbps aggregate data rate - 9 IEEE 400G channels
- Innovative, fully shielded differential pair design enables extremely low crosstalk (beyond 40 GHz) and tight impedance control
- 48 differential pairs per square inch
- Industry leading aggregate data rate density - 2x the data rate in 60% of the space
- 8 to 32 differential pairs; up to 72+ pairs in development
- Panel I/O solution available with extended EMI shielding (NVACE/NVACP) or rugged 38999 shell (NVA3E/NVA3P)



Two reliable points of contact guaranteed



BGA attach for density and optimized trace breakout region

Aggregate Data Rate (NRZ)					
1024 Gbps	1536 Gbps	2048 Gbps	3072 Gbps	4096 Gbps	9216 Gbps*
1 Bank		2 Bank			3 Bank*
2 Row	3 Row	4 Row	2 Row	3 Row	4 Row	6 Row*
8 Pairs	12 Pairs	16 Pairs	24 Pairs	32 Pairs	72 Pairs*
					***In development**

KEY SPECIFICATIONS (NVAC/NVAM-CT)

CABLE	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
34 AWG, 92 Ω & 100 Ω ultra low skew twinax cable 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable	LCP	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	-40 °C to +125 °C	2.0 A per pin (signal) 9.9 A per pin (ground)	180 VAC/255 VDC

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

NVAC

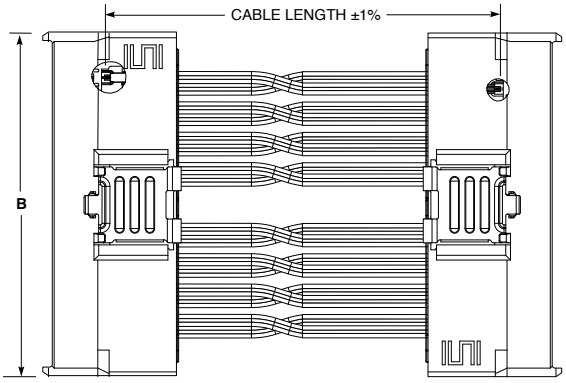
NVAC	STYLE	CABLE STYLE	NO. OF ROWS	NO. OF BANKS	CABLE LENGTH	01	PIN OUT	OPTION
	–DP = 4 pairs per wafer	–1 = 34 AWG, 100 Ω ultra low skew twinax cable –3 = 34 AWG, 92 Ω ultra low skew twinax cable –5 = 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable	–02 = 2 Rows –03 = 3 Rows –04 = 4 Rows	–1 = 1 Bank –2 = 2 Banks	–"XX.X" = Length in inches (152.4 mm) 06.0" minimum		–1 = Pin A01 to Pin AN (N equals last position)	–L = Latch

NVAC
Board Mates:
NVAM-CT



NO. OF BANKS	N	B
–1	16	(20.25) .797
–2	32	(36.25) 1.427

ROWS	A
–02	(4.40) .173
–03	(6.20) .244
–04	(8.00) .315



Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

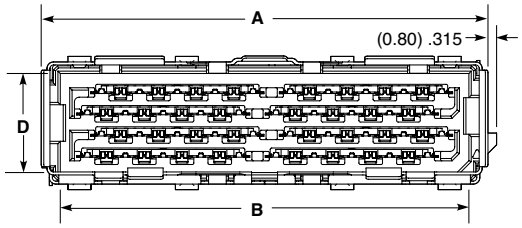
View complete specifications at: samtec.com?NVAC

NVAM-CT

NVAM	STYLE	NO. OF ROWS	NO. OF BANKS	02.0	PLATING OPTIONS	SOLDER TYPE	CT	"X"R
	–DP = 4 pairs per wafer	–02 = 2 Rows –03 = 3 Rows –04 = 4 Rows	–1 = 1 Bank –2 = 2 Banks		–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	–2 = Lead-Free Solder Charge		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

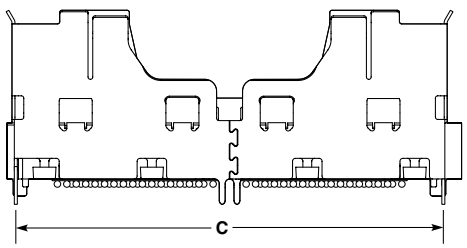
NVAM-CT
Board Mates:
NVAC

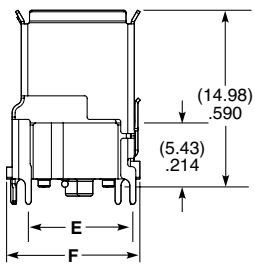




NO. OF BANKS	A	B	C
–1	(21.89) .862	(18.65) .734	(20.25) .797
–2	(37.89) 1.492	(34.65) 1.364	(36.25) 1.427

NO. OF ROWS	D	E	F
–02	(4.80) .189	(5.26) .207	(7.70) .303
–03	(6.60) .260	(7.06) .278	(9.50) .374
–04	(8.40).331	(8.86) .348	(11.30) .445





Note:
Some sizes, styles and options are non-standard, non-returnable.

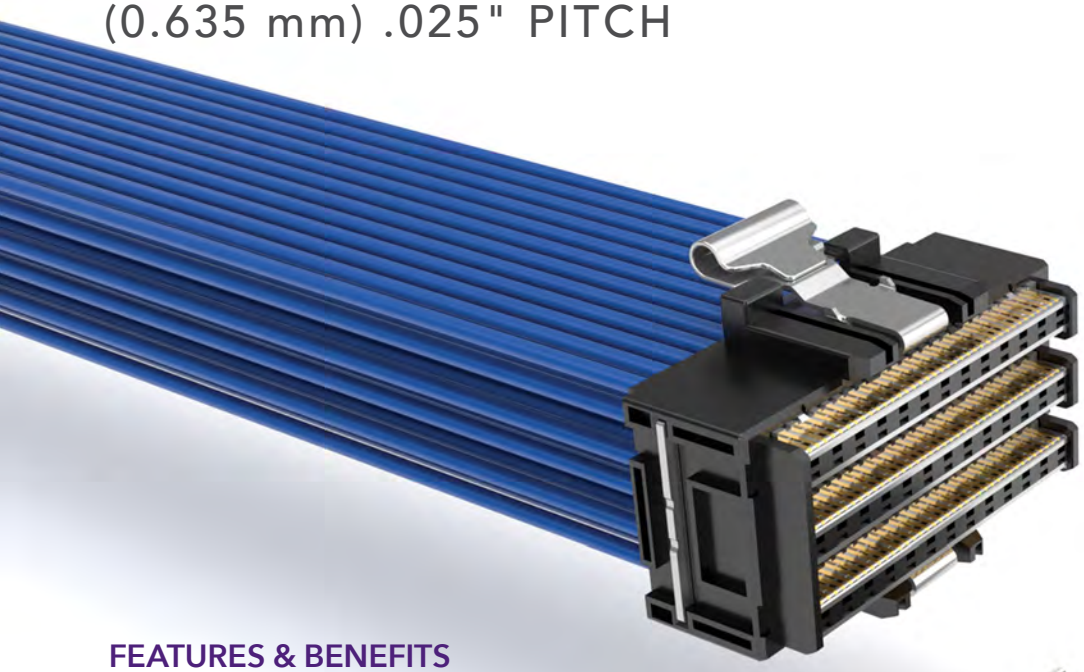
View complete specifications at: samtec.com?NVAM-CT

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCELERATE®HP

EXTREME DENSITY CABLE SYSTEM

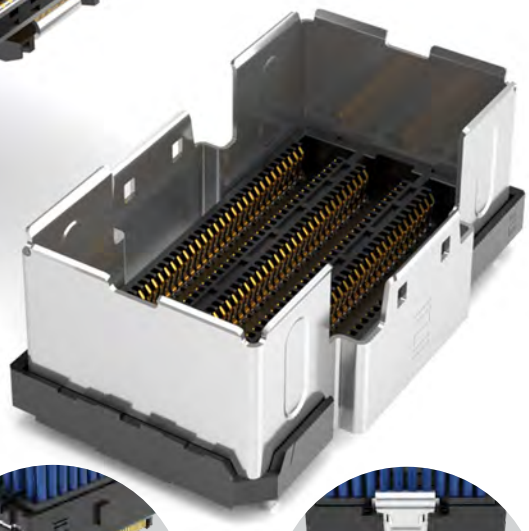
(0.635 mm) .025" PITCH



PAM4
112
Gbps

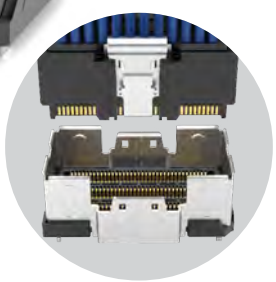
FEATURES & BENEFITS

- Industry's highest density 112G PAM4 cable system
- 0.635 mm contact pitch; 2.20 x 2.40 mm row-to-row pitch
- 4, 6 and 8 rows; 8 or 12 pairs per row
- Up to 96 Thinax™ ultra low skew twinax cable
- Single-ended micro coax configuration
  – 34 AWG ThinSE™ micro coax cables
  – 12 or 18 coax per row
  – Dedicated G–S–G–S–G layout for reduced crosstalk
- Right-angle mating connector
- 112 Gbps PAM4 double density direct-to-chip package solution with up to 144 differential pairs and Eye Speed Thinax™ ultra low skew twinax cable (ART6/ATF6); contact **HDR@samtec.com** for information
- Cable-to-cable solution in development





Locking for maximum density (removal tool required)



Squeeze latching for quick disconnect

KEY SPECIFICATIONS (ARP6)

CABLE	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
34 AWG, 92 Ω Thinax™ ultra skew twinax cable 34 AWG, 50 Ω ThinSE™ micro coax cable	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to +125 °C	1.3 A (6 pins powered)	165 VAC/233 VDC

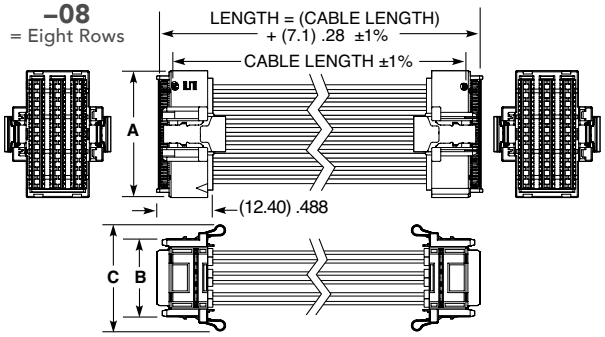
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ARP6 –	STYLE	– NO. OF POSITIONS	– NO. OF ROWS	– CABLE LENGTH	– END 2 ORIENTATION	– END 1 OPTION	– END 2 OPTION
	–DP = 92 Ω Thinax™ ultra low skew twinax cable **–SE** = 50 Ω ThinSE™micro coax cable **–DS** = Mixed –DP & –SE	**Specify NO. OF POSITIONS from chart**	**–04** = Four Rows **–06** = Six Rows **–08** = Eight Rows	**–"XX.X"** = Length in Inches 05.0" (127 mm) minimum	**–T** = Top **–B** = Bottom	**–L** = Squeeze Latch **–T** = Locking Tool **–S** = Single Latch (–04 row only; required for mating APF6-RA-S)	**–L** = Squeeze Latch **–T** = Locking Tool **–S** = Single Latch (–04 row only; required for mating APF6-RA-S)

ARP6
Board Mates:
APF6-L, APF6-T, APF6-S, APF6-RA*, APF6-RA-S

*APF6-RA requires APF6-C cage to mate with ARP6.





ARP6-DP-037-06-XX.X-B-L-L SHOWN

NO. OF POSITIONS PER ROW	A
–025	(20.34) .801
–037	(27.96) 1.101

NO. OF ROWS	B	C
–04	(12.54) .494	(18.58) .731
–06	(17.14) .675	(23.39) .921
–08	(21.74) .856	(27.99) 1.102

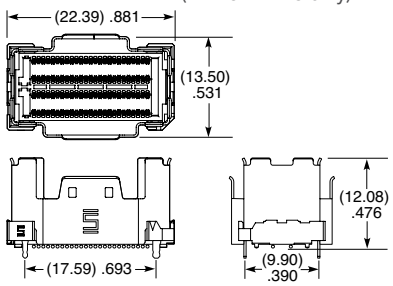
STYLE	NO. OF POSITIONS PER ROW	PINOUT ARRANGEMENT
–DP	–025	8 Differential Pairs Per Row
–DP	–037	12 Differential Pairs Per Row
–SE	–025	12 Single-ended Signals Per Row
–SE	–037	18 Single-ended Signals Per Row
–DS	–025	2 Rows of 12 SE, Remaining Rows 8 DP Each
–DS	–037	2 Rows of 18 SE, Remaining Rows 12 DP Each

View complete specifications at: samtec.com?ARP6

APF6 –	NO. OF POSITIONS	– LEAD STYLE	– PLATING	– ROW	– SOLDER TYPE	– OPTION	– "X"R
	–025, –037 (Per Row)	Leave blank for –RA & –RA–S **–03.5** = (3.5 mm) .138"	**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail (Not available with –RA & –RA-S) **–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	**–04** = Four Rows **–06** = Six Rows **–08** = Eight Rows	**–0** = Column Attach (not available with -RA-S) **–1** = Tin/Lead Alloy Solder Charge (–RA & –RA–S only) **–2** = Lead-Free Solder Charge (–RA & –RA–S only)	**–L** = Squeeze Latch **–T** = Through-hole Locking Tool **–S** = Surface Mount Locking Tool (–06 & –08 only) **–RA** = Right-angle panel mount (–04 row only) (Requires cage; visit samtec.com?APF6-C) **–RA-S** = Right-angle mid-board shield (–04 row & ARP6-S mate only)	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

APF6-L, APF6-T
APF6-S, APF6-RA,
APF6-RA-S
Cable Mates:
ARP6





APF6-025-03.5-X-04-0-L SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?APF6-L, samtec.com?APF6-T, samtec.com?APF6-S, samtec.com?APF6-RA & samtec.com?APF6-RA-S

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCELERATE®

SLIM, DIRECT ATTACH CABLE ASSEMBLIES

(0.635 mm) .025" PITCH



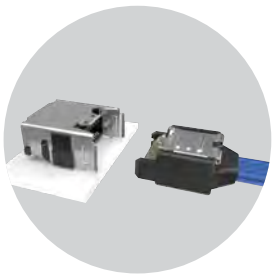
PAM4
64
Gbps

FEATURES & BENEFITS

- Slimmest cable assembly in the industry – 7.6 mm width
- High-density 2-row design; 8, 16 and 24 differential pair configurations
- Differential pair (Thinax™), single-ended (ThinSE™) and mixed signaling available
- Multiple wiring options including reverse polarity
- Mating board level socket (ARF6 Series) features standard rugged weld tabs for increased stability on the PCB
- Rugged metal latching and shielding
- Supports 64 Gbps PAM4 (32 Gbps NRZ) applications; PCIe® 6.0/CXL® 3.2 capable
- Utilizes Samtec's Flyover® Technology to simplify board layout and extend signal reach
- In development: AcceleRate® Boost cable-to-board system provides optimized 112 Gbps PAM4 performance with up to 96 differential pairs using Thinax™ ultra low skew twinax cable. This is the next evolution of Samtec's popular ARC6/ARF6 product solution.



Contacts directly soldered to the twinax for improved signal integrity



Right-angle available. Visit **samtec.com?ARF6-RA** for specifications.

KEY SPECIFICATIONS (ARC6/ARF6)

CABLE	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
34 AWG, 100 Ω ultra low skew twinax cable 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable 34 AWG, 50 Ω ThinSE™ coax cable	Black LCP	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	-40 °C to +125 °C	1.2 A (1 pin powered)	135 VAC/191 VDC

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

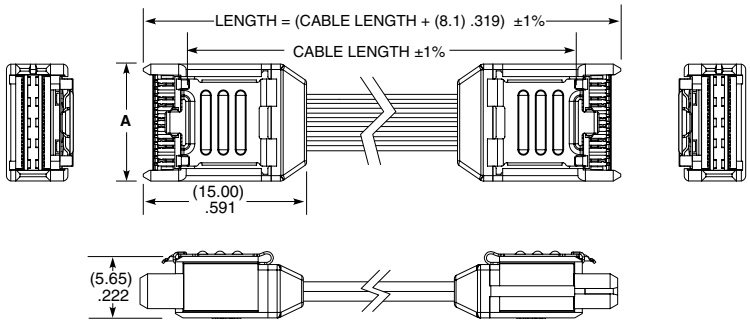
(0.635 mm) .025" • SLIM CABLE & SOCKET

ARC6	–	SIGNAL TYPE	–	NO OF PAIRS/POSITIONS	–	CABLE LENGTH	–	END 1	–	END 2	–	WIRING OPTION	–	CABLE TYPE
		Leave blank for Differential Pair (–DP) **–S** = Single-Ended **–M** = Mixed –DP & –S		**–08, –16, –24** (–DP only) **–13, –25, –37** (–S & –M only)		**–"XX.X"** = Length in Inches 03.0" (76.2 mm) minimum		**–LU** = Latch Up		**–LU** = Latch Up **–LD** = Latch Down (Not available with –M style)		**–2** = Pin 1 to Pin 2 (End 2 -LD option only) **–3** = Pin 1 to Pin N-1 (End 2 -LU option only) **–2R** = Pin 1 to Pin 2 Reversed Polarity (–DP style & End 2 –LD option only) 06.0" (152.4 mm) min. cable length **–3R** = Pin 1 to Pin N-1 Reversed Polarity (–DP style & End 2 –LU option only) 06.0" (152.4 mm) min. cable length		**–1** = 34 AWG, 100 Ω ultra low skew twinax cable (–DP only) **–3** = 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable (–DP only) **–4** = 34 AWG, 50 Ω ThinSE™ coax cable (–S only) **–6** = Thinax™ (–3) and ThinSE™ (–4) cables (–M only)

ARC6
Board Mates:
ARF6



NO. OF PAIRS/POSITIONS	A	N	N-1
–08/–13	(10.90) .429	26	25
–16/–25	(18.52) .729	50	49
–24/–37	(26.14) 1.029	74	73



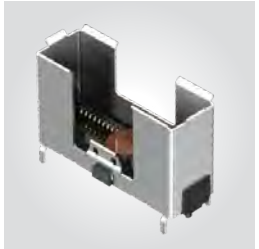
ARC6-08-XX.X-LU-LU-3-X SHOWN

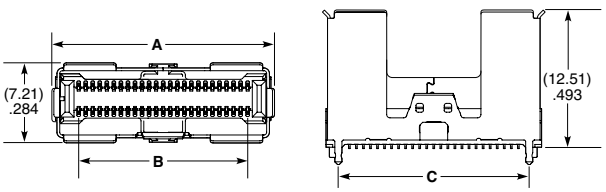
Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

View complete specifications at: samtec.com?ARC6

ARF6	–	NO. OF PAIRS	–	PLATING	–	ROW	–	A	–	K	–	"X"R
		–08 (13 pins/row) **–16 (25 pins/row)** **–24 (37 pins/row)**		**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail **–STL** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin/Lead on tail		**–D** = Double Row		**–A** = Alignment Pin		**–K** = Polyimide film Pick & Place Pad		**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

ARF6
Cable Mates:
ARC6





ARF6-16-S-D-A SHOWN

NO. OF PAIRS	A	B	C
–08	(12.46) .491	(7.62) .300	(9.59) .378
–16	(20.08) .791	(15.24) .600	(17.21) .678
–24	(27.70) 1.091	(22.86) .900	(24.83) .978

Notes:
Tape & Reel packaging and K-Dot are standard.

Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?ARF6

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCELERATE® mini

EXTREME PERFORMANCE, MINI FORM FACTOR CABLE

(0.635 mm) .025" PITCH

NRZ	PAM4
56 Gbps	112 Gbps



FEATURES & BENEFITS

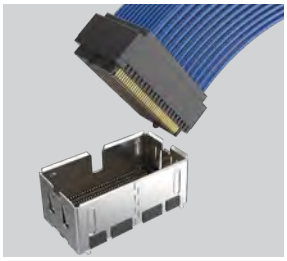
- 112 Gbps PAM4 performance
- 34 AWG, 92 Ω Eye Speed Thinax™ ultra low skew twinax cable or extruded outer insulation for rugged applications
- One or two differential pairs
- Vertical and right-angle mating board connector
- Design flexibility as an End 2 option for Flyover® assemblies
- Friction retention latching
- Standard alignment pins

VARIOUS END OPTIONS AVAILABLE

800G Flyover® QSFP Double Density (FQSFP-D8)



Si-Fly® HD (SFNC/SFNM-L)



AcceleRate® HP Double Density (ART6/ATF6)

KEY SPECIFICATIONS

CABLE	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
34 AWG, 92 Ω ultra low skew twinax or Thinax™	LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to +105 °C	2.0 A (per pair)	185 VAC/262 VDC

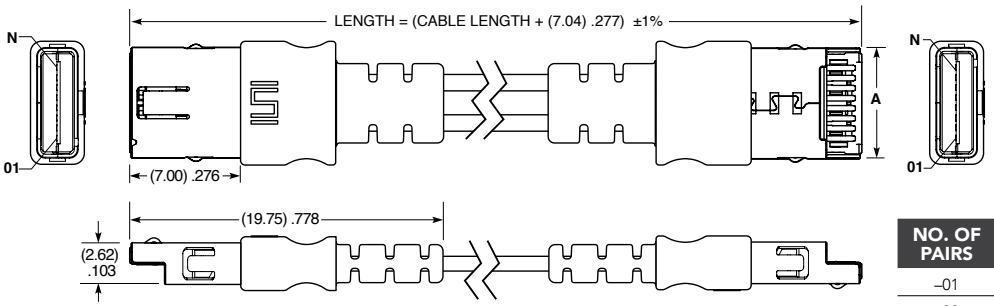
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ARM6	–	NO. OF PAIRS	–	CABLE LENGTH	–	END 1	–	END 2	–	WIRING OPTION	–	CABLE STYLE
		–01, –02		–"XX.X" = Length in Inches 03.0" (76.2 mm) minimum		–LUF = Latch up, Flexible Strain Relief		–LUF = Latch up, Flexible Strain Relief –LDF = Latch down, Flexible Strain Relief		–1 = Pin 1 to Pin 1 (End 2 -LDF only) –4 = Pin 1 to Pin N (End 2 -LUF only)		–1 = 34 AWG 92 Ω Thinax™ ultra low skew twinax cable –2 = 34 AWG 92 Ω ultra low skew twinax cable

ARM6

Board Mates:
AMF6





ARM6–02–XX.X–LUF–LDF–4–X SHOWN

NO. OF PAIRS	A
–01	(4.44) .175
–02	(6.98) .275

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?ARM6

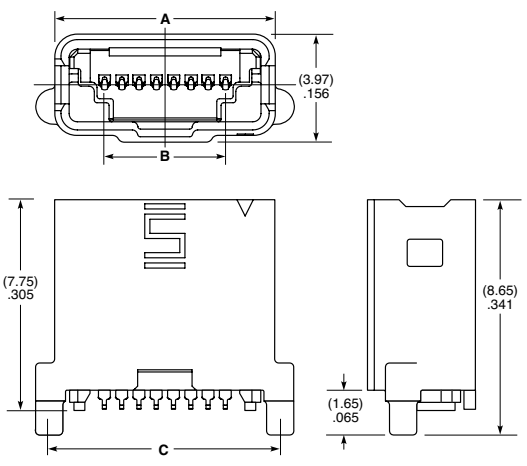
AMF6	–	NO. OF PAIRS	–	PLATING	–	ROW OPTION	–	OPTION	–	"X"R
		–01, –02		–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		(Leave blank for vertical) –RA = Right-angle		(Leave blank for Right-angle) –K = Polyimide film Pick & Place Pad		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

AMF6

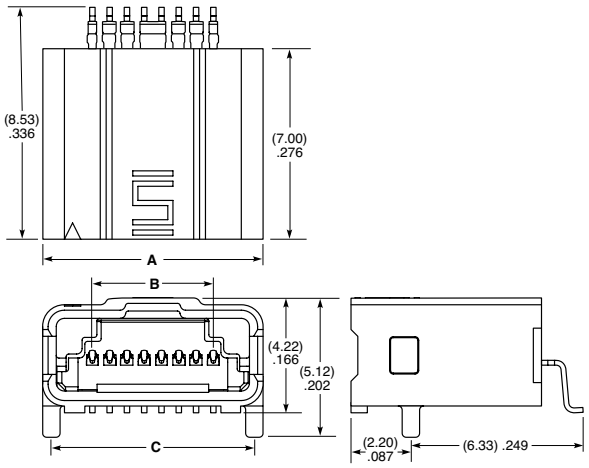
Cable Mates:
ARM6



NO. OF PAIRS	A	B	C	C (-RA)
–01	(5.56) .219	(1.91) .075	(5.96) .235	(4.92) .194
–02	(8.10) .319	(4.45) .175	(8.50) .335	(7.46) .294



AMF6-02–S–K–XR SHOWN



AMF6-02–S–RA–XR SHOWN

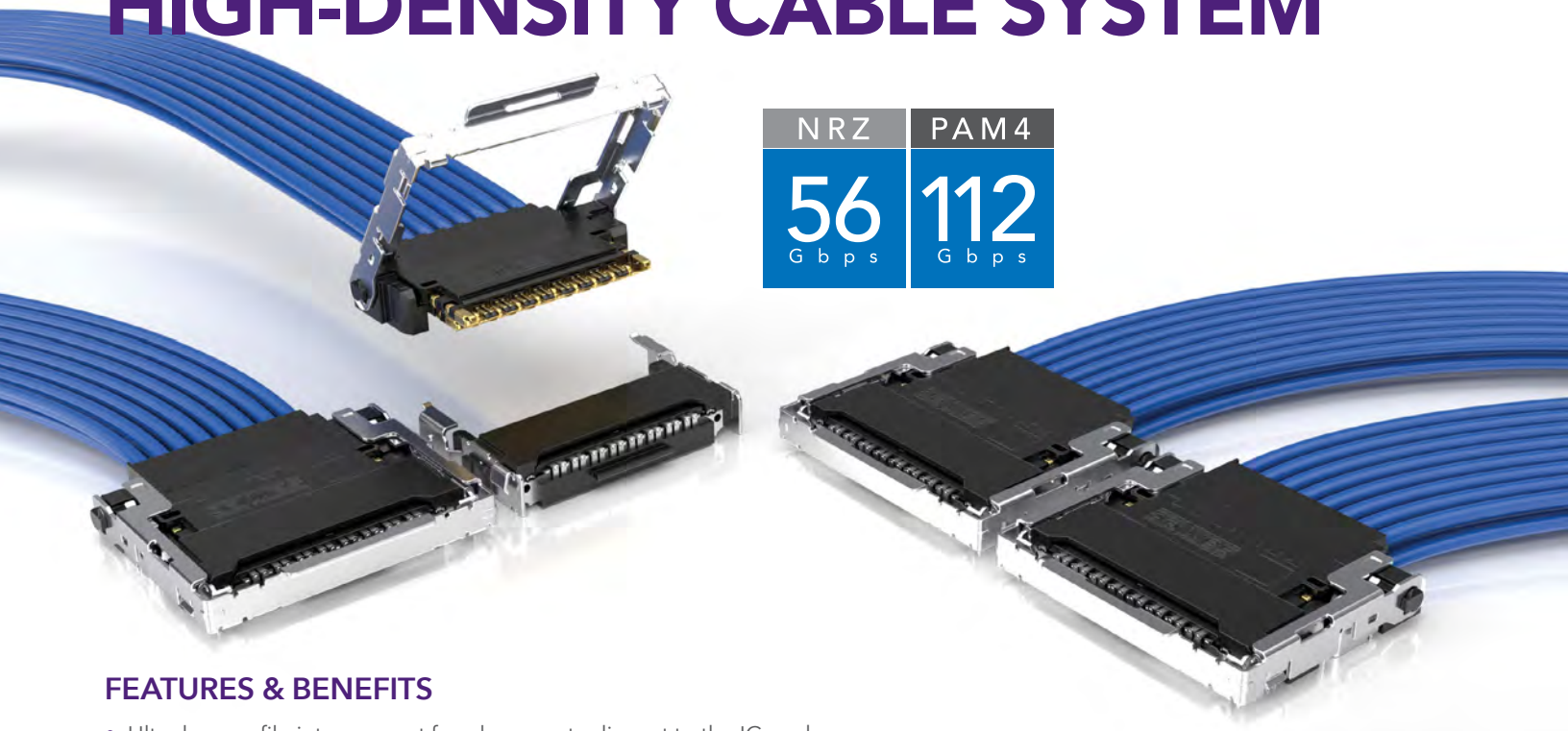
Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?AMF6

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SI-FLY® LP

112 Gbps PAM4, LOW PROFILE HIGH-DENSITY CABLE SYSTEM



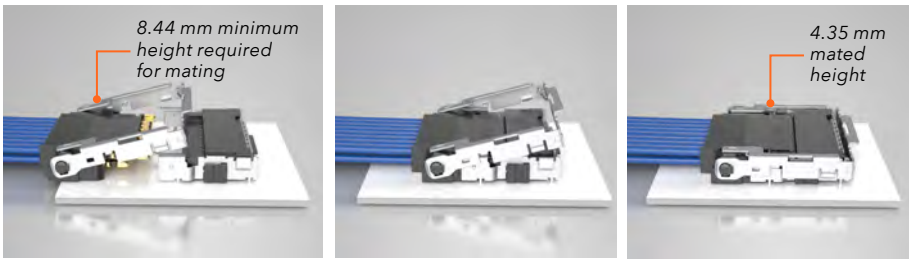
NRZ	PAM4
56 Gbps	112 Gbps

FEATURES & BENEFITS

- Ultra low profile interconnect for placement adjacent to the IC package, under heat sinks or other cooling hardware
- 16 pairs in an incredibly low 4.35 mm profile; 8 pairs in a 3.05 mm profile
- 34 AWG ultra low skew twinax cable; 34 AWG Thinax™ cable in development
- Up to 1.79 Tbps aggregate data rate
- PCIe® 6.0/CXL® 3.2 capable
- Rugged swing latch for positive retention



Multiple connectors can be used side-to-side, front-to-back or in a belly-to-belly configuration



Rugged latching provides a secure connection directly adjacent to the IC package for increased signal integrity performance (16 pair shown)

KEY SPECIFICATIONS (CPC/CPI)

CABLE	SIGNAL ROUTING	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
34 AWG ultra low skew twinax	92 Ω & 100 Ω	Black LCP	Copper Alloy	Au over 50 µ" (1.27 µm) Ni	-25 °C to +85 °C	Testing Now!	Testing Now!

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

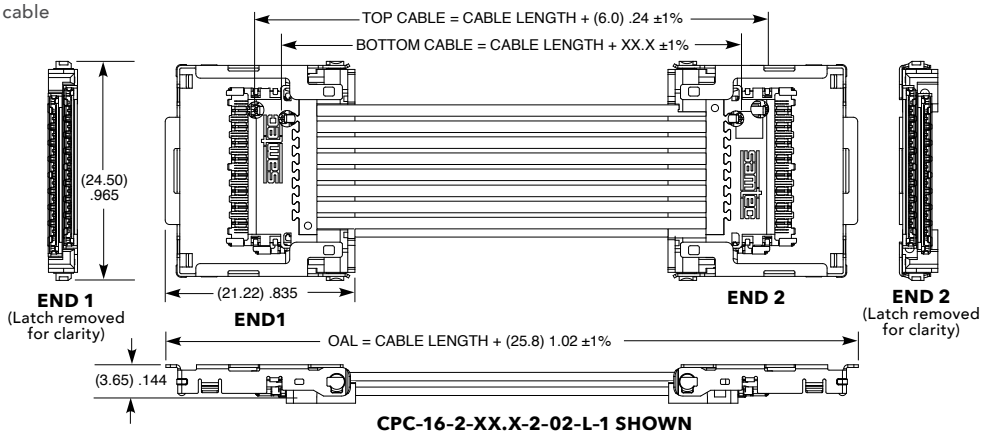
CPC	–	NO. OF PAIRS	–	CABLE STYLE	–	CABLE LENGTH	–	ROW	–	END 2	–	L	–	WIRING OPTION
		–08, –16		–1 = 34 AWG, 92 Ω ultra low skew twinax cable –2 = 34 AWG, 100 Ω ultra low skew twinax cable –3 = 34 AWG, 92 Ω Thinax™ ultra low skew twinax cable		–"XX.X" = Wire Length in Inches 06.0" (152.4 mm) minimum		–1 = 1 Row (–08 pairs only) –2 = 2 Row (–16 Pairs only)		–02 = CPC				Specify WIRING OPTION from chart

WIRING OPTION	ROW	CONFIGURATION
–1	Single	Pin A1 to A25
	Double	Pin A1 to A25 Pin B1 to B25
–2	Single	Pin A1 to A1
	Double	Pin A1 to B1 Pin B1 to A1

CPC

Board Mates: CPI





CPC-16-2-XX.X-2-02-L-1 SHOWN

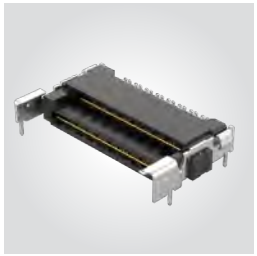
Note:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

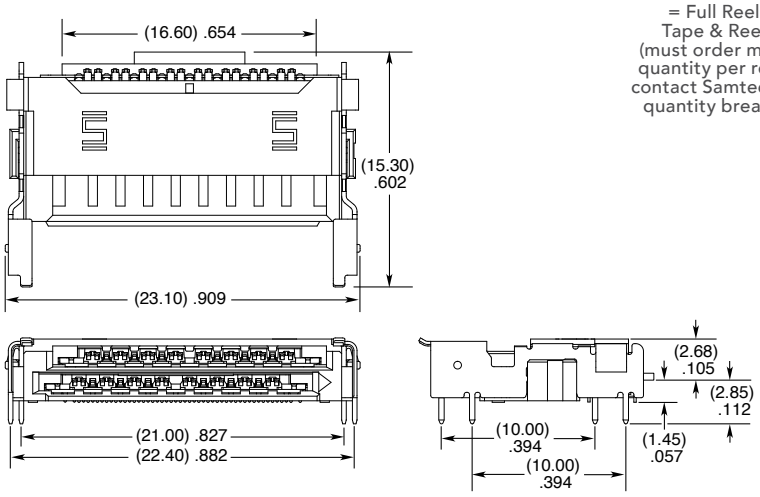
View complete specifications at: samtec.com?CPC

CPI	–	NO. OF PAIRS	–	LEAD STYLE	–	ROW	–	PLATING OPTION	–	RA	–	0	–	L	–	"X"R
		–08, –16		–01 = Surface Mount		–1 = 1 Row, 8 Pairs –2 = 2 Row, 16 Pairs		–S = 30 µ" (0.76 µm) Gold on contact area, Tin on tail								–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

CPI

Cable Mates: CPC





CPI-16-01-2-S-RA-0-L SHOWN

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?CPI

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

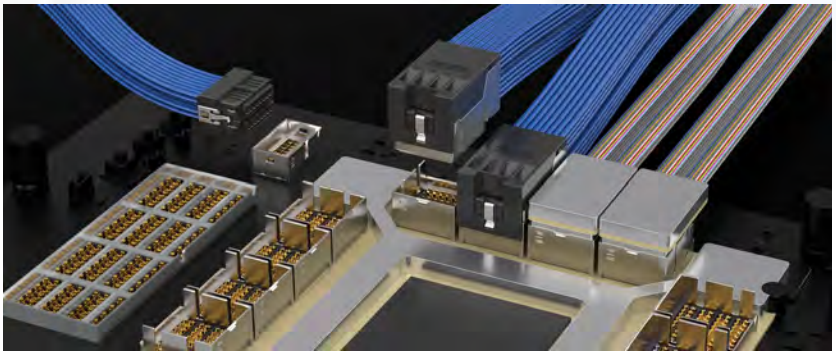
Si-FLY® HD

224 GBPS PAM4, CO-PACKAGED AND NEAR-CHIP SYSTEMS



FEATURES & BENEFITS

- High-density 224 Gbps PAM4 co-packaged and near-chip (ASIC adjacent) cable systems
- Co-packaged offers the lowest loss signal transmission from the package to the front panel or backplane while providing the highest density
- PCIe® 7.0 capable
- Eye Speed® hyper low skew twinax cable technology supports 224G signaling with an industry leading 1.75 ps/m max intra-pair skew
- Placement of Flyover® cable solutions on, or near, the chip package improves transmission line density and extends signal reach in high-performance applications
- Co-packaged signal density: 170 differential pairs per square inch



CPX: Electrically pluggable co-packaged copper and optic high-performance, high-density interconnects on a 95 mm x 95 mm or smaller substrate (SFCM, SFCC, Optics). Contact HDR@samtec.com for more details.

- Near-chip signal density: 64 differential pairs per square inch
- Routes an extremely high number of transmission lines from one PCB to the next
- Surface mount reflow technology to the substrate (co-packaged) or PCB (near-chip)

KEY SPECIFICATIONS

SERIES	CABLE	SIGNAL ROUTING	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
SFCC/SFCM SFNC/SFNM	32 AWG hyper low skew twinax	92 Ω Differential	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	Testing Now!	Testing Now!	Testing Now!

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

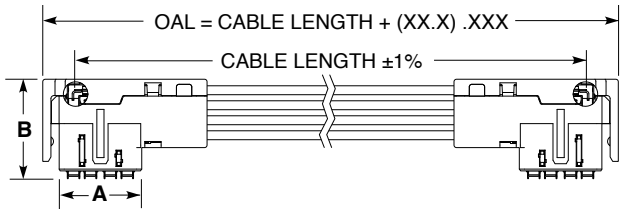
SFCC	–	STYLE	–	1	–	NO. OF PAIRS PER ROW	–	NO. OF ROWS	–	RA	–	CABLE LENGTH	–	END 2 OPTION	–	WIRING OPTION
		–DP = Differential Twinax pairs only				**–08** = Eight		**–04** = Four Rows **–08** = Eight Rows				**–"XX.X"** = Length in Inches 06.0" (152.4 mm) minimum		**–A** = SFCC		**–1** = Pin A01 to Pin A25 **–2** = Pin A01 to Pin X01

PRELIMINARY

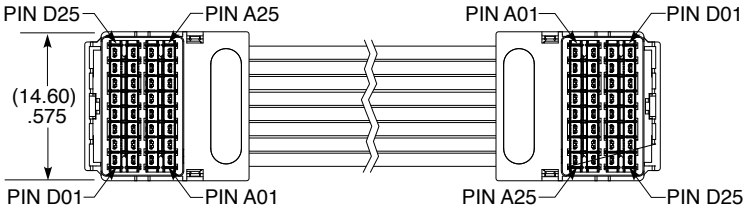
SFCC

Board Mates:
SFCM





NO. OF ROWS	A	B
–04	(8.10) .319	(9.20) .362
–08	(15.30) .602	(16.26) .640



SFCC-DP-1-08-04-RA-XX.X-A-1

Notes:
Cable lengths longer than 118" (3 meter) are not supported with S.I. test data.

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?SFCC

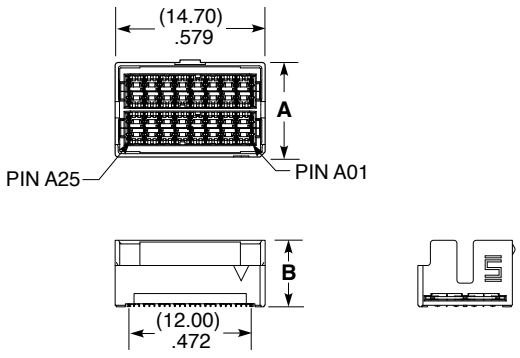
SFCM	–	STYLE	–	NO. OF PAIRS PER ROW	–	NO. OF ROWS	–	01	–	VT	–	PLATING OPTION	–	PACKAGING
		–DP = Differential Twinax pairs only		**–08** = Eight		**–04** = Four Rows **–08** = Eight Rows						**–S** = 30 µ" (0.76 µm) Gold in contact area, Tin on tails		Leave blank for tray packaging **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

PRELIMINARY

SFCM

Cable Mates:
SFCC





NO. OF ROWS	A	B	C	D
–04	(9.26) .365	(6.55) .258	(7.05) .278	(10.16) .400
–08	(16.46) .648	(8.55) .337	(9.05) .356	(17.36) .683

SFCM-DP-08-04-01-VT-S

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?SFCM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SFNC	–	STYLE	–	1	–	NO. OF PAIRS PER ROW	–	NO. OF ROWS	–	VT	–	CABLE LENGTH	–	END 2 OPTION	–	WIRING OPTION
		–DP = Differential Twinax pairs only				**–04** = Four		**–04** = Four Rows **–08** = Eight Rows				**–"XX.X"** = Length in Inches 06.0" (152.4 mm) minimum		**–A** = SFNC-VT End		**–1** = Pin A01 to Pin A16 **–2** = Pin A01 to Pin N01 (N=Last Row)

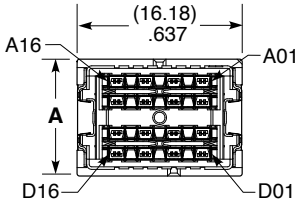
PRELIMINARY

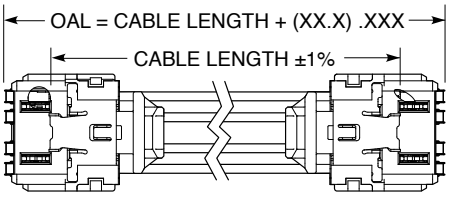
SFNC

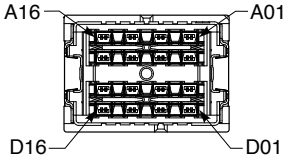
Board Mates:
SFNM



NO. OF ROWS	A
–04	(11.45) .451
–08	(21.65) .852







SFNC-DP-1-04-04-VT-XX.X-A-1

Notes:
Cable lengths longer than 118" (3 meter) are not supported with S.I. test data.

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?SFNC

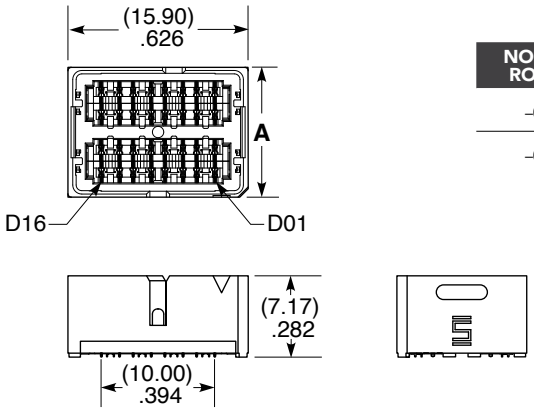
SFNM	–	STYLE	–	NO. OF PAIRS PER ROW	–	NO. OF ROWS	–	01	–	VT	–	PLATING OPTION	–	PACKAGING
		–DP = Differential Twinax pairs only		**–04** = Four		**–04** = Four Rows **–08** = Eight Rows						**–S** = 30 µ" (0.76 µm) Gold in contact area, Tin on tails		**–TY** = Tray **–TR** = Tape & Reel

PRELIMINARY

SFNM

Cable Mates:
SFNC





NO. OF ROWS	A
–04	(11.45) .451
–08	(21.65) .852

SFNM-DP-04-04-01-VT-S-0-XX

Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?SFNM

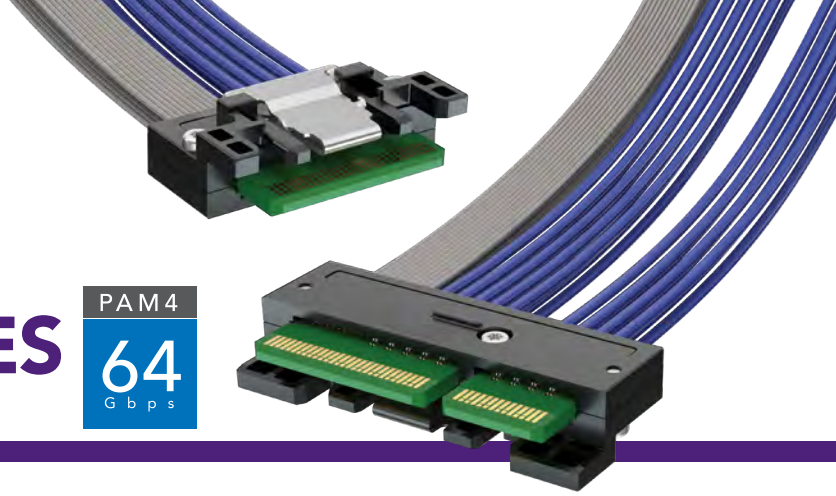
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

GENERATE

EDGE CARD CABLE ASSEMBLIES

PAM4 64 Gbps

(0.60 mm) .024" PITCH • GC6 SERIES

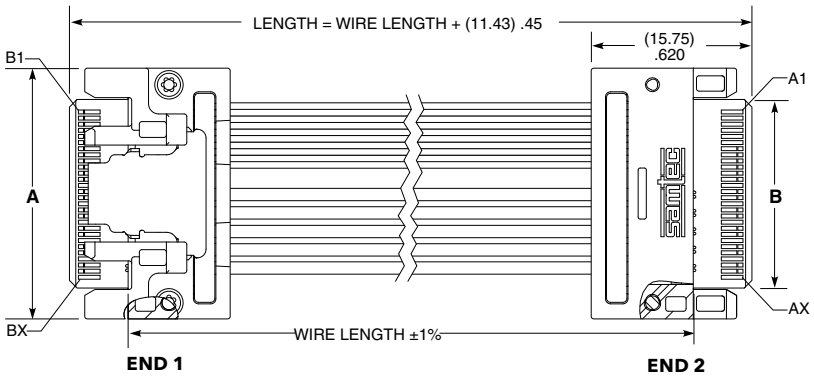


GC6
Mates:
HSEC6-DV, HSEC6-RA
(Shield (-S) option required for mating)

SPECIFICATIONS

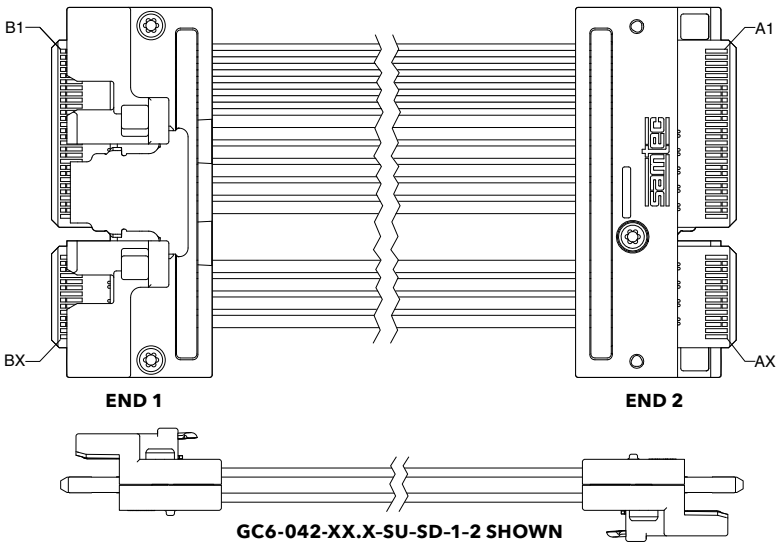
Cable:
34 AWG Eye Speed®
ultra low skew twinax
Signal Routing:
100 Ω Differential
Plating:
Au over 50 µ" (1.27 µm) Nickel
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
Voltage Rating:
190 VAC/269 VDC
Protocols:
SFF-TA-1002 Compatible

GC6	NO. OF POSITIONS	WIRE LENGTH	END NO. 1	END NO. 2	WIRE MAPPING	CABLE TYPE
	–028 = 28 positions (IC) **–042** = 42 positions (2C) **–070** = 70 positions (4C)	**–"XX.X"** = Wire Length in Inches 06.0" (152.4 mm) minimum	**–SU** = Straight, Latch Up **–RU** = Right-angle, Latch Up	**–SD** = Straight, Latch Down **–RD** = Right-angle, Latch Down (Not available with –SU option)	**–1** = Pin A1 to Pin A1	**–2** = 34 AWG 100 Ω ultra low skew twinax cable



GC6-028-XX.X-SU-SD-1-2 SHOWN

POSITIONS PER ROW	A	B	X
–028	(24.57) .967	(18.480) .728	28
–042	(36.29) 1.429	(30.170) 1.188	42
–070	(57.71) 2.272	(51.280) 2.019	70



GC6-042-XX.X-SU-SD-1-2 SHOWN

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your full cable assembly with Samtec's High-Speed Cable Solutionator® at www.samtec.com/cablebuilder

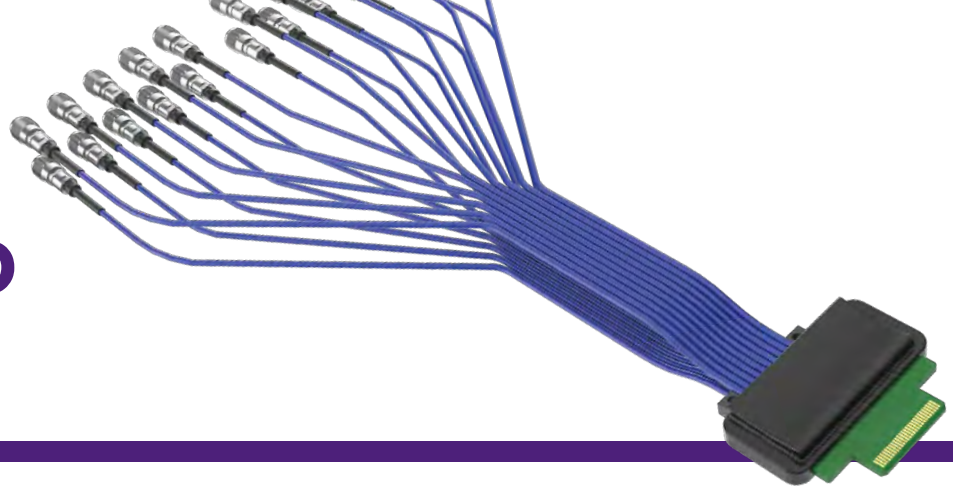
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

GENERATE®

HIGH-SPEED TEST CABLE

GC6RF SERIES



GC6RF
Mates:
HSEC6-DV, HSEC6-RA, 292

SPECIFICATIONS

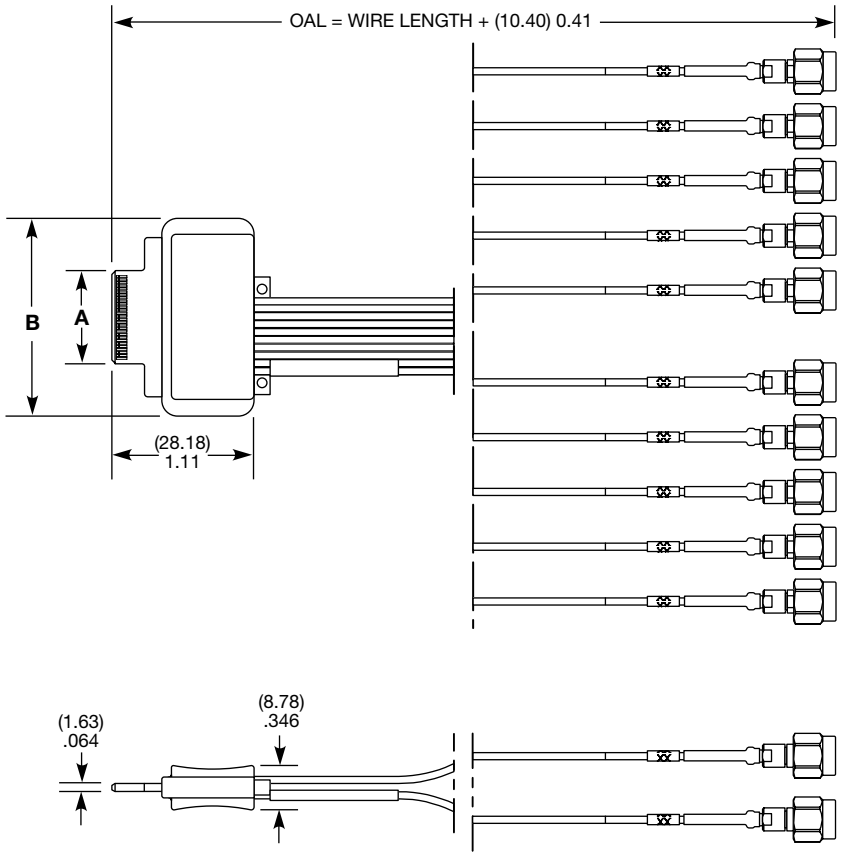
Card:
Conductor:
1/2 oz. Copper
Contact Area:
Hard Gold
Insulator:
Megtron 6

Cable:
Type:
Low Loss Microwave Coax
Gauge:
31 AWG Silver Plated Copper
Signal Conductor:
(.287) .0113" DIA
Overall Shield Diameter:
(1.17 mm) .046" DIA
Jacket Material:
FEP
Impedance:
50 Ω
Bend Radius:
10.0 Min
Capacitance:
29 pF/foot
Operating Temp:
-65 °C to 150 °C
Frequency Range:
DC to 110 GHz

GC6RF	NO. OF POSITIONS	WIRE LENGTH	END OPTION	RF CONNECTOR	RF GENDER	COAX
	–028 (1C), –042 (2C), –070 (4C) (Per Row)	–"XXXX" = Wire Length in millimeters 1000 mm (39.4") MAX (See Chart for minimum length based on number of positions.)	–EC = Edge Card	–292 = 2.92 mm Connector	–P = Plug –J = Jack	–1 = 31 AWG

PRELIMINARY

NO. OF POSITIONS	A	B	N	NO. OF COAX	MINIMUM WIRE LENGTH
–028	(18.48) .728	(39.18) 1.54	28	20	(0152 mm) 06.0"
–042	(30.17) 1.19	(50.87) 2.00	42	36	(0350 mm) 13.8"
–070	(51.28) 2.02	(71.98) 2.83	70	68	(0500 mm) 19.7"



GC6RF-028-XXXX-EC-292-P-1 SHOWN

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your full cable assembly with Samtec's High-Speed Cable Solutionator® at www.samtec.com/cablebuilder

This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

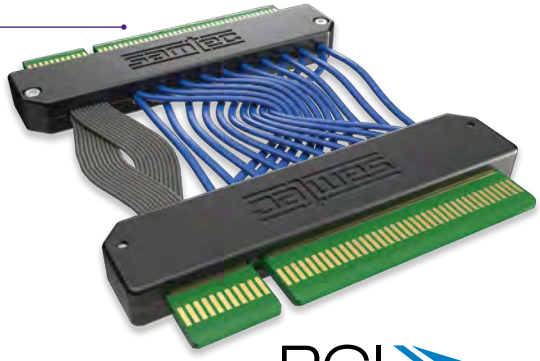
HIGH-SPEED CABLE ASSEMBLIES

MIX-AND-MATCH FLEXIBILITY • MICRO COAX & TWINAX CABLE • PCI EXPRESS® 2.0/3.0/4.0/5.0

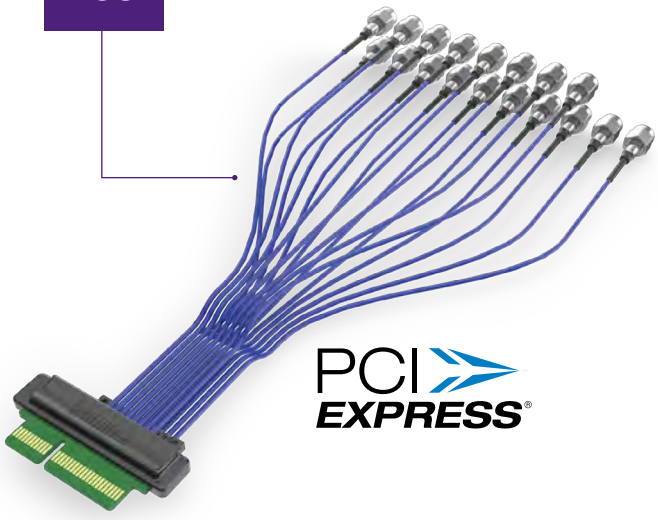
130-131 SEARAY™ HIGH-SPEED, HIGH-DENSITY CABLE SYSTEM (SEAC)



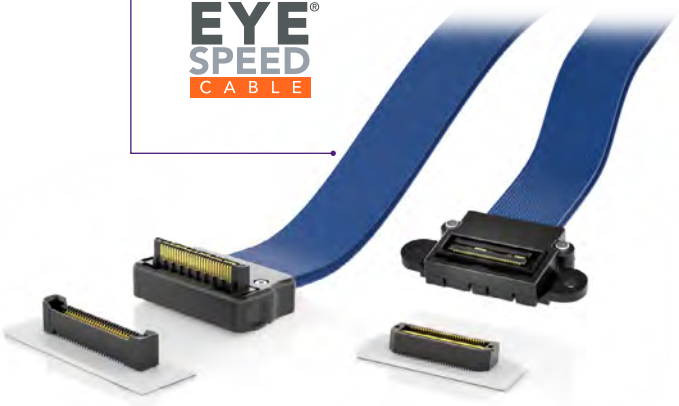
132 PCI EXPRESS® EDGE CARD SYSTEMS (PCIEC-G4, PCIEC-G5)



133 PCI EXPRESS® HIGH-SPEED TEST CABLES (PCRF-G4, PCRF-G5)

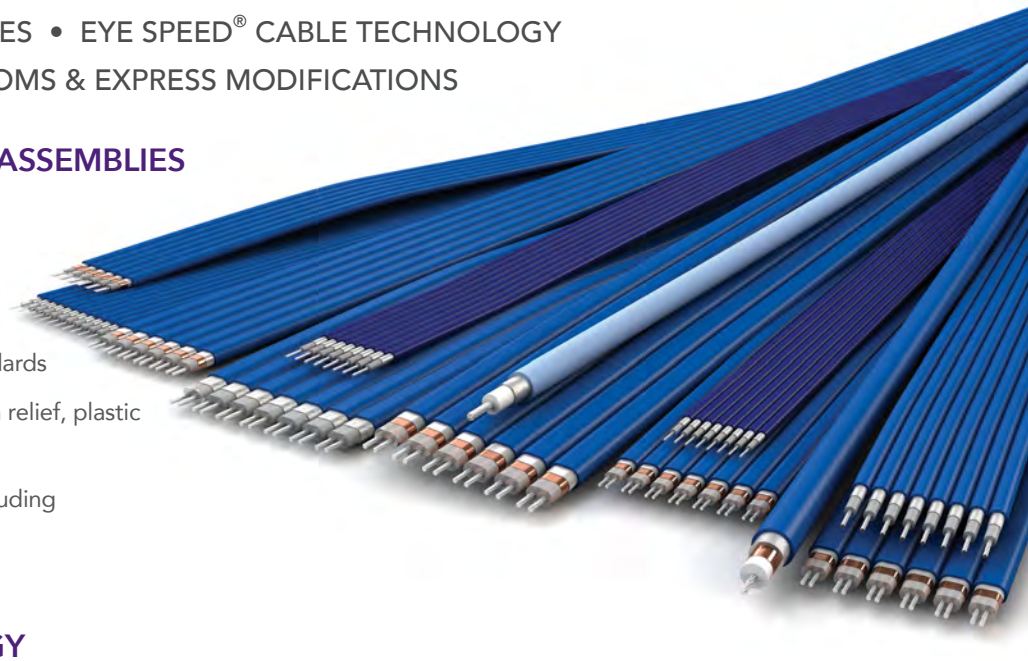


134 ADDITIONAL HIGH-SPEED CABLE SOLUTIONS



HIGH-SPEED CABLE ASSEMBLIES

MICRO COAX & TWINAX ASSEMBLIES • EYE SPEED® CABLE TECHNOLOGY
DESIGN FLEXIBILITY • EASY CUSTOMS & EXPRESS MODIFICATIONS



MICRO COAX & TWINAX CABLE ASSEMBLIES

- Ability to mix-and match end options for application–specific requirements with extensive customizing capabilities

16 Gbps

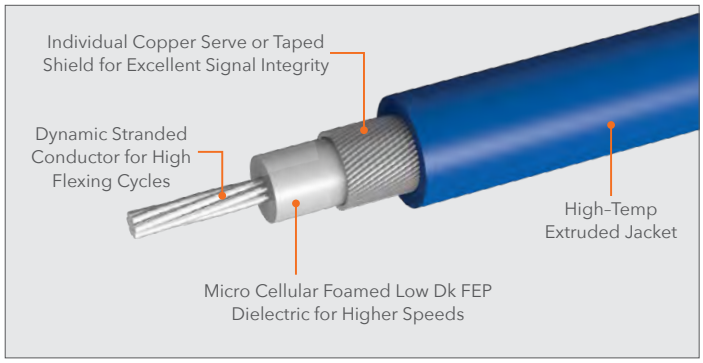
- Single-ended 50 Ω & differential 100 Ω standards
- Rugged features and options including strain relief, plastic housings, screw downs, latches, locks, etc.
- Many non-cataloged standards available including 75 Ω micro coax and 85 Ω twinax solutions

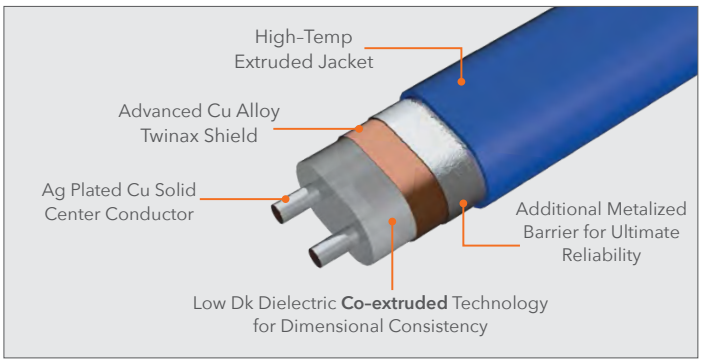
EYE SPEED® CABLE TECHNOLOGY

- Samtec's Eye Speed® cable supports a wide variety of assemblies and applications
- Excellent signal integrity performance with individual copper serve or copper tape shielding

EYE® SPEED CABLE

- Stranded conductor for small bend radii and dynamic high flexing cycle applications
- Cost-effective ribbonizing eliminates discrete wires
- 26 – 38 AWG coax and twinax construction; 20 Ω, 50 Ω, 85 Ω & 100 Ω





HIGH-SPEED CABLE SOLUTIONATOR®

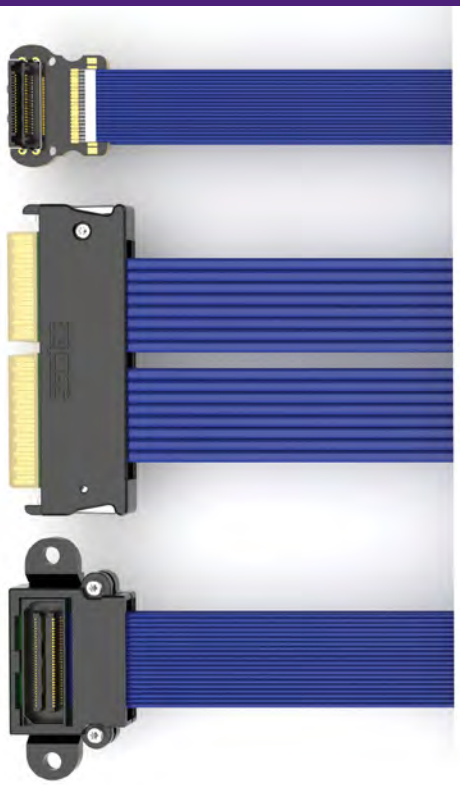
Quickly design full cable assemblies with this online tool using a wide variety of user-defined search parameters and filters, view models and specifications, request samples and pricing, or place an order. Visit **samtec.com/cablebuilder** to get started!

Solutionator® DESIGN IN A MINUTE® HS CABLE



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

DESIGN FLEXIBILITY



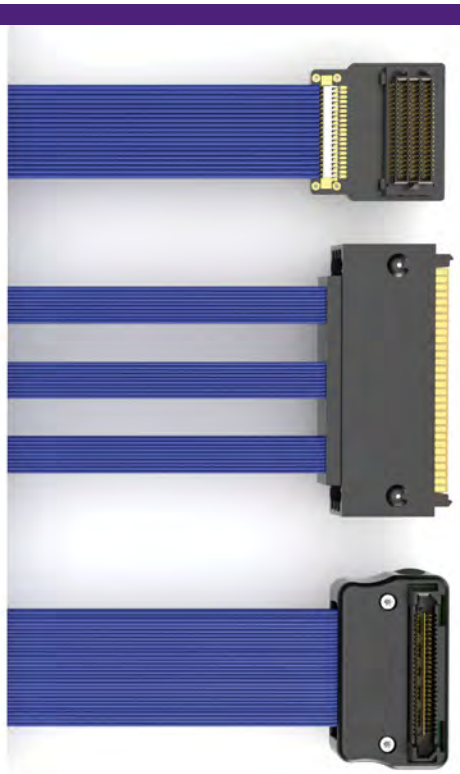
ANY
high-speed **connector**

ANY
pinout **configuration**

ANY
high-speed **precision cable**

... to create a solution for any specific application.

HDR@samtec.com



CUSTOMS & EXPRESS MODIFICATIONS

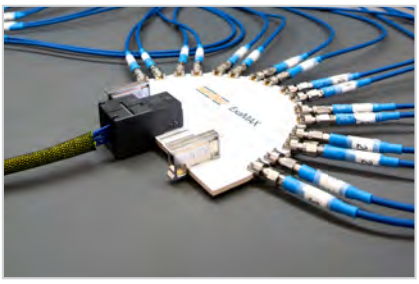
Samtec is able to support new and custom designs, as well as simple modifications to cable assemblies and board-to-board products – often with low or no NRE charges, short lead times, quick-turn samples, and low or no MOQ's. Visit **samtec.com/custom** for additional details.

- Wiring
- Molding
- Plating
- Polarization
- Contacts
- Bodies
- Stamping
- Ruggedizing features
- Packaging
- Labeling
- Ink printing
- Shielding modifications



WILLINGNESS, SUPPORT & EXPERTISE

- Engineering, design and prototype support
- Design simulation and processing assistance
- Global Operations, including multiple cable fabrication/assembly facilities
- Quotes and samples turned around in 24 hours
- Flexible, quick-turn manufacturing
- Dedicated Application Specific Product engineers and technicians





Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SEARAY™

HIGH-SPEED, HIGH-DENSITY CABLE ASSEMBLY

(1.27 mm) .050" PITCH



FEATURES & BENEFITS

- 14 Gbps performance
- Up to 240 I/Os (1/2 of pins are dedicated to ground)
- 4, 6, 8 and 10 row designs
- Choice of Eye Speed® 36 AWG 50 Ω micro coax or 32 AWG 100 Ω twinax cable
- Positive latching when mated to SEAFC with latching post option
- Supports PCIe® 2.0 and 3.0 protocols



Guide post latching available for more rugged applications



Vertical board level mate (SEAFC); samtec.com?seafc



Eye Speed® cable for excellent signal integrity performance

KEY SPECIFICATIONS (SEAC)

CABLE	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
36 AWG 50 Ω micro coax or 32 AWG 100 Ω twinax cable	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to +125 °C (coax) -25 °C to +105 °C (twinax)	0.4 A Specified Cable Rating	120 VAC/170 VDC

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(1.27 mm) .050" PITCH • HIGH DENSITY CABLE

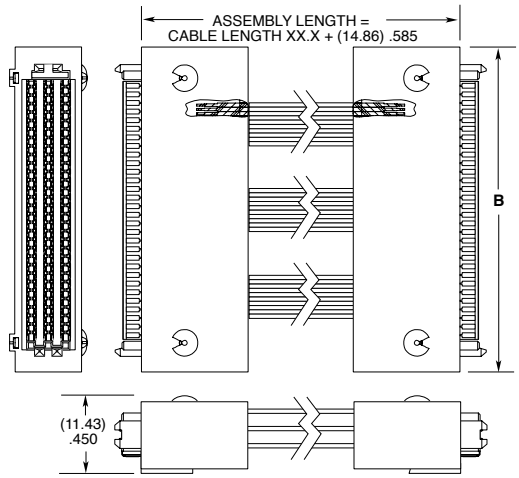
SEAC	–	NO. OF POSITIONS PER ROW	–	NO. OF ROWS	–	CABLE LENGTH	–	TU	–	TU	–	CABLE TYPE	–	LATCH OPTION
		–020 (–04, –06, –08 & –10 row only) **–030** (–04, –06 & –08 row only) **–040** (–04 & –06 row only) **–050** (–04 row only)		**–04, –06, –08, –10**		**–"XX.X"** = Cable Length in Inches (101.6 mm) 04.0" minimum						Leave Blank for 36 AWG 50 Ω coax **–2** = 32 AWG 100 Ω twinax		Leave Blank for latch post **–N** = No Latch

SEAC

Mates:
SEAFC



POSITIONS PER ROW	A	B	C
–020	(30.38) 1.196	(33.53) 1.320	(48.26) 1.900
–030	(43.08) 1.696	(46.23) 1.820	(60.96) 2.400
–040	(55.78) 2.196	(58.93) 2.320	(73.66) 2.900
–050	(68.48) 2.696	(71.63) 2.820	(86.36) 3.400



–N (NO LATCH)

SIGNAL ROUTING

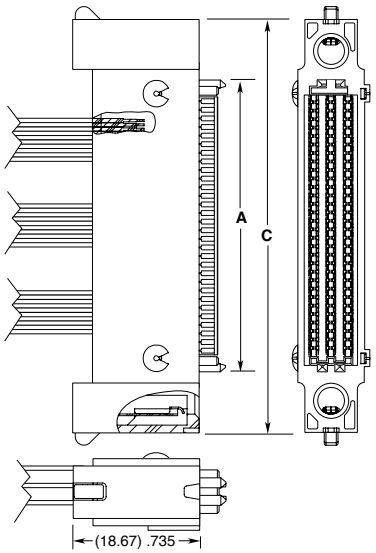
Product has some lines dedicated to ground.

For single-ended and differential pair signal/ground assignments see signal routing information on the assembly print at **www.samtec.com?seac**

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at **www.samtec.com/cablebuilder**

OTHER SOLUTIONS

Other end options
Mixed SEAC end types
300 positions or greater

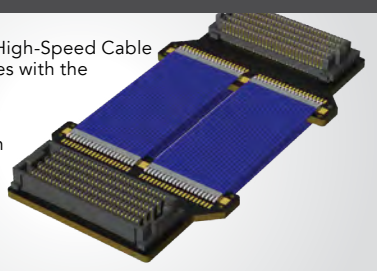


LATCH POST

SEARAY™ 0.80 mm CABLE ASSEMBLY

(0.80 mm) .0315" pitch High-Speed Cable in 8 to 10 rows that mates with the SEAM8/SEAF8 Series.

For more information on the ESCA Series, visit **samtec.com?ESCA**



Notes:
Mixed latch styles not available

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

PCIe® 2.0 & 3.0 capable

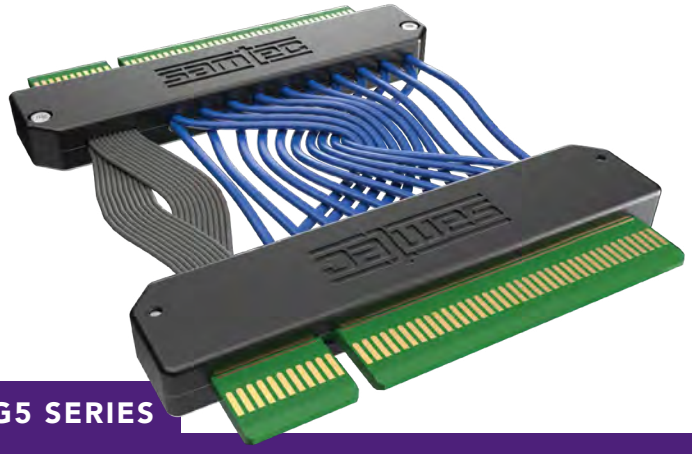
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PCI EXPRESS®
4.0 & 5.0/6.0 SOLUTIONS

PCI EXPRESS® CABLE ASSEMBLY



(1.00 mm) .0394" PITCH • PCIEC-G4/PCIEC-G5 SERIES

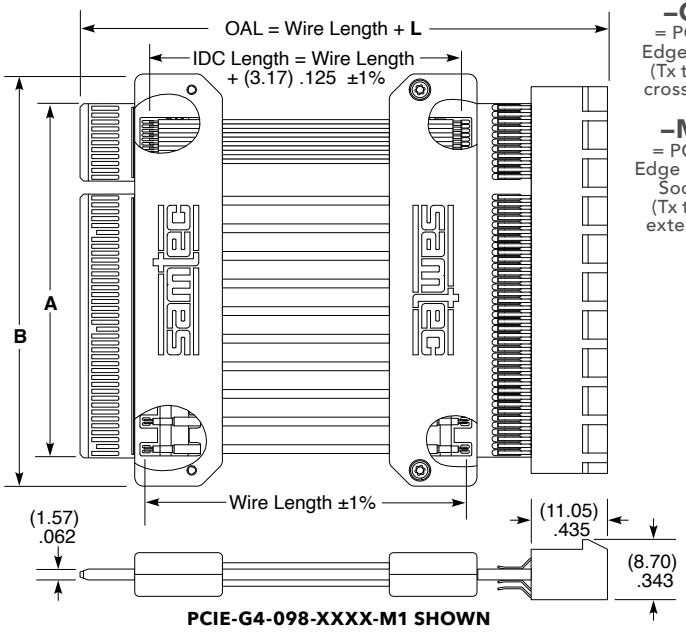
PCIEC-G4
Mates:
PCIE-G4

PCIEC-G5
Mates:
PCIE-G5

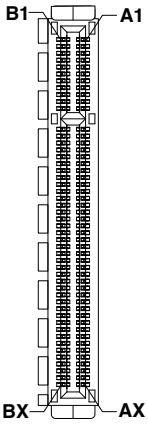
PCIEC	– GENERATION	– NO. OF POSITIONS	– WIRE LENGTH	– END NO. 2	– CABLE OPTION	– IMPEDANCE
	–G4 = PCIe® 4.0 **–G5** = PCIe® 5.0/6.0	**–036 (x1), –064 (x4), –098 (x8), –164 (x16)**	**–"XXXX"** = Wire Length in millimeters 0076 mm minimum	**–C1** = PCIe® Edge Card (Tx to Tx extender) **–C2** = PCIe® Edge Card (Tx to Rx crossover) **–M1** = PCIEC Edge Mount Socket (Tx to Tx extender)	Leave blank for no power **–P** = Power	Leave blank for 100 Ω **–85** = 85 Ω

SPECIFICATIONS

Cable:
Eye Speed® 34 AWG Twinax; 30 AWG insulated ribbon
Operating Temp:
-25 °C to +105 °C
Contact:
Copper Alloy
Plating:
Au or Sn over 50 µ" Ni
Performance:
Supports PCIe® 4.0/5.0/6.0
Bend Radius:
(3.18 mm) .125"
Current Rating:
PCIEC-G4 = 1 A
PCIEC-G5 = 3.2 A
Voltage Rating:
220 VAC/311VDC

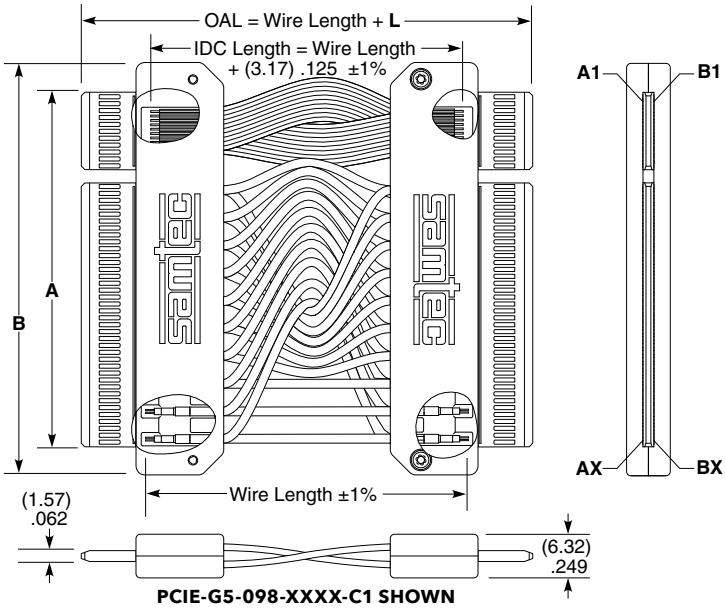


PCIE-G4-098-XXXX-M1 SHOWN



CABLE OPTION	IMPEDANCE	
	85 Ω	100 Ω
BLANK	34 AWG Taped Shield	
–P (With Power Lines)	34 AWG Taped Shield	

* Contact hdr@samtec.com for information



PCIE-G5-098-XXXX-C1 SHOWN

END TO END	L
–C1 to –C1	(18.60) .732
–C1 to –C2	
–C1 to –M1	(29.64) 1.167

NO. OF POSITIONS	X	A	B
–036 (x1)	18	(20.30) .799	(28.69) 1.13
–064 (x4)	32	(34.30) 1.35	(42.69) 1.68
–098 (x8)	49	(51.30) 2.02	(59.69) 2.35
–164 (x16)	82	(84.30) 3.32	(92.69) 3.65

OTHER SOLUTIONS

For speeds of PCIe® 2.0 & 3.0, visit **samtec.com?PCIEC**

Notes:
Cable lengths longer than 1015 millimeters are not supported with S.I. test data.

Design your full cable assembly with Samtec's High-Speed Cable Solutionator® at www.samtec.com/cablebuilder

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

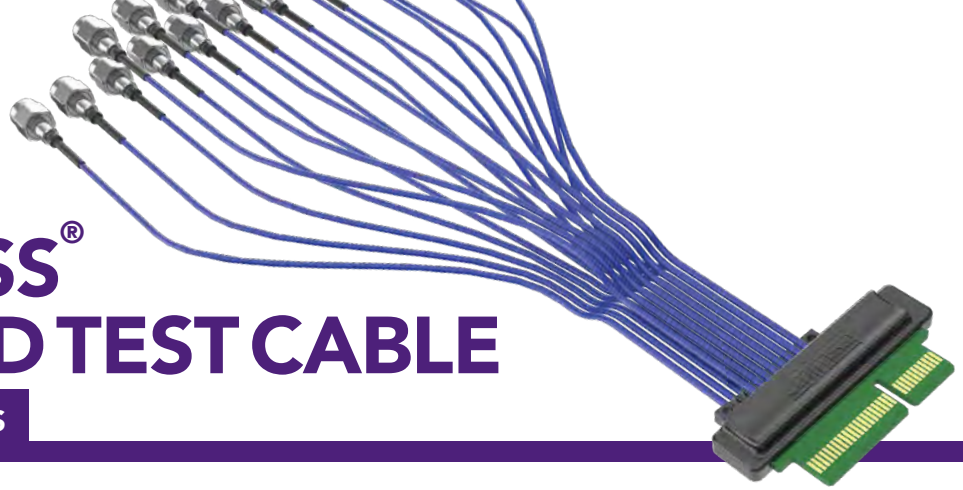
This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PCI EXPRESS®
PCIe® 4.0 & 5.0

PCI EXPRESS® HIGH-SPEED TEST CABLE

PCRF-G4/PCRF-G5 SERIES



PCRF
Mates:
PCIE-G4, PCIE-G5, 292

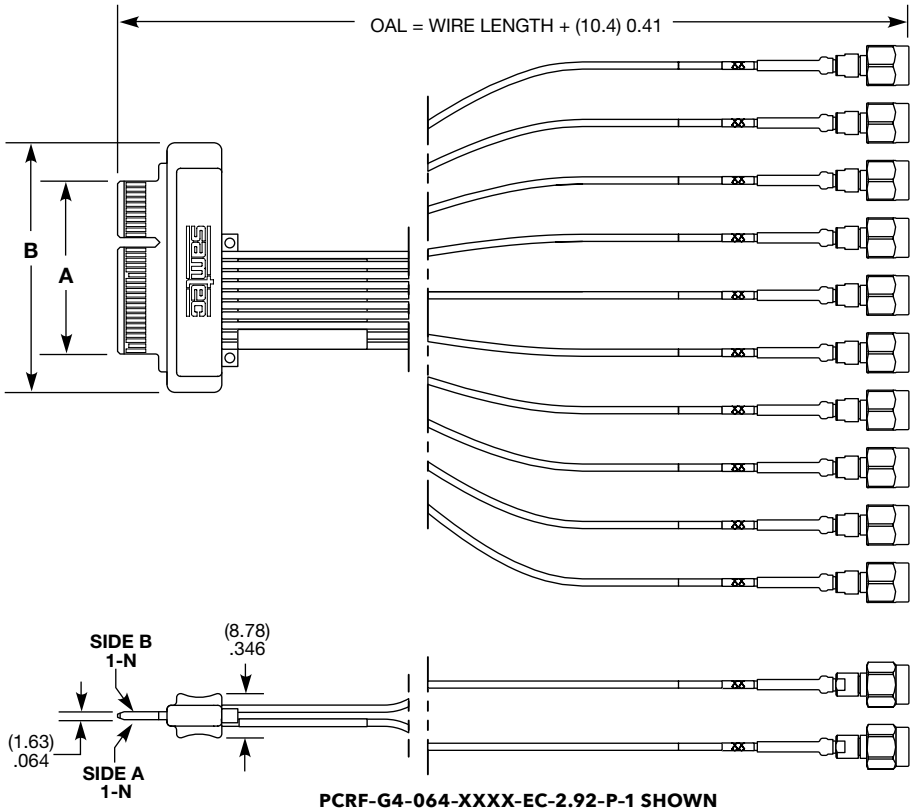
PCRF	GENERATION	NO. OF POSITIONS	WIRE LENGTH	END OPTION	RF CONNECTOR	RF GENDER	COAX
	–G4 = PCIe® 4.0 **–G5** = PCIe® 5.0	**–036, –064, –098, –164** (Per Row)	**–"XXXX"** = Wire Length in millimeters 0152 mm (06.0") MIN 1000 mm (39.4") MAX	**–EC** = PCIe® Edge Card **–EM** = PCIe® Edge Mount (-G4 only)	**–292** = 2.92 mm Connector	**–P** = Plug **–J** = Jack	**–1** = 31 AWG

SPECIFICATIONS

Card:
Conductor:
1/2 oz. Copper
Contact Area:
Hard Gold
Insulator:
Megtron 6

Cable:
Type:
Low Loss Microwave Coax
Gauge:
29 AWG Silver Plated Copper
Signal Conductor:
(.287) .0113" DIA
Overall Shield Diameter:
(1.17 mm) .046" DIA
Jacket Material:
FEP
Impedance:
50 Ω
Bend Radius:
10.0 Min
Capacitance:
29 pF/foot
Operating Temp:
-65 °C to 150 °C
Frequency Range:
DC to 110 GHz

NO. OF POSITIONS	A	B	N	NO. OF COAX
–036	(20.30) .800	(35.54) 1.40	18	6
–064	(34.30) 1.35	(49.54) 1.95	32	18
–098	(51.30) 2.02	(66.54) 2.62	49	34
–164	(84.30) 3.32	(99.54) 3.92	82	66



PCRF-G4-064-XXXX-EC-2.92-P-1 SHOWN

OTHER SOLUTIONS

PCI Express® cable with SMAs for debug; visit **samtec.com?PCRF**

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your full cable assembly with Samtec's High-Speed Cable Solutionator® at www.samtec.com/cablebuilder

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG

This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ADDITIONAL HIGH-SPEED CABLE ASSEMBLIES

Ground Plane Assemblies

- Integral power/ground plane
- 34 and 38 AWG coax; 30 and 32 AWG twinax
- 0.50 mm pitch (HQCD/HQDP) and 0.80 mm pitch (EQCD/EQDP) assemblies with rugged screw mount or retention pin options
- 0.80 mm pitch (EQRD) assembly with Edge Rate® contacts for reduced broadside coupling
- Mates with Q Series® and Q Rate® connectors



View complete specifications at:
samtec.com?HQCD | samtec.com?HQDP | samtec.com?EQCD | samtec.com?EQDP | samtec.com?EQRD

Edge Card Assemblies

- 30 AWG twinax (ECDP); mates with Generate® 0.80 mm pitch edge cards (HSEC8)
- Available without housing for cost savings
- 34 AWG ultra low skew twinax (FEDP); mates with 0.50 mm pitch edge card (FCDP)
- 16 Gbps NRZ performance, to 56 Gbps PAM4 when paired with FQSFP Series or FQSFP-DD Series



View complete specifications at: samtec.com?ECDP | samtec.com?FEDP

High-Speed Assemblies

- Ultra–micro hermaphroditic Razor Beam™ coax assemblies with rugged shielding (HLCD)
- Mates with 0.50 mm pitch Razor Beam™ connectors
- 0.80 mm pitch Edge Rate® coax and twinax assemblies (ERCD, ERDP)
- Low-cost 0.80 mm pitch coax cable system in a compact form factor (FCF8/FCS8)
- 38 AWG coax & 30 AWG twinax assemblies



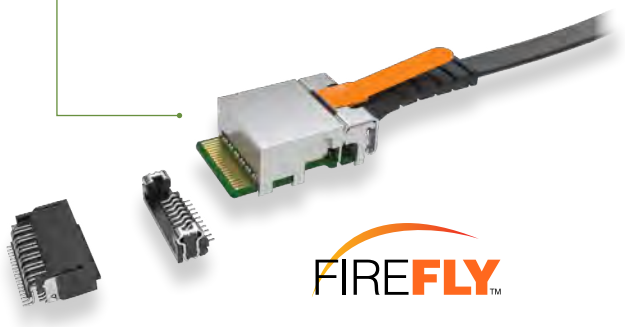
View complete specifications at:
samtec.com?HLCD | samtec.com?ERCD | samtec.com?ERDP | samtec.com?FCF8

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

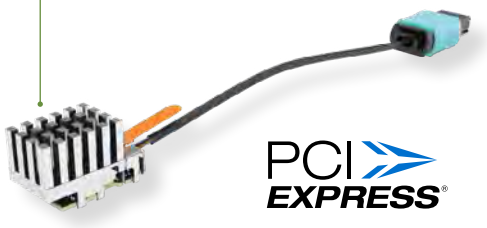
OPTICS

FUTURE PROOF • HIGH PERFORMANCE • PCI EXPRESS® • END OPTION FLEXIBILITY

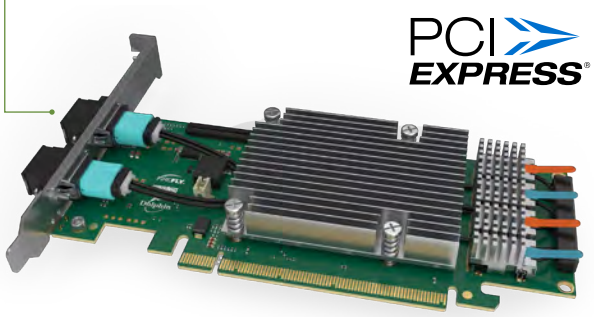
136-139 FIREFLY™ MICRO FLYOVER SYSTEM™ (ECUO, ETUO, ETMO)



140 PCI EXPRESS®-OVER-FIBER FIREFLY™ SYSTEM (PCUO, PTUO)



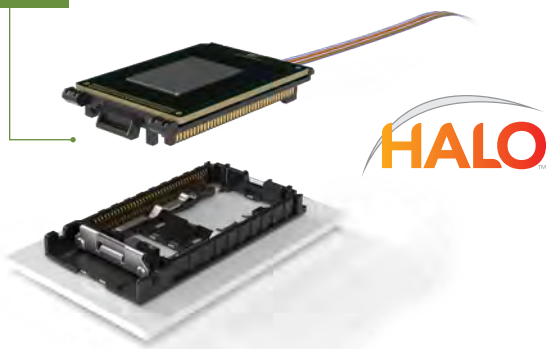
142 PCI EXPRESS®-OVER-FIBER FIREFLY™ ADAPTOR CARD (PCOA)



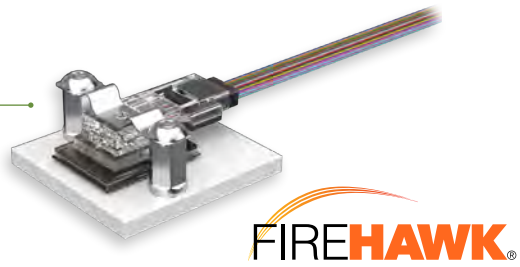
143 OPTICAL PATCH CABLE & ADAPTOR (FOPC, OPA)



144 HALO® NEXT GEN MID-BOARD OPTICAL TRANSCEIVERS (HALO-C, HALO-PE, HLF6)



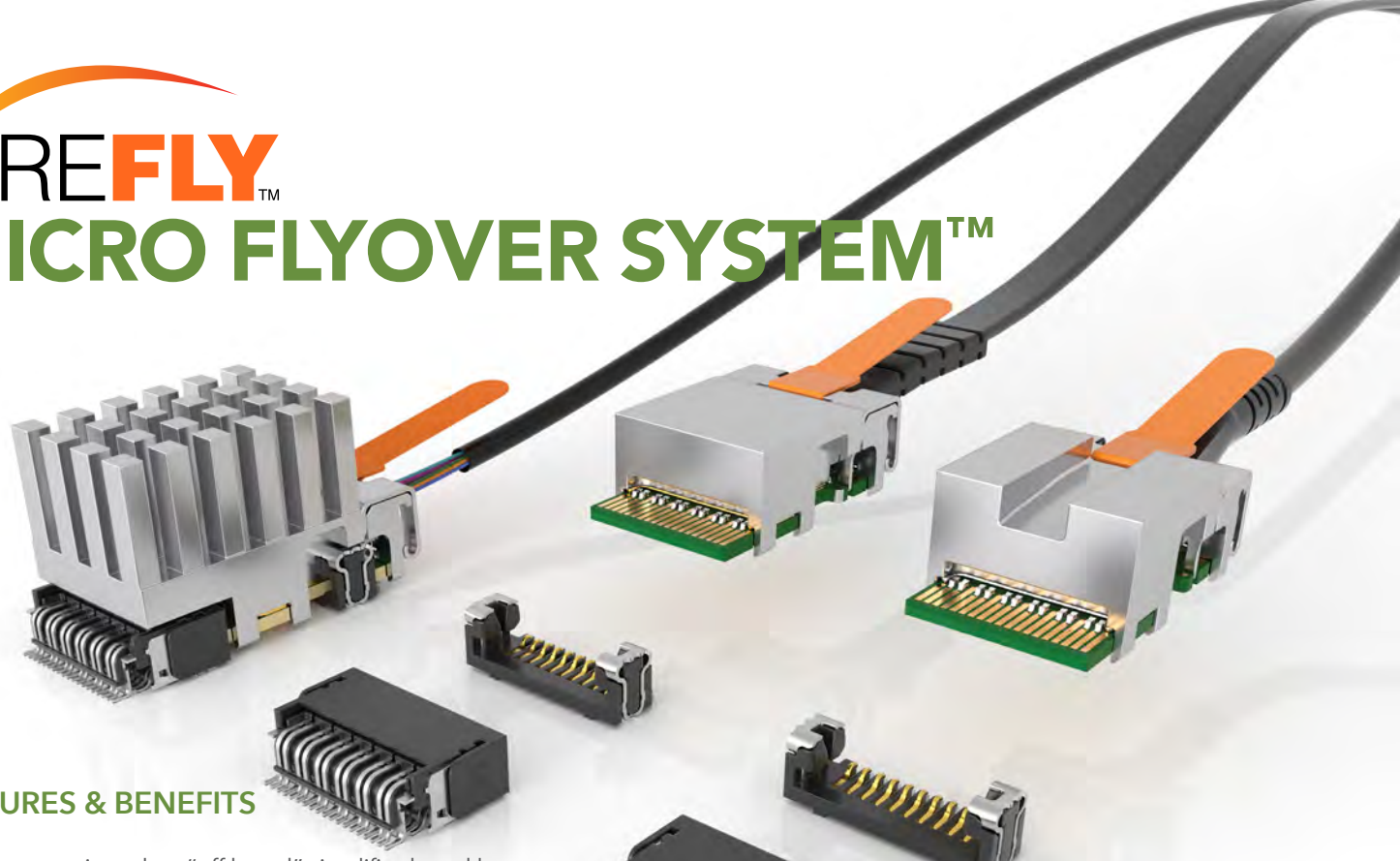
145 FIREHAWK® RUGGEDIZED MID-BOARD OPTICAL TRANSCEIVERS (CSSO)



Optics Evaluation & Development Kits 146

FIREFLY™

MICRO FLYOVER SYSTEM™

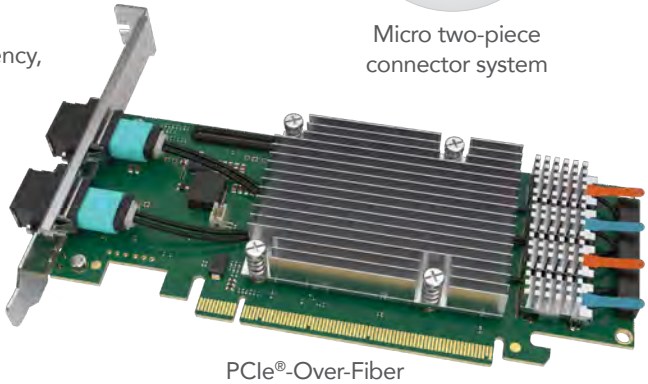


FEATURES & BENEFITS

- Data connection taken "off board" simplifies board layout
- Industry leading miniature footprint allows for higher density close to data source
- Performance up to 28 Gbps per lane with a path to 112 Gbps PAM4 via optical cable for greater reach
- Simple assembly process with easy insertion/removal and trace routing, no through-holes
- Interchangeability of copper and optical cable using the same two-piece surface mount connector
- PCIe®–Over–Fiber (PCUO/PTUO) supports PCIe® protocol for low latency, power savings and guaranteed transmission; 3.0 and 4.0 solutions
- -40 °C to +85 °C extended temperature system (ETUO) for industrial applications
- Extreme Environment FireFly™ sealed and parylene-coated for rugged military and aerospace applications (ETMO)
- Multiple end options available: MTP®, MXC®, MT, VITA™ 66.1/66.4 and other common interfaces
- Variety of integral heat sinks for conduction and convection cooling



Micro two-piece connector system



PCIe®-Over-Fiber Adaptor Card

MTP® and MXC® are registered trademarks of US Conec Ltd.
PCI-SIG®, PCI Express® and PCIE® design marks are registered trademarks and/or service marks of PCI-SIG.
VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+ are all respective trademarks of VITA

FIREFLY™ COPPER

- Performance to 56 Gbps
- 8 or 12 differential pairs
- 100 Ω, 34 or 36 AWG Eye Speed® twinax cable
- Variety of end 2 termination options
- Low profile housing for space savings
- Low-cost solution for seamless integration of new and existing designs



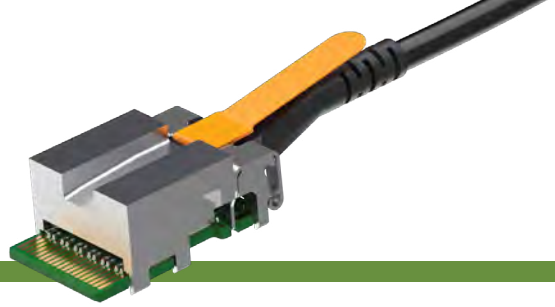
For complete copper FireFly™ or PCIE® over FireFly™ series specifications www.samtec.com?ECUE and www.samtec.com?PCUE

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™

28 Gbps

OPTICAL MICRO FLYOVER SYSTEM™



ECUO	–	WIDTH	–	DATA RATE	–	CABLE LENGTH	–	0	–	HEAT SINK	–	1	–	FIBER TYPE	–	END 2 OPTIONS

WIDTH

–B04
= 4 Tx + 4 Rx

–T12
= 12 Tx

–R12
= 12 Rx

–Y12
= 12 Tx + 12 Rx

–U12
= 12 Channel AOC (Unidirectional)

DATA RATE

–14
= 14 Gbps per lane

–16
= 16.1 Gbps per lane (N/A –B04)

–25
= 25.7 Gbps per lane (–B04 only)

–28
= 28.1 Gbps per lane

CABLE LENGTH

–"XXX"
= Overall Length in Centimeters

HEAT SINK

–1
= Flat

–2
= Pin-fin (–14 & –16 only)

–3
= Flat with groove

–4
= PCIe® Pin-fin (–14 & –16 only)

–5
= 1.75 cm tall Pin-fin

FIBER TYPE

–5
= Jacketed ribbon with boot

–6
= Jacketed ribbon

–7
= Black loose tube with boot

–8
= Black loose tube

END 2 OPTIONS

(Leave blank for –U12 or –B04 width)
–Y12 requires –2X end option

12 Fibers

–01 = MTP® Male
–02 = MTP® Female
–07 = MXC® Internal Plug*
–0E = MPO Plus®, Male, bayonet

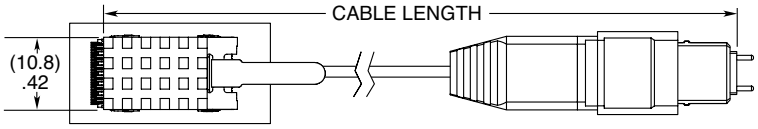
24 Fibers

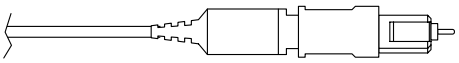
–21 = MTP® Male
–22 = MTP® Female
–27 = MXC® Internal Plug*
–2E = MPO Plus®, Male, bayonet

ECUO

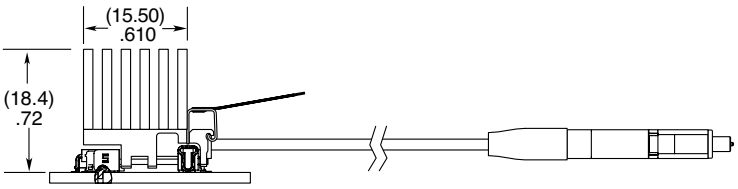
Mates with:
UEC5, UCC8, OPA







-01 (MTP® MALE SHOWN)



-2 PIN-FIN HEAT SINK

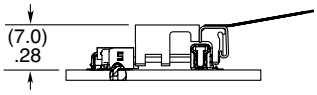
-07 (MXC® INTERNAL PLUG SHOWN)

FEATURES

- Supports data center and HPC protocols, including: Ethernet, InfiniBan ™, Fibre Channel
- Customizable optical connectors
- Integrated coupling capacitors
- Standard temperature range 0 °C to +70 °C
- Evaluation & Development boards available

TOOLING

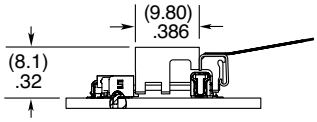
Insertion Tool: CAT-IN-ECUO-02



-1 FLAT HEAT SINK

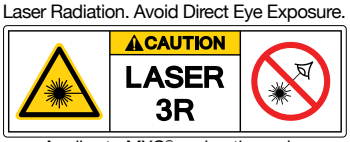
CLASS 1 LASER PRODUCT
per IEC 60825-1 Ed. 3 (2014)

Applies to all end 2 options except MXC®



-3 FLAT WITH GROOVE HEAT SINK (MULTI-ROW CONFIGURATION)

***CLASS 3R LASER PRODUCT**
Laser Radiation. Avoid Direct Eye Exposure.



Applies to MXC® end option only.

Notes:
MTP® and MXC® are registered trademarks of US Conec Ltd.

PCI-SIG®, PCI Express® and PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

Some lengths, styles and options are non-standard, non-returnable.

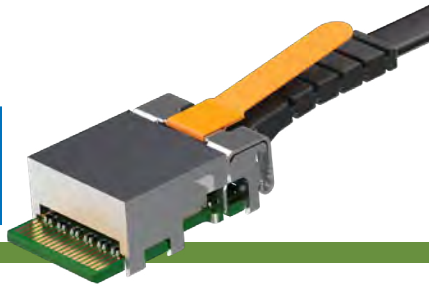
View complete specifications at: samtec.com?ECUO

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™

EXTENDED TEMP OPTICAL MICRO FLYOVER SYSTEM™

25 Gbps



ETUO	–	WIDTH	–	DATA RATE	–	CABLE LENGTH	–	0	–	HEAT SINK	–	1	–	FIBER TYPE	–	END 2 OPTIONS

–B04
= 4 Tx + 4 Rx

–T12
= 12 Tx

–R12
= 12 Rx

–Y12
= 12 Tx + 12 Rx

–U12
= 12 Channel AOC (Unidirectional)

–10
= 10.3125 Gbps

–25
= 25.7 Gbps (–B04 only)

–"XXX"
= Overall Length in Centimeters

–1
= Flat

–2
= Pin-fin

–3
= Flat with groove

–4
= PCIe® Pin-fin (–10 only)

–5
= 1.75 cm tall Pin-fin (–B04 only)

–5
= Jacketed ribbon with boot

–6
= Jacketed ribbon

–7
= Black loose tube with boot

–8
= Black loose tube

(Leave blank for –U12 or –B04 width)
–Y12 requires –2X end option

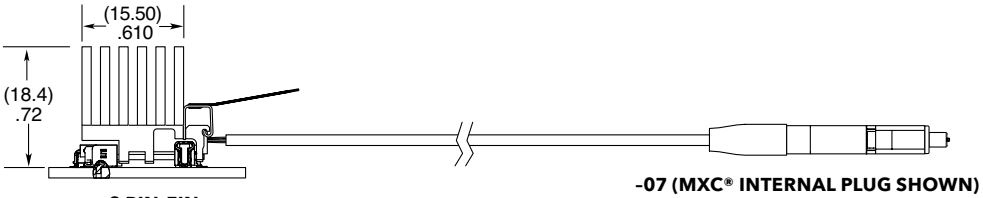
12 Fibers
–01 = MTP® Male
–02 = MTP® Female
–07 = MXC® Internal Plug*
–0A = VITA™ 66.1/66.4 READY
–0C = MT38999 Male
–0E = MPO Plus®, Male, bayonet

24 Fibers
–21 = MTP® Male
–22 = MTP® Female
–27 = MXC® Internal Plug*
–2A = VITA™ 66.1/66.4 READY
–2C = MT38999 Male
–2E = MPO Plus®, Male, bayonet

ETUO
Mates with:
UEC5, UCC8, OPA

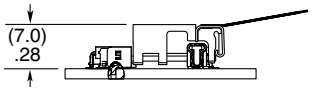
FEATURES

- Optimized for SWaP
- Extended temperature range from -40 °C to +85 °C
- Micro rugged board level connector system with positive latching, weld tabs and loading guides for secure connection
- Pigtailed cable for maximum link budget
- Customizable optical connectors
- Integrated coupling capacitors
- Integral heat sink provides optimal cooling for thermal operating conditions
- Evaluation and Development boards available

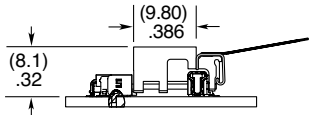


-2 PIN-FIN HEAT SINK

-07 (MXC® INTERNAL PLUG SHOWN)



-1 FLAT HEAT SINK



-3 FLAT WITH GROOVE HEAT SINK (MULTI-ROW CONFIGURATION)

Notes:
All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

MTP® and MXC® are registered trademarks of US Conec Ltd.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+ are all respective trademarks of VITA

Some lengths, styles and options are non-standard, non-returnable.

CLASS 1 LASER PRODUCT
per IEC 60825-1 Ed. 3 (2014)

Applies to all end 2 options except MXC®

***CLASS 3R LASER PRODUCT**
Laser Radiation. Avoid Direct Eye Exposure.



Applies to MXC® end option only.

View complete specifications at: samtec.com?ETUO

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™

25 Gbps



EXTREME ENVIRONMENT OPTICAL MICRO FLYOVER SYSTEM™

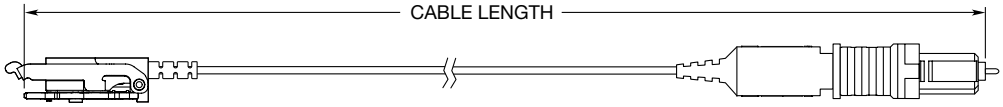
ETMO	–	B04	–	DATA RATE	–	CABLE LENGTH	–	2	–	HEAT SINK	–	FIRMWARE	–	FIBER TYPE	–	END 2 OPTIONS
				–10 = 10.3125 Gbps **–25** = 25.7 Gbps		**–"XXX"** = Overall Length in Centimeters				**–1** = Flat **–2** = Pin-fin **–3** = Flat with groove **–4** = PCIe® Pin-fin (–10 Data Rate only)		**–1** = Standard **–2** = Standard Secure Firmware **–3** = Dual Power **–4** = Dual Power Sercure Fireware		**–7** = Black loose tube with boot **–8** = Black loose tube		(Leave blank for AOC) **–01** = MTP® Male **–02** = MTP® Female **–07*** = MXC® Internal Plug **–0A** = VITA™ 66.1/66.4 READY **–0C** = MT38999 Male

PRELIMINARY

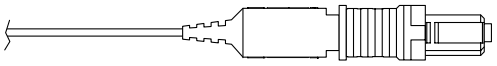
ETMO
Mates with:
UEC5, UCC8, OPA

FEATURES

- Dual power mode for interoperability with legacy optical modules
- Secure firmwa e prevents writes to the non-volatile memory (NVM)
- Extended temp range of -40 °C to +85 °C
- Micro rugged board level connector system with positive latching, weld tabs and loading guides for a secure connection
- Customizable optical end connectors including MT Elite®, MTP Elite®, and low loss MXC®
- Integral heat sink provides optimal cooling for thermal operating conditions
- Sealed and parylene-coated for exposed military, aerospace and submersible applications
- Ruggedized for tin whisker mitigation and fungal resistance; operates in harsh environments including salt fog, blowing sand and dust, jet fuel exposure, altitudes up to 65,000 feet



ETMO–B04–XX–XXX–2–1–1–X–01 SHOWN



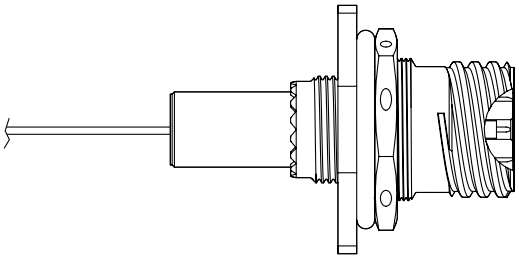
–02 END SHOWN



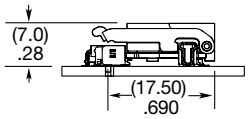
–07 END SHOWN



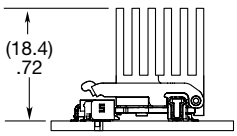
–0A END SHOWN



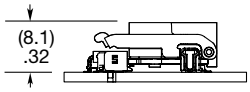
–0C END SHOWN



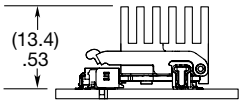
–1 FLAT HEAT SINK



–2 PIN-FIN HEAT SINK



–3 GROOVED HEAT SINK

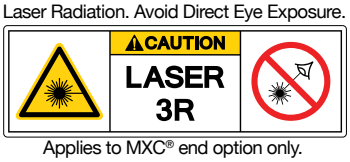


–4 PCIe® PIN-FIN HEAT SINK

CLASS 1 LASER PRODUCT
per IEC 60825-1 Ed. 3 (2014)

Applies to all end 2 options except MXC®

***CLASS 3R LASER PRODUCT**
Laser Radiation. Avoid Direct Eye Exposure.



Applies to MXC® end option only.

Notes:
All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

MT Elite®, MTP Elite®, and MXC® are registered trademarks of US Connec Ltd.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

VITA/VNX/VNX+/FMC/FMC+/ XMC/XMC+ are all respective trademarks of VITA

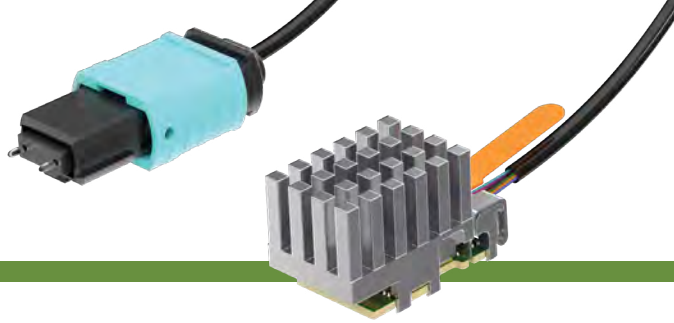
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?ETMO

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™

PCI EXPRESS® 4.0 SOLUTIONS

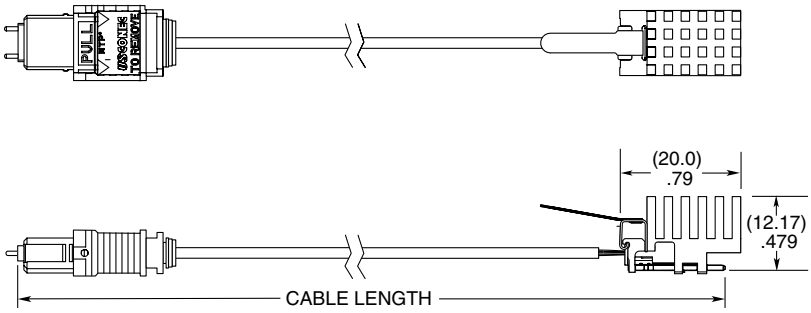


PCIe®-OVER-FIBER FLYOVER®

PCUO	–	WIDTH	–	DATA RATE	–	CABLE LENGTH	–	0	–	HEAT SINK	–	1	–	FIBER TYPE	–	END 2 OPTIONS
PCUO **Mates with:** UEC5, UCC8, OPA		**–04** = x4 Lanes **–08** = x8 Lanes		**–G4** = 4.0 Speed		**–"XXX"** = Overall Length in Centimeters				**–1** = Flat **–4** = PCIe® Pin-fin				**–7** = Black loose tube with boot **–8** = Black loose tube		(–04 width requires –01 option; –08 width requires –21 option) **–01/–21** = MTP® Male

FEATURES

- PCIe® 4.0 x4, scalable to x8 and x16 widths
- Duplex auxiliary signals allow both transparent and non-transparent bridging
- High-performance signal quality with BER better than $1E^{-12}$
- Enables links up to 100 m
- Allows nontraditional FPGA/ASIC end points
- Standard temperature range 0 °C to +70 °C



PCUO-04-G4-XXX-0-4-1-8-01 SHOWN

CLASS 1 LASER PRODUCT
per IEC 60825-1 Ed. 3 (2014)

View complete specifications at: samtec.com?PCUO

OTHER SOLUTIONS

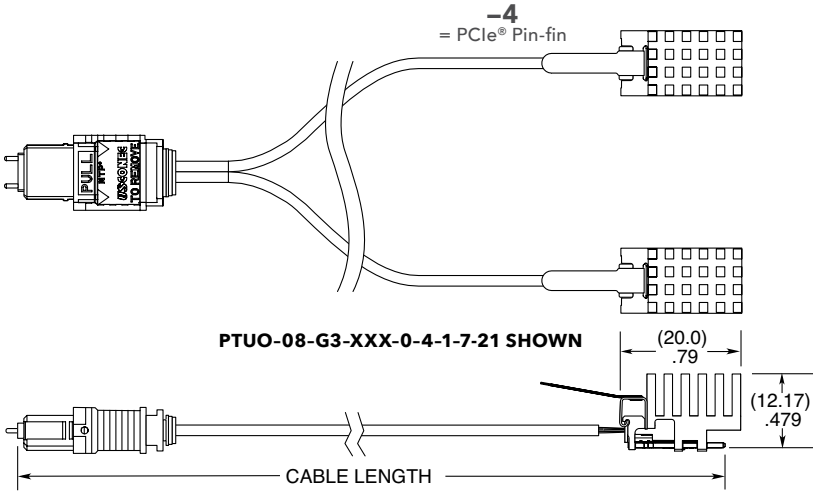
PCUO with G3 speeds available. For more information, visit samtec.com?PCUO

EXTENDED TEMP PCIe®-OVER-FIBER

PTUO	–	WIDTH	–	DATA RATE	–	CABLE LENGTH	–	0	–	HEAT SINK	–	1	–	FIBER TYPE	–	END 2 OPTIONS
PTUO **Mates with:** UEC5, UCC8, OPA		**–04** = x4 Lanes **–08** = x8 Lanes		**–G3** = 3.0 Speed		**–"XXX"** = Overall Length in Centimeters				**–1** = Flat **–2** = Pin-fin **–3** =Flat with groove **–4** = PCIe® Pin-fin				**–7** = Black loose tube with boot **–8** = Black loose tube		(–04 width requires –0X option; –08 width requires –2X option) **–01/–21** = MTP® Male **–02/–22** = MTP® Female **–0A/–2A** = VITA™ 66.1/66.4 Ready **–0C/–2C** = MT38999 Male

FEATURES

- Extended temperature range from -40 °C to +85 °C
- PCIe® 3.0 x4, scalable to x8 and x16 widths
- Duplex auxiliary signals allow both transparent and non-transparent bridging
- High-performance signal quality with BER better than $1E^{-12}$
- Enables links up to 100 m
- Allows nontraditional FPGA/ASIC end points
- Additional heat sink and end options available
- PCIe® 4.0 version in development



PTUO-08-G3-XXX-0-4-1-7-21 SHOWN

CLASS 1 LASER PRODUCT
per IEC 60825-1 Ed. 3 (2014)

View complete specifications at: samtec.com?PTUO

Notes:
MTP® is a registered trademark of US Conec Ltd.

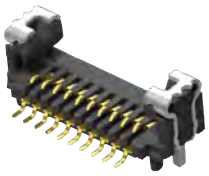
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+ are all respective trademarks of VITA

Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™





RUGGED MICRO FLYOVER® SOCKET SYSTEM

UEC5	–	NO. OF POSITIONS	–	DATA RATE	–	PLATING OPTION	–	D	–	RA	–	WELD TAB	–	OPTION	–	PACKAGING
		–019 (Per Row)		–1 = Up to 16 Gbps –2 = 28 Gbps+		–H = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail (–1 Data Rate only) –H = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail (–2 Data Rate only) –HFL = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail (–2 Data Rate only)						–1 = Through-hole –2 = Surface Mount (Data Rate –1 only)		Leave blank for –2 Data Rate –A = Alignment Pin (Available with Data Rate –1 only)		Leave blank for Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UEC5

Cable Mates:
ECUE, ECUO, PCUO, PTUO, PCUE, ETUO, ETMO

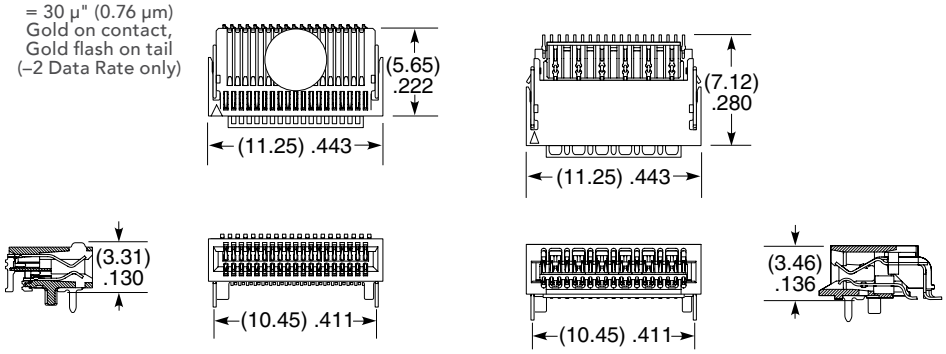
SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

SMT Lead Coplanarity:
(0.10 mm) .004" max.

Note:
PCB footprints are not interchangeable for –1 and –2 data rate versions.



UEC5-019-1-X-D-RA-1-A **UEC5-019-2-X-D-RA-1**

View complete specifications at: samtec.com?UEC5-1 & samtec.com?UEC5-2

UCC8	–	NO. OF POSITIONS	–	1	–	PLATING OPTION	–	S	–	WELD TAB	–	A	–	PACKAGING
		–010				–H = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail				–1 = Through-hole				Leave blank for Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UCC8

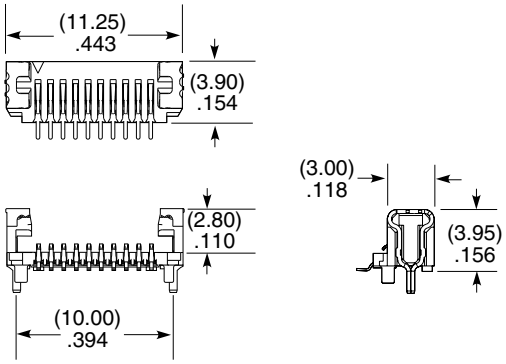
Cable Mates:
ECUE, ECUO, PCUO, PTUO, PCUE, ETUO, ETMO

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
BeCu
Weld Tab:
Copper Alloy
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

SMT Lead Coplanarity:
(0.10 mm) .004" max.



Note:
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: samtec.com?UCC8

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™

PCI EXPRESS® 4.0 SOLUTIONS

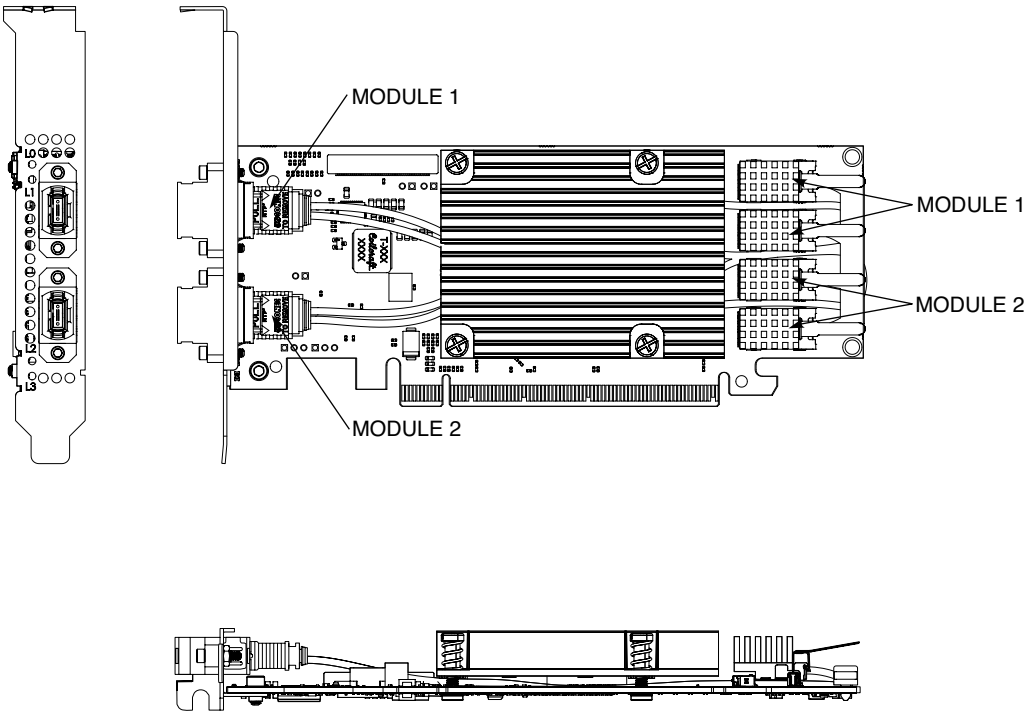
PCIe®-OVER-FIBER ADAPTOR CARD



PCOA	-	DATA RATE	-	WIDTH	-	BRACKET
		–G3 = 3.0 Speed **–G4** = 4.0 Speed		**–S4** = Single x4 **–D4** = Dual x4 **–Q4** = Quad x4 **–S8** = Single x8 **–D8** = Dual x8 or Single x16		**–0A** = Full Height

FEATURES

- Uses PCUO FireFly™ optical cable for clear signal transmissions with increased reach and cost optimization
- PCIe® x16 edge card connector
- Scalable configurations for cost optimized performance
- Transparent or non-transparent bridging for system flexibility and multi-processor support
- Reconfigurable host or target operation
- Ideal for high-performance and applications requiring robust data transmission



PCOA-G4-D8-0A SHOWN

CLASS 1 LASER PRODUCT
per IEC 60825-1 Ed. 3 (2014)

Notes:
Some lengths, styles and options are non-standard, non-returnable.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

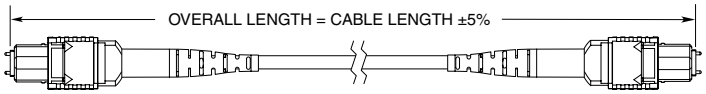
View complete specifications at: samtec.com?PCOA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

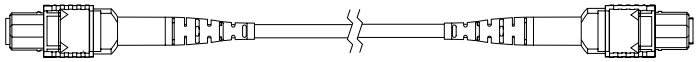
OPTICAL PATCH CABLE AND ADAPTOR

FOPC	END 1	END 2	CABLE LENGTH	FIBERS	CONSTRUCTION
	–01 = MTP® Male **–02** = MTP® Female	**–01** = MTP® Male **–02** = MTP® Female	**–003** = 3 Meters **–010** = 10 Meters **–100** = 100 Meters (Other lengths available as custom parts)	**–12, –24**	**–01** = 3 mm Round Jacket

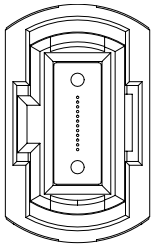




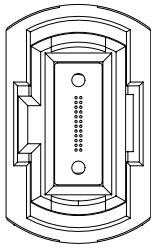
FOPC-01-01-XXX-12-01



FOPC-02-02-XXX-24-01



12 FIBER



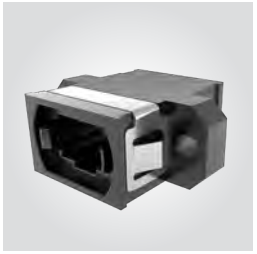
24 FIBER

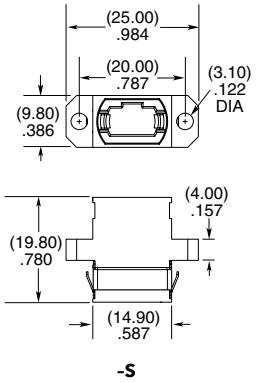
SPECIFICATIONS

Compliant Specifications:
TIA-604-5-D (FOCIS 5)
TIA-568-C.3
IEC-61754-7-1

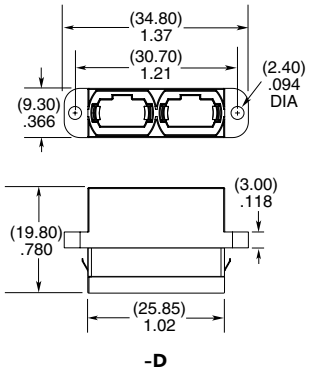
View complete specifications at: samtec.com?FOPC

OPA	PORTS	KEY	FLANGE
	–S = Single **–D** = Double	**–1** = Opposed **–2** = Aligned	**–F** = Full





-S



-D

SPECIFICATIONS

Compliant Specifications:
TIA-604-5-D (FOCIS 5)
IEC-61754-7
Recommended Panel Thickness:
(1.75 mm) .069"
(The OPA can be installed with any panel thickness but mounting hardware is needed for any thickness that is not (1.75 mm) .069". Contact the Optics Group at FireFly@samtec.com for questions about panel thickness and mounting hardware.)

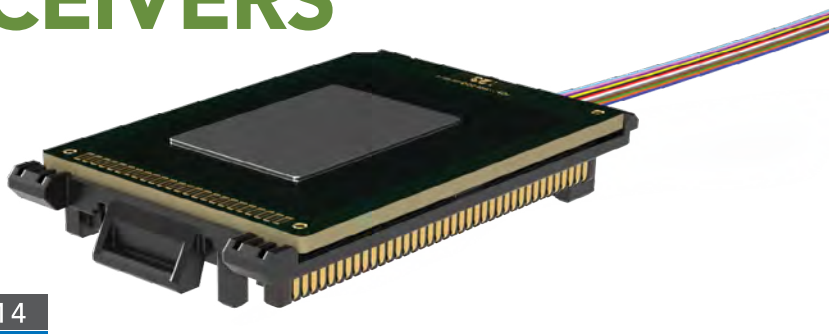
View complete specifications at: samtec.com?OPA

Notes:
MTP® is a registered trademark of US Connec Ltd.

Some lengths, styles and otpons are non-standard, non-returnable

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

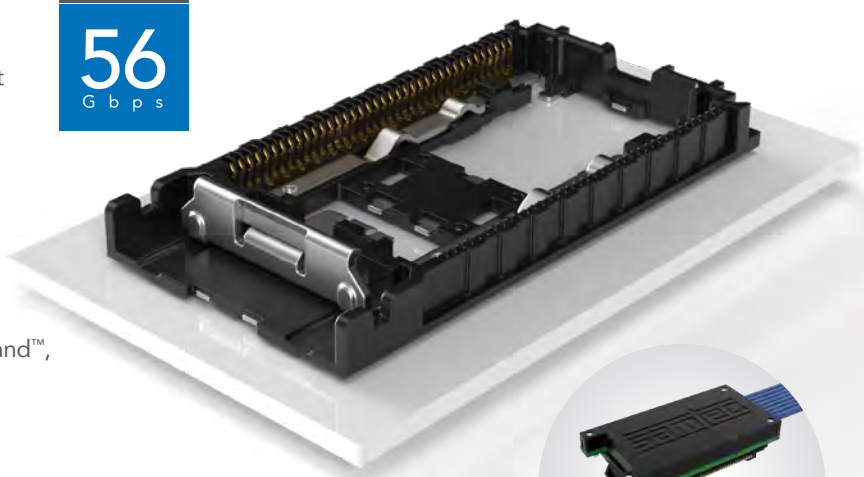
HALO® NEXT GEN MID-BOARD OPTICAL TRANSCEIVERS



FEATURES & BENEFITS

- Designed for next gen embedded applications
- Up to 16 channels (x8 bidirectional)
- Low 6.35 mm profile for space savings
- Designed to withstand high shock and vibration
- Uses Samtec's proven AcceleRate® 2-piece contact system for high performance and reliability
- Features a low center of gravity for a stable connection to the board
- Optically pluggable for easy field replacement
- Protocol agnostic
- Supports data center, HPC and FPGA Protocols, including 10/40/100/400/800 Gb Ethernet, InfiniBand™, Fibre Channel, PCIe®, CXL® and Aurora
- Rugged socket connector features 76 pins around the perimeter for vertical mating
- Integrated locking latch mechanism simplifies mating/unmating of the cable assembly
- Halo® optical and Halo Cu™ copper systems are interchangeable using the same high-performance connector

PAM4
56
Gbps





112 Gbps PAM4 Halo Cu™ Copper Cable Assembly
Visit samtec.com?halo-pe

The PCIe® design mark is a registered trademark and/or service mark of PCI-SIG.

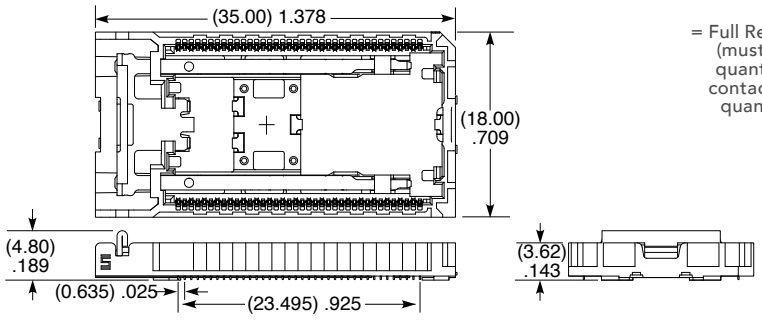
HALO® SOCKET CONNECTOR

HLF6	–	POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	PACKAGING
		–38		–03.5 = 3.5 mm		–S = 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail		–2 = 2 Row		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

PRELIMINARY

HLF6
Mates:
HALO-C,
HALO-PE





View complete specifications at: samtec.com?HLF6

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HALO	-	C	-	B08	-	DATA RATE	-	HEAT SPREADER	-	1

–1
= 28 Gbps NRZ

–3
= 56 Gbps PAM4

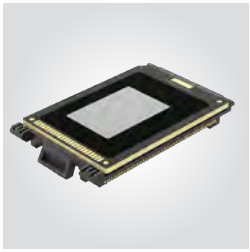
–1
= Flat

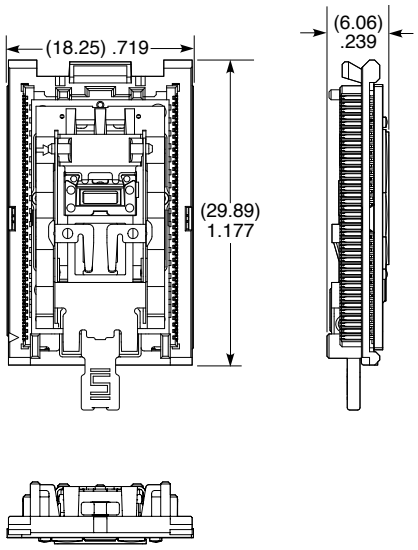
PRELIMINARY

SPECIFICATIONS

Power Supply Voltage:
1.6 V, 3.3 V, 4.1 V
Storage Temperature:
-40 °C to +85 °C
Operating Temperature:
0 °C to +70 °C
Relative Humidity:
5 to 85%
Transmitter Type:
850 nm VCSEL

HALO-C
Mates:
HLF6





HALO-C-B08-X-1-1 SHOWN

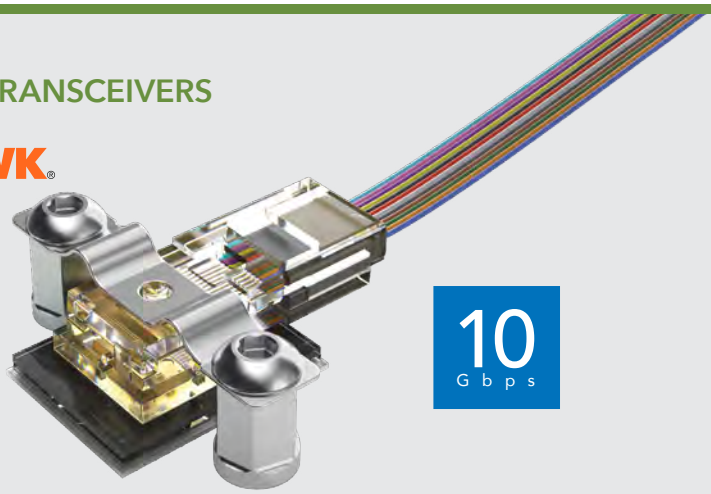
OTHER SOLUTIONS

Variety of heat sink options for conduction, convection or liquid cooling thermal relief; contact OpticsOTP@samtec.com

View complete specifications at: samtec.com?HALO-C

FIREHAWK™ SPACE, MID-BOARD OPTICAL TRANSCEIVERS

- Designed to withstand the vibrations and radiation in space/satellite applications
- Smallest footprint and lowest profile in the industry (10 x 7.7 x 4.4)
- 0.4 grams total weight for optimal SWaP
- Extreme performance to 40 Gbps aggregate
- SI Evaluation Kit available, visit samtec.com/kits
- Part Number: CSSO-B04-10-4-0-0-2-2*
- Visit samtec.com/firehawk for more information



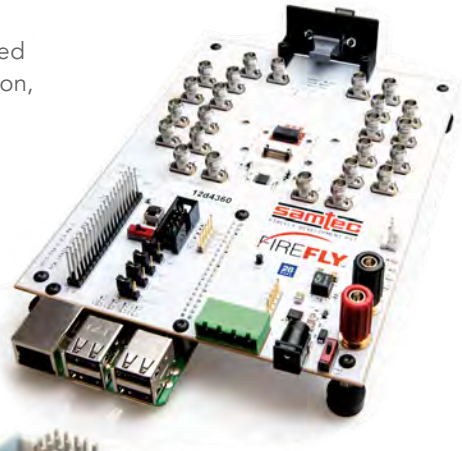
* For full assembly, purchase of RVCON® optical cable and CSSO mid-board optical transceiver are necessary. Contact Optics@samtec.com for assistance.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FIREFLY™ | FIREHAWK® | FIREBLADE
OCP OAI EXP MODULE

OPTICS EVALUATION & DEVELOPMENT KITS

From concept and prototype to development and production, Samtec-designed kits and boards simplify design and reduce time to market. For more information, please visit **samtec.com/kits** or contact **KitsAndBoards@samtec.com**.



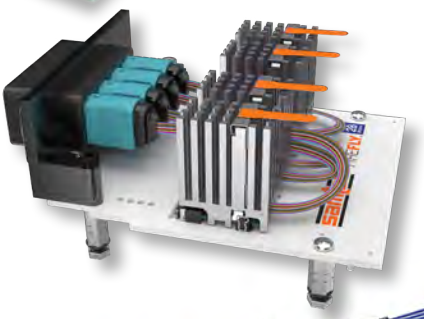
28 Gbps FireFly™ Evaluation Kits

Easy-to-use platform for testing and real-time evaluation of the FireFly™ Micro Flyover System™. These kits support copper or optical FireFly™ in x4 or x12 configurations.
(Samtec P/N: REF-209623-01 and REF-230408-X.XX-01)



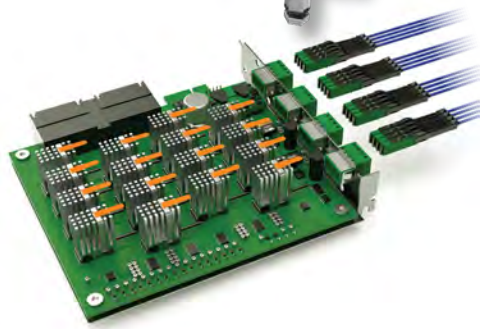
14 Gbps FireFly™ FMC Development Kit

VITA™ 57.1 electrically compliant and provides up to 140 Gbps full-duplex bandwidth over 10 channels from an FPGA to an industry-standard multi-mode fiber optic cable.
(Samtec P/N: REF-193429-01)



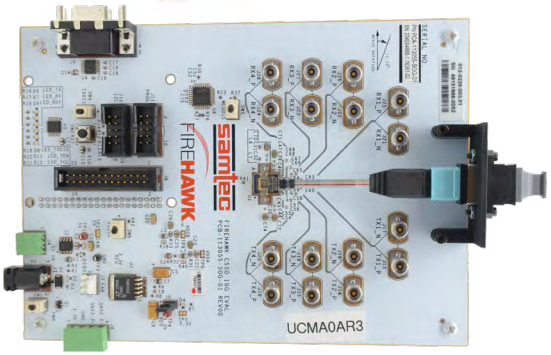
25/28 Gbps FireFly™ FMC+ Development Kit

VITA™ 57.4 electrically compliant and provides up to 400/448 Gbps full-duplex bandwidth over 16 channels from an FPGA to an industry-standard multi-mode fiber optic cable.
(Samtec P/N: REF-200772-XXX-XX-01)



FireBlade™ OCP OAI EXP Module

Provides low-latency, protocol agnostic, 1.6 Tbps aggregate throughput leveraging 16 low-power 25 Gbps x4 FireFly™ mid-board optical transceivers in a compact form factor ideal for AI/ML system topologies.



FireHawk® Evaluation Kits

Real-time evaluation of FireHawk® rugged optical transceivers in a lab or benchtop setting. Rated to 10 Gbps and 25 Gbps per lane in a x4 configuration, the transceivers combine extreme density with extreme performance to meet the harshest environments.
(Samtec P/N: REF-231561-X.XX-XX)

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+ are all respective trademarks of VITA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RF/PRECISION RF

CABLE ASSEMBLIES • CONNECTORS • ORIGINAL SOLUTIONS • TECHNICAL SUPPORT

CABLE ASSEMBLIES

150-180
Precision RF 50 Ω
(18 GHz to 110 GHz)

182-194
Standard RF 50 Ω & 75 Ω
(Sub-6 GHz & 12G-SDI)



CABLE CONNECTORS

157-171
Precision RF 50 Ω
(18 GHz to 110 GHz)

184-194
Standard RF 50 Ω & 75 Ω
(Sub-6 GHz & 12G-SDI)



BOARD CONNECTORS

157-169
Precision RF 50 Ω
(18 GHz to 110 GHz)

184-194
Standard RF 50 Ω & 75 Ω
(Sub-6 GHz & 12G-SDI)



ADAPTORS

172-173
Precision RF 50 Ω
(In-Series & Between-Series)



ORIGINAL RF SOLUTIONS

155
Precision RF

195
Low Frequency

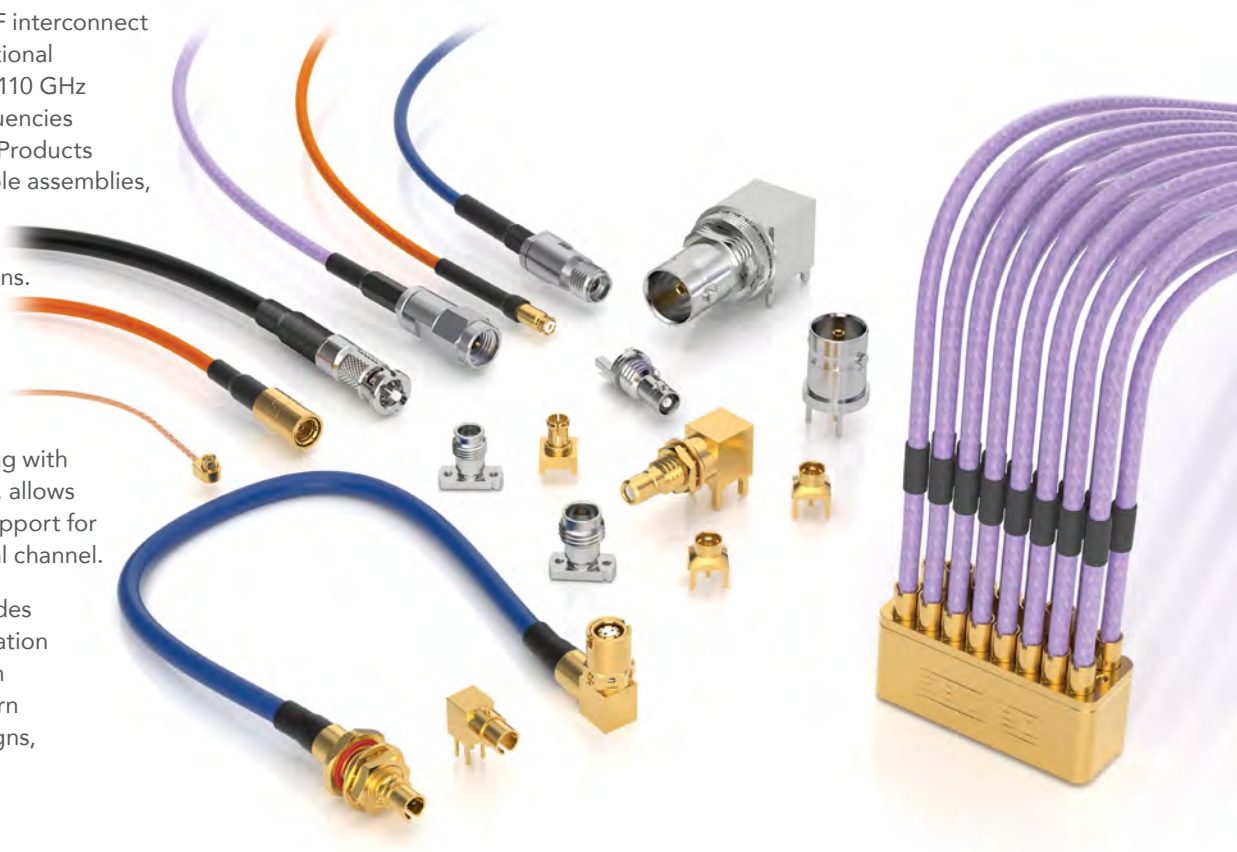


Nitrowave™ High-Performance Microwave Cables 151-154
Magnum RF® Solutions for Ganged Cable-to-Board or Board-to-Board Applications 164-165
Bulls Eye® Solutions for 40 GHz, 50 GHz, 70 GHz, 71 GHz & 90 GHz 174-177
Rugged, Blind Mate Modular Solutions to 110 GHz 178-179
Flexible Waveguide Technology for Frequencies up to 75 GHz (V-band) 180
Customs & Tech Support 196

COMPLETE RF INTERCONNECT SOLUTIONS

PRECISION 50 Ω (18 to 110 GHz) • STANDARD 50 Ω & 75 Ω (SUB-6 GHz & 12G-SDI) • TECH SUPPORT

Samtec offers complete RF interconnect solutions supporting traditional sub-6 GHz frequencies to 110 GHz microwave/mmWave frequencies (sub-Terahertz spectrum). Products include end-to-end RF cable assemblies, board connectors, cable connectors, adaptors and Samtec Original RF solutions.



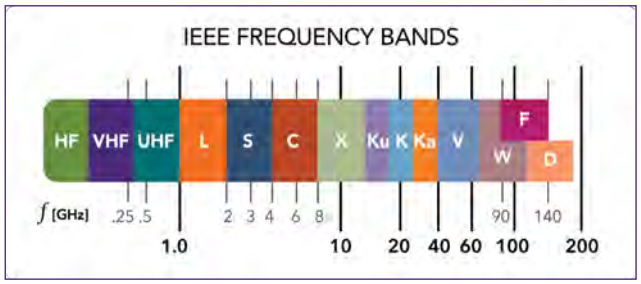
Technical Support

High-level design and development of advanced interconnect systems, along with industry leading expertise, allows effective strategies and support for optimizing the entire signal channel.

RF technical support includes launch optimization, simulation and testing. Customization of products, both quick-turn modifications or new designs, is also available.

Applications

- Test and Measurement
- Military, Aerospace, Satellite, Radar
- 5G/6G, Low Latency Wireless Communications
- Automotive, Telematics
- Broadcast & 12G-SDI
- Industrial, Monitoring, Instrumentation



PRECISION RF, 50 Ω

Interface	1.00 mm	1.35 mm	1.85 mm	2.40 mm	2.92 mm	3.50 mm	SSMA	SMA	Ganged SMPM	SMPM	SMP	N Type	TNCA
Frequency	110 GHz	90 GHz	65 GHz	50 GHz	40 GHz	34 GHz	34 GHz	18/26.5 GHz	65 GHz	65 GHz	40 GHz	18 GHz	18 GHz

STANDARD RF, 50 Ω & 75 Ω

Interface	MHF	SMA	MCX	MMCX	TNC	BNC (50 Ω)	SMB (50 & 75 Ω)	Ganged (50 & 75 Ω)	BNC (75 Ω)	HD BNC (75 Ω)	DIN 1.0/2.3 (75 Ω)
Frequency	6 GHz	6 GHz	6 GHz	6 GHz	6 GHz	4 GHz	4 GHz	5 GHz	12 GHz	12 GHz	12 GHz

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

CABLE ASSEMBLIES



- Precision, high frequency or standard, low frequency
- Assemblies available with the following cable types:
  - Low-loss microwave/millimeter wave from .047 to .277, semi-flexible
  - New **Nitrowave™** cable! Phase and amplitude stable with flexure, with an outer jacket colored in **distinctive Samtec orange**. Performance is optimized for next generation frequency targets.
  - Armored versions for crush, torque and pull resistance
  - RG type (316, 174, 178, 58, 179, 6)
  - 12G-SDI optimized
  - 0.81 mm and 1.13 mm Micro High Frequency (MHF)
- Discrete and ganged solutions
- Cable lengths standard up to 10 meters (> 10 meters as custom RSP)
- Phase matching in pairs down to 1 ps
- Cable management available
- **Mix & Match Solutions for Any Application:** Samtec offers a variety of end options for each product series; this blends application-specific customization with the simplicity and lead-time efficiencies of an off-the-shelf assembly



BOARD CONNECTORS, CABLE CONNECTORS & ADAPTORS

- Precision, high frequency or standard, low frequency solutions
- Board-to-board or cable-to-board applications
- Threaded, bulkhead, push-on or bayonet coupling
- Solderless compression mount: vertical & edge launch
- Soldered: through-hole, surface mount, edge mount or mixed technology
- Balanced connectors for high-volume pick-and-place automation
- 12G-SDI optimized broadcast video solutions (BNC, High-Density BNC, DIN 1.0/2.3)
- Cable connectors for use with industry standard cables: offer the flexibility to terminate to an industry-standard cable specified for your application
- Adaptors for 50 Ω precision RF applications: in-series and between-series



Ganged Solutions


Complete Mated Sets


50 Ω, 75 Ω & 12G-SDI Solutions


Precision Interconnects

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PRECISION RF

MICROWAVE / MILLIMETER WAVE CABLE ASSEMBLIES & INTERCONNECTS

Samtec's RF product line includes 18 to 110 GHz High Frequency, Precision RF solutions for microwave and mmWave applications, including end-to-end cable assemblies, adaptors, cable connectors and board level interconnects. Our focus is on delivering high-quality RF products that meet precision and performance expectations, blended with industry-leading system-level signal integrity expertise.

Vertical Integration
=
Full System Support





CABLES

Design & Fabrication of Raw Cable

Cable Assemblies

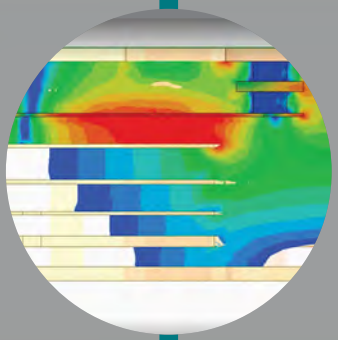


CONNECTORS

Design & Fabrication

Cable Connectors

Board Connectors



TECH SUPPORT

Launch Optimization

Simulation & Testing

Full System Optimization

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

NITROWAVE™ CABLE TECHNOLOGY

HIGH-PERFORMANCE, PHASE & AMPLITUDE STABLE

DC TO **110** GHz

Samtec's new **Nitrowave™ Phase & Amplitude Stable RF Cable** offers improved stability with flexure. The coaxial structure – with an outer jacket colored in **distinctive Samtec orange** – is designed to meet the demands of aerospace, defense, datacom, computer/semiconductor, and instrumentation markets. Performance is optimized at frequencies beyond traditional industry targets to support emerging applications.

NITROWAVE™ CABLE TECHNOLOGY

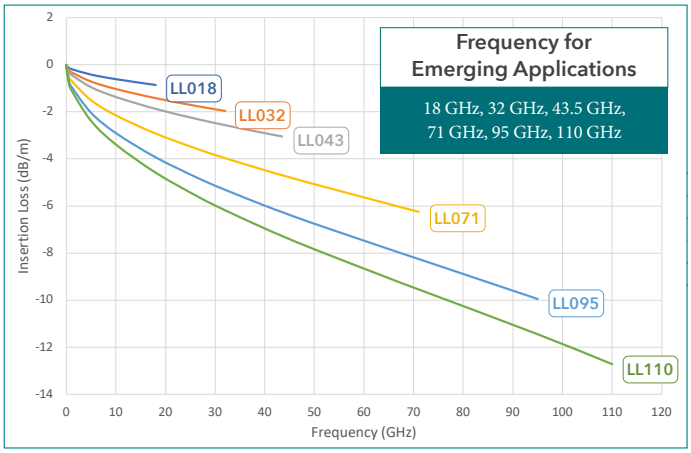
- High-performance, low-loss microwave cable assemblies
- Phase and amplitude stable with flexure
- Consistent contact resistance between layers
- Lower density dielectric minimizes loss
- State-of-the-art shielding techniques and Dynamic Performance Layer (DPL)
- Silver plating enhancements mitigate corrosion potential
- Electrical performance optimized at next gen frequencies (GHz): 18, 32, 43.5, 71, 95, 110
- Mechanical and environmental robustness
- Typical phase vs. temp & power handling
- For armored cable versions for crush, torque and pull resistance, contact **RFGroup@samtec.com**

LOW-LOSS CABLE CONSTRUCTION WITH DYNAMIC PERFORMANCE LAYER (DPL)



Series	LL018	LL032	LL043*	LL071	LL095	LL110
Impedance (Ω)	50					
Max Frequency (GHz)	18	32	43.5	71	95	110
Outer Dia. (inches)	0.309	0.182	0.141	0.094	0.076	0.068
Min Static Bend Radius	1.25	0.375	0.25	0.125	0.156	0.156
Velocity of Propagation (%)	77					
Min Shielding Effectiveness (dB)	-90					
Temp Range (°C)	-65 °C to +125 °C					
Insertion Loss	See Maximum IL Chart					
End 1/End 2	1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA, N Type, TNCA					

MAXIMUM INSERTION LOSS (dB/m)

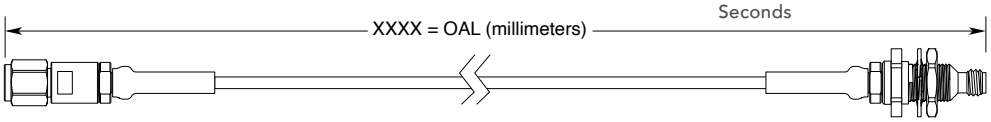


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

Cable Assemblies
LL110



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
LL110 = High-Performance Cable to 110 GHz	**Specify END OPTIONS from chart**		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.	Leave blank for no phase matching **–1** = 1 Pico Second **–2** = 2 Pico Seconds **–5** = 5 Pico Seconds	Leave blank for 1 cable. (Only available with no phase matching option) **–02 to 16** = No. of cables



LL110-10SP-10BJ-XXXX-X-XX

FEATURES

Impedance:
50 Ω
Outer Diameter:
0.068"
Bend Radius:
0.156"
Velocity of Propagation:
77 %
Min. Shielding Effectiveness:
-90 dB
Temp Range:
-65 °C to +125 °C

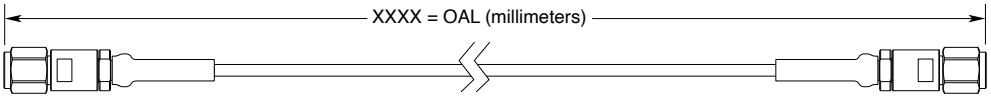
END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
–10SP	1.00 mm	PLUG	13.97	1.50	DC TO 110 GHz
–10BJ	1.00 mm	BULKHEAD JACK	13.97	1.50	

Cable Assemblies
LL095



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
LL095 = High-Performance Cable to 95 GHz	**Specify END OPTIONS from chart**		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.	Leave blank for no phase matching **–1** = 1 Pico Second **–2** = 2 Pico Seconds **–5** = 5 Pico Seconds	Leave blank for 1 cable. (Only available with no phase matching option) **–02 to 16** = No. of cables

–M0SJ PRELIMINARY



LL095-10SP-10SP-XXXX-X-XX

FEATURES

Impedance:
50 Ω
Outer Diameter:
0.076"
Bend Radius:
0.156"
Velocity of Propagation:
77 %
Min. Shielding Effectiveness:
-90 dB
Temp Range:
-65 °C to +125 °C

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
–10SP	1.00 mm	PLUG	19.90	1.225	DC TO 95 GHz
–M0SJ	SMPM	JACK	19.90	1.225	DC TO 65 GHz

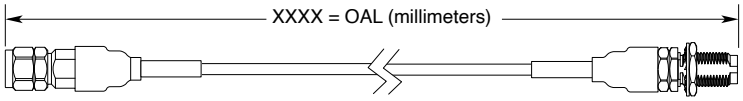
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-PERFORMANCE MICROWAVE CABLE

Cable Assemblies
LL071



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
LL071 = High-Performance Cable to 71 GHz	**Specify END OPTIONS from chart**		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.	Leave blank for no phase matching **–1** = 1 Pico Second **–2** = 2 Pico Seconds **–5** = 5 Pico Seconds	Leave blank for 1 cable. (Only available with no phase matching option) **–02 to 16** = No. of cables



LL071-18SP-18BJ-XXXX-X-XX

FEATURES

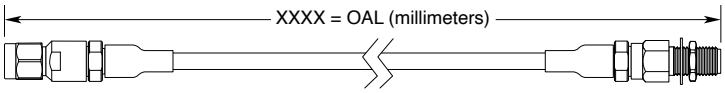
Impedance:
50 Ω
Outer Diameter:
0.094"
Bend Radius:
0.125"
Velocity of Propagation:
77 %
Min. Shielding Effectiveness:
-90 dB
Temp Range:
-65 °C to +125 °C

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
–18SP	1.85 mm	PLUG	21.53	1.183	DC TO 71 GHz
–18BJ	1.85 mm	BULKHEAD JACK	21.53	1.183	
–92SP	2.92 mm	PLUG	21.53	1.183	DC TO 43.5 GHz

Cable Assemblies
LL043



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
LL043 = High-Performance Cable to 43.5 GHz	**Specify END OPTIONS from chart**		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.	Leave blank for no phase matching **–1** = 1 Pico Second **–2** = 2 Pico Seconds **–5** = 5 Pico Seconds	Leave blank for 1 cable. (Only available with no phase matching option) **–02 to 16** = No. of cables



LL043-92SP-92BJ-XXXX-X-XX

FEATURES

Impedance:
50 Ω
Outer Diameter:
0.141"
Bend Radius:
0.25"
Velocity of Propagation:
77 %
Min. Shielding Effectiveness:
-90 dB
Temp Range:
-65 °C to +125 °C

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
–92SP	2.92 mm	PLUG	21.53	1.183	DC TO 43.5 GHz
–92BJ	2.92 mm	BULKHEAD JACK	21.53	1.183	
–24SP	2.40 mm	PLUG	21.53	1.183	DC TO 43.5 GHz
–24BJ	2.40 mm	BULKHEAD JACK	21.53	1.183	
–01SP	SMA	PLUG	21.53	1.183	DC TO 26.5 GHz
–01BJ	SMA	BULKHEAD JACK	21.53	1.183	

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

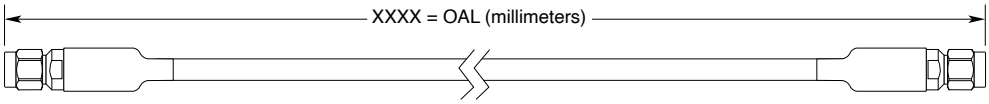
Cable Assemblies
LL032



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH	PHASE MATCHING	PHASE MATCHING CABLES
LL032 = High-Performance Cable to 32 GHz	Specify END OPTION from chart		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.	Leave blank for no phase matching **–1** = 1 Pico Second **–2** = 2 Pico Seconds **–5** = 5 Pico Seconds	Leave blank for 1 cable. (Only available with no phase matching option) **–02 to 16** = No. of cables

FEATURES

Impedance:
50 Ω
Outer Diameter:
0.182"
Bend Radius:
0.375"
Velocity of Propagation:
77 %
Min. Shielding Effectiveness:
-90 dB
Temp Range:
-65 °C to +125 °C



LL032-92SP-92SP-XXXX-X-XX

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
–92SP	2.92 mm	PLUG	21.53	1.183	DC TO 32 GHz

Cable Assemblies
LL018

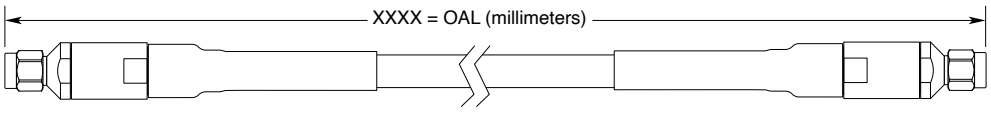


SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
LL018 = High-Performance Cable to 18 GHz	Specify END OPTION from chart		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

PRELIMINARY

FEATURES

Impedance:
50 Ω
Outer Diameter:
0.309"
Bend Radius:
1.25"
Velocity of Propagation:
77 %
Min. Shielding Effectiveness:
-90 dB
Temp Range:
-65 °C to +125 °C



LL018-01SP-01SP-XXXX

END OPTION	INTERFACE TYPE	GENDER	MAXIMUM RETURN LOSS (PER END)	MAXIMUM VSWR (PER END)	FREQUENCY
–01SP	SMA	PLUG	22.51	1.162	DC TO 18 GHz

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ORIGINAL SOLUTIONS PRECISION RF

PRECISION ALIGNMENT FEATURES

DC TO 90 GHz

- Eliminates misalignment that can occur during board assembly
- Ensures repeatable peak connector performance
- Available on 135, 185, 240, 292 & GPPC-CMM Series

DIFFERENTIAL PAIR TEST & MEASUREMENT

DC TO 65 GHz

- Two-port SMPM ganged solution (GPPC-CMM Series)
- Solderless compression mount design
- Saves board real estate (2x the spacing savings)
- Cable-to-board or board-to-board

RIGHT-ANGLE, LOW PROFILE, GANGED SMPM

DC TO 65 GHz

- Extremely low profile, high-density, right-angle connector (GPPC-RA-SM Series)
- Belly-to-belly, surface mount PCB connection for maximum density
- Body height: 3.94 mm (.155")

COUNTERWEIGHT SOLUTIONS

DC TO 40 GHz

- Enables efficient board assembly (eliminates hand soldering)
- Balanced for automated, high-volume pick-and-place automation
- Edge mount SMA (26.5 GHz) or 2.92 mm (40 GHz)

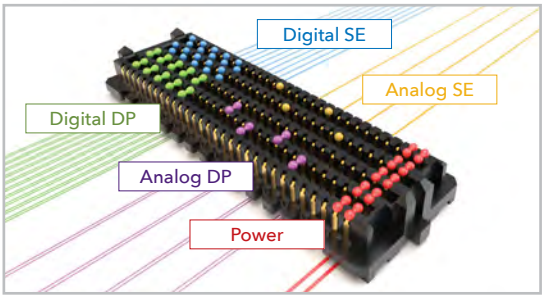
ANALOG OVER ARRAY™ CONNECTORS

DC TO 36 GHz

- Enhanced open-pin-field arrays simultaneously run analog, digital, and power signals
- Reference designs and evaluation kits
- Industry-leading crosstalk and return loss performance



Precision Alignment Features



SERIES	135/185/240/292/GPPC	GPPC-CMM	GPPC-RA-SM	RSP (SMA/2.92 mm)	ANALOG OVER ARRAY™
Application	Precision Alignment	Differential Pair Testing	Extremely Low Profile	Balanced Edge Mount	Analog, Digital & Power
URL	**samtec.com/alignment**	**samtec.com? GPPC-CMM**	**samtec.com? GPPC-RA-SM**	**Contact: RFGroup@samtec.com**	**samtec.com/AOA**

PRODUCT FAMILY	BULLS EYE®	FLEXIBLE WAVEGUIDE	RUGGED BLIND MATE	MAGNUM RF®
URL	**samtec.com/BullsEye**	**samtec.com/Waveguide**	**samtec.com/blind-mate**	**samtec.com/magnumRF**

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+/QMC are all respective trademarks of VITA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

50 Ω µWAVE/mmWAVE CABLE SPECIFICATIONS

STANDARD OFF-THE-SHELF ASSEMBLIES

SERIES		RF047-A	RF25S	RF405	RF085	RF086	RF23C	RF23S	RF402	RF180	RF280
TYPE		.047 (29 AWG), low loss flexible	Samtec 25 AWG, flexible	RG 405, .086, (24 AWG), semi-flexbile	.085 (24 AWG), low loss flexible	.086 (23 AWG), low loss flexible	Samtec 23 AWG, flexible, copper shield	Samtec 23 AWG, flexible	RG 402, .141 (19 AWG), semi-flexbile	.178 (16 AWG), low loss flexible	.277 (11 AWG), low loss flexible
ELECTRICAL											
Max. Frequency (GHz)		110	40	20	50	67	50	35	20	27	18
Max. Insertion Loss (dB/m)	1 GHz	1.21	0.79	0.72	0.69	0.65	0.68	0.72	0.40	0.27	0.17
	26 GHz	7.43	3.80 @ 20 GHz	4.26 @ 20 GHz	4.28	3.90	4.27	3.71 @ 20 GHz	2.30 @ 20 GHz	1.23 @ 18 GHz	0.79 @ 18 GHz
	40 GHz	9.68	–		5.59	5.06	5.59	–	–		
	50 GHz	11.14	–		6.47	5.81	6.46	–			
Propagation Delay (ns/m)		4.76		4.79	4.75	4.20	4.76	4.72	4.79	4.17	4.02
Velocity of Propagation		70%				80%	70%		70%	80%	83%
Capacitance (pF/m)		95.00	96.80	104.97	88.20	83.37	97.80	95.45	98.07	82.00	
CONSTRUCTION											
Center Conductor	Material	Solid Silver Plated Copper									
	AWG (mm/in.)	29 (.2870 / .0113)	25 (.4570 / .0180)	24 (.5100 / .0200)		23 (.5740 / .0226)			19 (.9200 / .0362)	16 (1.3000 / .0512)	11 (2.2600 / .0889)
Dielectric	Material	PFA	Solid FEP	PTFE	Solid PTFE	Foam FEP	FEP	Solid FEP	PTFE	PTFE Tape	
	Dia. (mm/in.)	.9220 / .0363	1.4700 / .0578	1.6800 / .0660	1.6300 / .0640	1.6150 / .0636	1.8470 / .0727	1.8470 / .0727	2.9800 / .1170	3.6800 / .1450	6.3500 / .2500
Shield	Material	1) Ag Plated Cu 2) Ag Plated Cu		Tinned Cu	Spiral Strip Ag Plated Cu	1) Ag Plated Cu 2) Ag Plated Cu	1) Ag Plated Cu 2) Cu Tape 3) Ag Plated Cu	1) Ag Plated Cu 2) Ag Plated Cu	Tinned Cu	1) Flat Ag Plated Cu 2) Al Polyester 3) Round Ag Plated Cu	
Outer Braid	Dia. (mm/in.)	1.1700 / .0460	1.8600 / .0735	2.2000 / .0860	2.1300 / .0840	2.1080 / .0830	2.2730 / .0895	2.2480 / .0885	3.5800 / .1410	4.5200 / .1780	7.0400 / .2770
Jacket	Material	FEP		–	FEP				–	FEP	
	Dia. (mm/in.)	1.4200 / .0560	2.0600 / .0810	3.2000 / .1260	2.6400 / .1040	2.5400 / .1000	2.6670 / .1050	2.5900 / .1020	4.5800 / .1803	4.9500 / .1950	7.6200 / .3000
MECHANICAL											
Operating Temp		-65˚ C to 125˚ C	-40˚ C to 200˚ C	-40˚ C to 125˚ C	-65˚ C to 125˚ C	-55˚ C to 125˚ C	-65˚ C to 125˚ C	-40˚ C to 200˚ C	-40˚ C to 150˚ C	-55˚ C to 200˚ C	
Min. Bend Radius		3.18 mm	9.00 mm	6.35 mm	13.20 mm	8.90 mm	3.18 mm	8.89 mm	10.90 mm	24.80 mm	38.10 mm
Connector Options		1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMA, SMP, SMPM, Ganged SMPM (Magnum RF®)	SMA, SMP		2.92 mm, 2.40 mm	1.85 mm, 2.40 mm, 2.92 mm, SMA, SMP, SMPM, Ganged SMPM (Magnum RF®)	2.40 mm, 2.92 mm, SMA, SMP, SMPM	3.50 mm	SMA	SMA, TNCA, N Type	SMA, TNCA, N Type

For complete specifications, visit samtec.com or contact RFGroup@samtec.com

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

1.00 mm Cable Assemblies
RF047-A



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG milimeter wave cable	**-10BJ** = 1.00 mm Bulkhead Straight Jack **-10SP** = 1.00 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

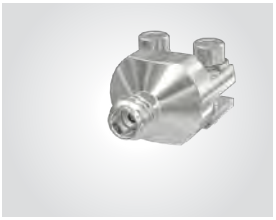
1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

VSWR

1.40 max. (DC to 90 GHz)
1.50 max. (90 GHz to 110 GHz)

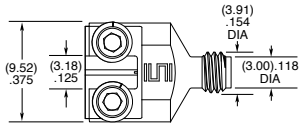
1.00 mm Board Connectors
100

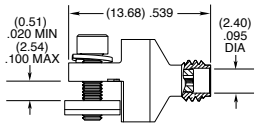
Cable Mates:
RF047-A



100	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–VP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer body	**–ST** = Straight	**–EL** = Edge Launch	**–01** = .040" to .100" PCB thickness	Leave blank for Individually bagged **–B** = Bulk packaged

PRELIMINARY





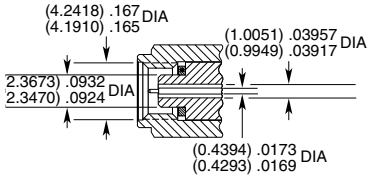
1.00 mm Cable Connectors
PRF10

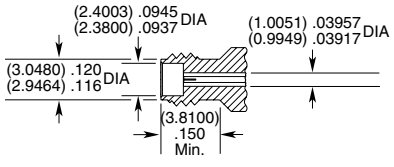


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF10-J-C-VP-047D-SS	.047 Semi-Rigid
PRF10-P-C-VP-047D-SS	.047 Semi-Rigid

For a complete list of 1.00 mm cable connectors, visit www.samtec.com?PRF10
J-C = Cable Jack
P-C = Cable Plug
VP = Plating (75 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp

INTERFACE STANDARD





Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

1.35 mm Cable Assemblies
RF047-A



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG milimeter wave cable	**-13BJ** = 1.35 mm Bulkhead Straight Jack **-13SP** = 1.35 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

VSWR

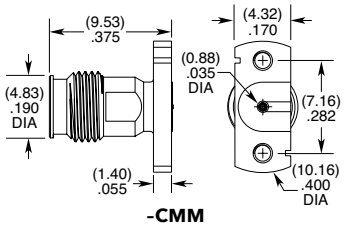
RF047-A: 1.40 max.

1.35 mm Board Connectors
135

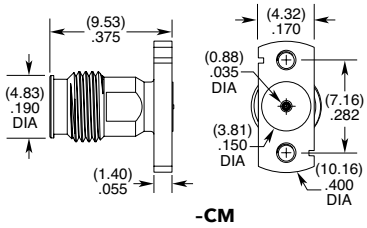
Cable Mates:
RF047-A



135	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–VP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer contact	**–ST** = Straight	**–CM** = Compression Mount Stripline **–CMM** = Compression Mount Microstrip	**–1** = Without screws **–2** = With screws	Leave blank for individually bagged. **–B** = Bulk packaged



-CMM



-CM

1.35 mm Cable Connectors
PRF13



CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF13-P-C-VP-047A-SS	Temp-Flex 1000671047
PRF13-J-C-VP-047A-BS	Temp-Flex 1000671047

For a complete list of 1.35 mm cable connectors, visit www.samtec.com?PRF13

P-C = Cable Plug

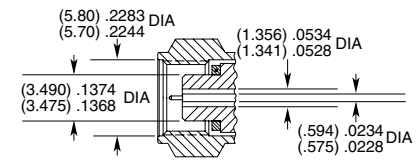
J-C = Cable Jack

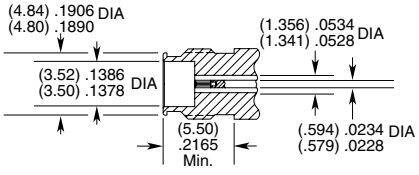
VP = Plating (75 µ" Gold center contact, passivated outer contact)

SS = Straight, Solder Clamp

BS = Bulkhead, Solder Clamp

INTERFACE STANDARD





Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

1.85 mm Cable Assemblies
RF047-A, RF086



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable **RF086** = (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable	**–18SJ** = 1.85 mm Straight Jack **–18SP** = 1.85 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.35 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF086

VSWR

RF047-A: 1.40 max.
RF086: 1.40 max.

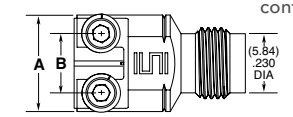
1.85 mm Board Connectors
185

Cable Mates:
RF047-A, RF086

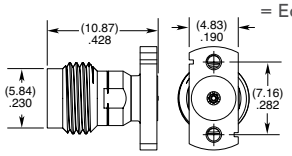


TERMINATION	A	B
–EL	(9.52) .375	(5.84) .230
–ELW	(12.70) .500	(9.53) .375

185	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–EP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer contact	**–ST** = Straight	**–CM** = Compression Mount Stripline **–CMM** = Compression Mount Microstrip **–EL** = Edge Launch **–ELW** = Edge Launch Wide	**–1** =Without Screws (–CM & –CMM only) **–2** = With Screws (–CM & –CMM only) **–01** = .040" to .100" PCB thickness (–EL & –ELW only)	Leave blank for individually bagged. **–B** = Bulk packaged



–EL & –ELW



–CM

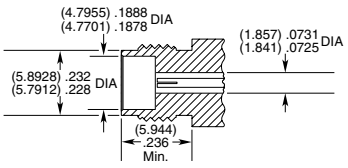
1.85 mm Cable Connectors
PRF18

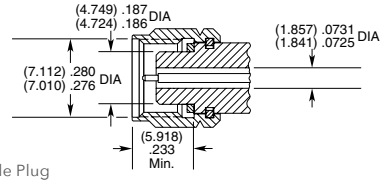


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF18-J-C-EP-085-BS	Harbour SS405
PRF18-P-C-EP-085-SS	Harbour SS405
PRF18-P C-EE-085-SD	Harbour SS405
PRF18-J-C-EP-086-SS	Temp-Flex 1001935086
PRF18-J-C-EP-047A-SS	Temp-Flex 1000671047
PRF18-P-C-EP-047A-SS	Temp-Flex 1000671047
PRF18-J-C-EP-047D-SS	.047 Semi-Rigid
PRF18-P-C-EP-047D-SS	.047 Semi-Rigid
PRF18-P-C-EE-047D-SD	.047 Semi-Rigid
PRF18-P-C-EE-047H-SD	EZ-47-LA Semi-Rigid
PRF18-P-C-EP-070-SD	EZ-70-LA Semi-Rigid
PRF18-J-C-EE-405-SD	RG 405 Semi-Rigid
PRF18-P-C-EE-405-SD	RG 405 Semi-Rigid
PRF18-P-C-EP-086E-SS	Dynawave DF165

For a complete list of 1.85 mm cable connectors, visit www.samtec.com?PRF18

INTERFACE STANDARD





P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" gold center contact, & outer contact)
EP = Plating (50 µ" gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BS = Bulkhead, Solder Clamp

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

2.40 mm Cable Assemblies

RF047-A, RF085, RF086, RF23C



VSWR

RF047-A: 1.35 max.
RF086: 1.40 max.
RF085: 1.40 max.
RF23C: 1.40 max.

SERIES

RF047-A
= (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable

RF086
= (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable

RF085
= (2.16 mm) .085" overshield DIA 24 AWG millimeter wave cable

RF23C
= MWC-2350CU-01 millimeter wave cable with copper foil shield

END 1 CONNECTOR – END 2 CONNECTOR

–24SJ
= 2.40 mm Straight Jack

–24SP
= 2.40 mm Straight Plug

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

1.85 mm, 2.92 mm, SMPM, SMP, SMA = RF086

2.92 mm = RF085

2.92 mm, SMPM, SMP, SMA = RF23C

OVERALL LENGTH

–"XXXX"
= Overall Length in millimeters

–0100 (100 mm) 3.94" minimum

2.40 mm Board Connectors

240

Cable Mates:
RF047-A, RF086, RF085, RF23C



TERMINATION	A	B
–EL	(9.52) .375	(5.84) .230
–ELW	(12.70) .500	(9.53) .375

240 – GENDER – TYPE – PLATING – ORIENTATION – TERMINATION – OPTION – PACKAGING

–J
= Jack

–P
= PCB Mount

–EP
= 50 µ" (1.27 µm) Gold center contact, Passivated outer contact

–ST
= Straight

–CM
= Compression Mount Stripline

–CMM
= Compression Mount Microstrip

–EL
= Edge Launch

–ELW
= Edge Launch Wide

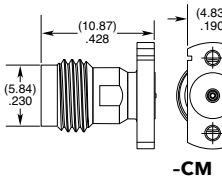
–1
= Without Screws (–CM & –CMM only)

–2
= With Screws (–CM & –CMM only)

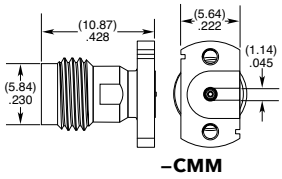
–01
= .040" to .100" PCB thickness (–EL & –ELW only)

Leave blank for individually bagged

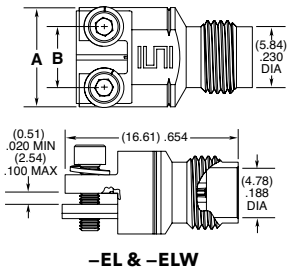
–B
= Bulk packaged



–CM



–CMM



–EL & –ELW

2.40 mm Cable Connectors

PRF24

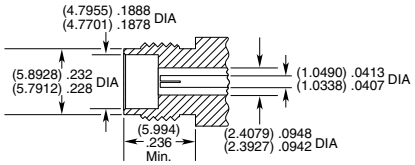


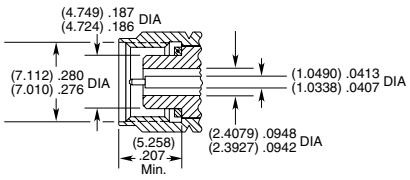
CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF24-J-C-EP-085-SS	Harbour SS405
PRF24-J-C-EP-405-BS	RG 405
PRF24-P-C-EE-085-SD	Harbour SS405
PRF24-P-C-EP-120A-SS	Semflex HP120
PRF24-J-C-EP-160-SS	Semflex HP160
PRF24-P-C-EP-160-SS	Semflex HP160
PRF24-J-C-EP-140B-SS	IW 1401
PRF24-P-C-EP-140B -SS	IW 1401
PRF24-J-C-EP-150B-SS	IW 1501
PRF24-J-C-EP-150-SS	Dynawave DF150
PRR24-J-C-EP-086-SS	Temp-Flex 1001935086
PRF24-P-C-EP-086-SS	Temp-Flex 1001935086

For a complete list of 2.40 mm cable connectors, visit www.samtec.com?PRF24

P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" gold center contact & outer contact)
EP = Plating (50 µ" gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BS = Bulkhead, Solder Clamp

INTERFACE STANDARD





Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

2.92 mm Cable Assemblies

RF047-A, RF086, RF085, RF23C



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable **RF086** = (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable **RF085** = (2.16 mm) .085" overshield DIA 24 AWG millimeter wave cable **RF23C** = MWC-2350CU-01 millimeter wave cable with copper foil shield	**–92SJ** = 2.92 mm Straight Jack **–92SP** = 2.92 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, SMPM, SMP, SMA = RF047-A

1.85 mm, 2.40 mm, SMPM, SMP, SMA = RF086

2.40 mm = RF085

2.40 mm, SMPM, SMP, SMA = RF23C

VSWR

RF047-A: 1.35 max.
RF086: 1.40 max.
RF085: 1.40 max.
RF23C: 1.40 max.

2.92 mm Board Connectors

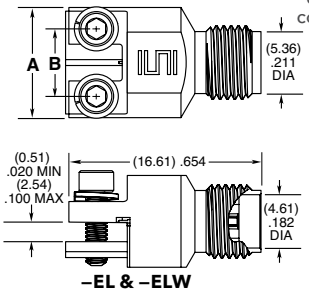
292

Cable Mates:
RF047-A, RF085, RF086, RF23C



TERMINATION	A	B
–EL	(9.52) .375	(5.84) .230
–ELW	(12.70) .500	(9.53) .375

292	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–EP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer contact	**–ST** = Straight	**–CM** = Compression Mount Stripline **–CMM** = Compression Mount Microstrip **–EL** = Edge Launch **–ELW** =Edge Launch Wide	**–1** =Without Screws (–CM & –CMM only) **–2** = With Screws (–CM & –CMM only) **–01** = .040" to .100" PCB thickness (–EL & –ELW only)	Leave blank for individually bagged. **–B** = Bulk packaged



2.92 mm Cable Connectors

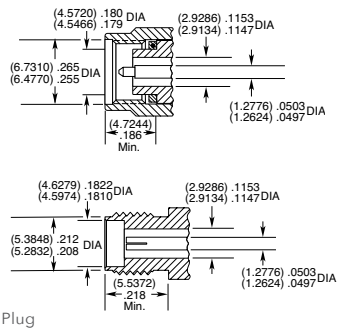
PRF92



CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF92-P-C-EE-405-SD	RG 405 Semi-Rigid
PRF92-P-C-EE-085A-SD	.085 Semi-Rigid
PRF92-P-C-EP-160-SS	Semflex HP160
PRF92-P-C-EP-150B-SS	IW 1501
PRF92-P-C-EP-142-SS	Harbour LL142
PRF92-J-C-EP-085-SS	Harbour SS405
PRF92-J-C-EP-085-BS	Harbour SS405
PRF92-P-C-EP-085-SS	Harbour SS405
PRF92-P-C-EE-402-SD	RG 402
PRF92-P-C-EP-190-SS	Semflex HP190
PRF92-J-C-EP-160-SS	Semflex HP160
PRF92-P-C-EP-120A-SS	Semflex HP120
PRF92-P-C-EP-140-SS	Dynawave DF140
PRF92-P-C-EP-047D-SS	.047 Semi-Rigid
PRF92-J-C-EP-047D-SS	.047 Semi-Rigid
PRF92-P-C-EP-150-SS	Dynawave DF150
PRF92-P-C-EE-118-SD	Haverhill HC35004
PRF92-J-C-EP-402-SS	RG 402
PRF92-J-C-EP-047D-4S	.047 Semi-Rigid
PRF92-P-C-EP-086-SS	Temp-Flex 1001935086
PRF92-P-C-EP-200-SS	Times Max Gain 200

For a complete list of 2.92 mm cable connectors, visit www.samtec.com?PRF92

INTERFACE STANDARD

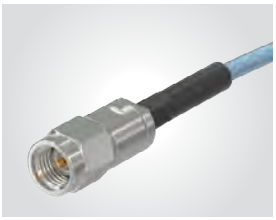


P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BS = Bulkhead, Solder Clamp
4S = 4-hole flange, Solder Clamp

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

3.50 mm TO 34 GHz

3.50 mm Cable Assemblies
RF23S



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF23S = MWC-2350-01 microwave cable with 23 AWG solid FEP Dielectric	**–35SJP** = 3.50 mm Straight Jack **–35SPP** = 3.50 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.

VSWR

RF23S: 1.30 max

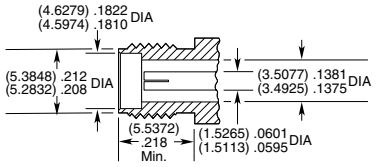
3.50 mm Cable Connectors
PRF35

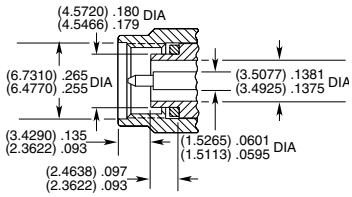


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF35-P-C-EP-405-SS	RG 405, Semi-Rigid
PRF35-J-C-EP-402-SS	RG 402, .141, Semi-Rigid
PRF35-J-C-EP-402-BS	RG 402, .141, Semi-Rigid
PRF35-P-C-EP-402-SS	RG 402, .141, Semi-Rigid
PRF35-P-C-EP-120A-SS	Semflex HP120
PRF35-J-C-EP-160-SS	Semflex HP160
PRF35-P-C-EP-160-SS	Semflex HP160
PRF35-P-C-EP-210A-SS	Micro-Coax UFA210A

For a complete list of 3.50 mm cable connectors, visit www.samtec.com?PRF35
P-C = Cable Plug
J-C = Cable Jack
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
BS = Bulkhead, Solder Clamp

INTERFACE STANDARD





SSMA TO 34 GHz

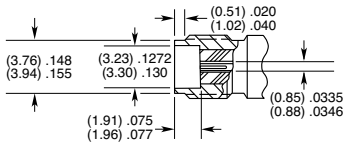
SSMA Cable Connectors
PRFS1

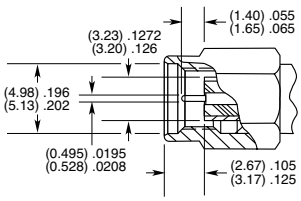


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRFS1-J-C-EE-405-BD	RG 405, Semi-Rigid
PRFS1-P-C-EE-405-SD	RG 405, Semi-Rigid
PRFS1-P-C-EP-141A-SS	Harbour SS402

For a complete list of SSMA cable connectors, visit www.samtec.com?PRFS1
P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BD = Bulkhead, Direct Solder

INTERFACE STANDARD

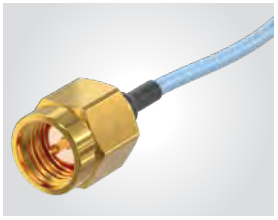




Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMA Cable Assemblies

RF047-A, RF086, RF23C, RF25S, RF402, RF405, RF180, RF280



VSWR

RF047-A: 1.30 max.
RF086: 1.30 max.
RF23C: 1.30 max.
RF180: 1.35 max.
RF280: 1.35 max.

Additional connector options available.
Contact RFGroup@samtec.com

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH

RF047-A
= (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable

RF086
= (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable

RF23C
= MCW-2350CU-01 millimeter wave cable with copper foil shield

RF25S
= MWC-2550-01 microwave cable with 25 AWG solid FEP dielectric

RF402
=RG 402 (.141") 19 AWG semi-flexible microwave cable

RF405
= RG 405 (.086") 24 AWG semi-flexible microwave cable

RF180
= (4.52 mm) .178" overshield DIA, 16 AWG microwave cable

RF280
= (7 mm) .277" overshield DIA, 11 AWG microwave cable

–01SP1*
= SMA Straight Plug

–01RP1*
= SMA Right-angle Plug
(RF047-A, RF086, RF23C & RF25S not available)

–01BJ1*
= SMA Bulkhead Jack
(RF402 & RF405 not available)

-01SB
= Straight Bulkhead Jack, Sealed
(RF047-A, RF086 & RF23C only)

*Remove last "1" from end connector when specifying RF047-A, RF086, RF23C, RF180 & RF280.

–"XXXX"
= Overall Length in millimeters

–0100 (100 mm) 3.94" minimum (RF047-A, RF086, RF23C, RF25S, RF402, & RF405)

–0152 (152 mm) 5.984" minimum (RF180)

–0200 (200 mm) 7.87" minimum (RF280)

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP = RF047-A

1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP= RF086

2.40 mm, 2.92 mm, SMPM, SMP = RF23C

SMP = RF25S, RF405

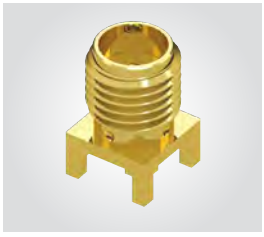
TNCA, N Type = RF180

TNCA, N Type = RF280

SMA Board Connectors

SMA-TH, SMA-SM, SMA-MT, SMA-EM

Cable Mates:
RF047-A, RF086, RF23C, RF25S, RF402, RF405, RF180, RF280



SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION

–J
= Jack

–P
= PCB Mount

–H
= 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact

–GF
= 10 µ" (0.25 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (-SM1 only)

–ST
= Straight

–RA
= Right-angle

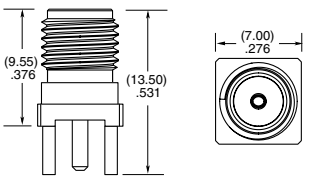
–TH1
= Through-hole

–SM1
= Surface Mount (–GF–RA only)

–EM1
= Edge Mount (–ST only)

–EM3
= Drop-in Edge Mount (–ST only)

–MT1
= Mixed Technology (–ST only)



-ST-TH1

SMA Cable Connectors

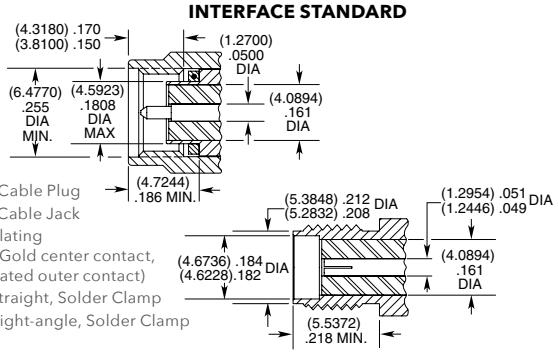
PRF01



CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF01-P-C-EP-120C-SS	Harbour LL120
PRF01-J-C-EP-142-SS	Harbour LL142
PRF01-P-C-EP-142-SS	Harbour LL142
PRF01-P-C-EP-142-RS	Harbour LL142
PRF01-P-C-EP-142A-SS	Harbour SB142
PRF01-P-C-EP-335-SS	Harbour LL335
PRF01-P-C-EP-335A-SS	Harbour LL335i
PRF01 P-C-EP-190-SS	Semflex HP190
PRF01-P-C-EP-190-RS	Semflex HP190
PRF01-P-C-EP-305-SS	Semflex HP305
PRF01-P-C-EP-290-SS	Semflex LA290

For a complete list of SMA cable connectors, visit www.samtec.com?PRF01

INTERFACE STANDARD



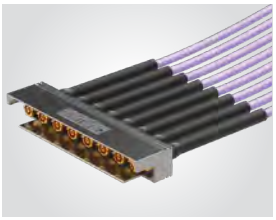
P-C = Cable Plug
J-C = Cable Jack
EP = Plating
(50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
RS = Right-angle, Solder Clamp

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMPM TO 65 GHZ

SMPM Ganged Cable:
GC47, GC86

Mates With:
GPPC

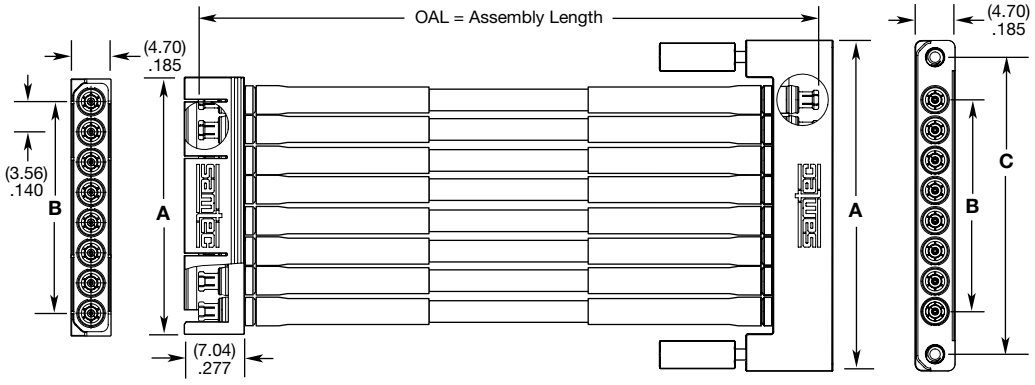


SERIES	NO. OF ROWS	NO. OF POSITIONS	OPTION	ASSEMBLY LENGTH
GC47 = Ganged SMPM with (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable **GC86** = Ganged SMPM with (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable	**–1**	**–02, –04, –06, –08, –10**	Leave blank for no screws **–S** = Screw	**–"XXXX"** = Assembly Length in millimeters -0100 (100 mm) 3.94" minimum

OPTION	NO. OF POSITIONS	A	B	C
BLANK	–02	(8.89) .350	(3.56) .140	N/A
	–04	(16.00) .630	(10.67) .420	N/A
	–06	(23.11) .910	(17.78) .700	N/A
	–08	(30.23) 1.190	(24.89) .980	N/A
	–10	(37.34) 1.470	(32.00) 1.260	N/A
–S	–02	(17.53) .690	(3.56) .140	(13.59) .535
	–04	(24.64) .970	(10.67) .420	(20.70) .815
	–06	(31.75) 1.250	(17.78) .700	(27.81) 1.095
	–08	(38.86) 1.530	(24.89) .980	(34.93) 1.375
	–10	(45.97) 1.810	(32.00) 1.260	(42.04) 1.655

ALSO AVAILABLE

Other RF options for end 2
Contact RFGroup@samtec.com



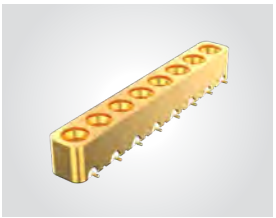
GC47-1-08-XXXX SHOWN **GC47-1-08-S-XXXX SHOWN**

Notes:
Cable lengths longer than 1000 mm (39.37") are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.

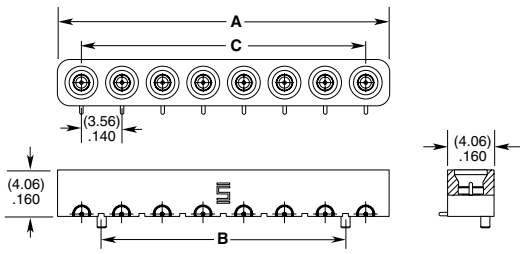
SMPM Ganged Block:
GPPB

Mates With:
PRFIA



GPPB	GENDER	NO. OF ROWS	NO. OF POSITIONS	PLATING	ST	SM	CHANNEL PITCH
	–PF = Plug Full Detent **–PS** = Plug Smooth Bore **–PC** = Catcher's Mitt	**–1**	**–02, –04, –06, –08, –10**	**–EG** = 50 µ" (1.27 µm) heavy Gold center contact, 10 µ" (0.25 µm) Gold outer body			**–1N** = 3.56 mm (.140") Pitch

NO. OF POSITIONS	A	B	C
–02	(7.62) .300	N/A	(3.56) .140
–04	(14.73) .580	(7.11) .280	(10.67) .420
–06	(21.84) .860	(14.22) .560	(17.78) .700
–08	(28.96) 1.14	(21.34) .840	(24.89) .980
–10	(36.07) 1.42	(28.45) 1.12	(32.00) 1.26



GPPB-PF-1-08-EG-ST-SM-1N SHOWN

ALSO AVAILABLE

(8.33 mm) .328" Pitch
(5.08 mm) .200" Pitch
Edge Mount termination
Contact RFGroup@samtec.com

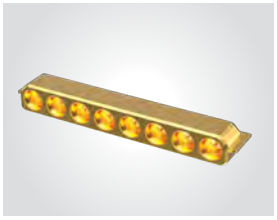
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

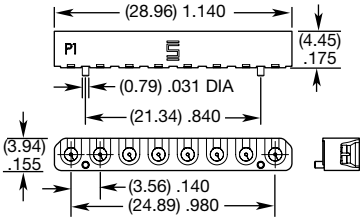
SMPM TO 65 GHz

GPPC	GENDER	1	NO. OF POSITIONS	PLATING	ORIENTATION	TERMINATION	OPTION	SCREW SIZE
	–PF = Plug Full Detent **–PS** = Plug Smooth Bore **–PC** = Catcher's Mitt (–ST–SL & –RA–SM only)		**–02, –04, –06, –08, –10** (Per Row)	**–EG** = 50 µ" (1.27 µm) heavy Gold center contact, 10 µ" (0.25 µm) extra Gold outer body (–EM–1N & –RA–SM only) **–HG** = 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body (–ST–SL only)	**–ST** = Straight **–RA** = Right-angle (–SM only)	**–SM** = Surface Mount (Right-angle only) **–EM–1N** = Edge Mount **–SL** = Stub Launch	Leave blank for no screws **–S** = Screw (not available with -SM)	-ST-SL only; Leave blank for non screw option **–1** = (2.11 mm) .083" to (2.62 mm) .103" PCB thickness **–2** = (1.24 mm) .049" to (1.75 mm) .069" PCB thickness **–3** = (.38 mm) .015" to (.89 mm) .035 PCB Thickness

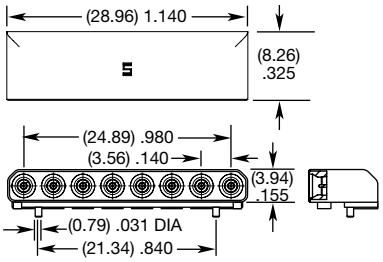
SMPM Ganged Block:
GPPC-ST-SL, GPPC-RA-SM, GPPC-EM

Mates With:
GC47, GC86

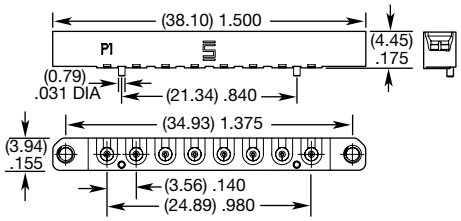




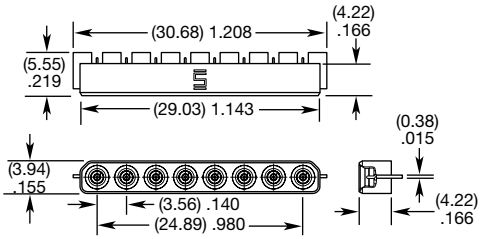
GPPC-PS-1-08-XX-ST-SL SHOWN



GPPC-PS-1-08-XX-RA-SM SHOWN



GPPC-PS-1-08-XX-ST-SL-S-1 SHOWN



GPPC-PS-1-08-XX-ST-EM-1N SHOWN

Notes:
Some sizes, styles and options are non-standard, non-returnable.

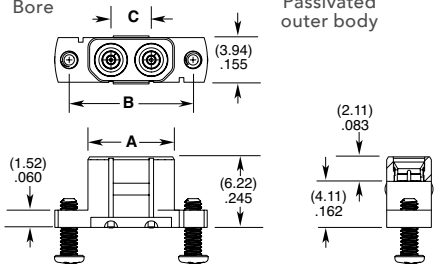
DUAL PORT SOLDERLESS COMPRESSION MOUNT

SMPM Ganged Block:
GPPC-CMM

Mates With:
GC47, GC86, PRFIA



GPPC	GENDER	1	2	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–PF = Plug Full Detent **–PS** = Plug Smooth Bore			**–EP** = 50 µ" (1.27 µm) heavy Gold center contact, Passivated outer body	**–ST** = Straight	**–CMM** = Compression Mount	Leave blank for individually bagged **–B** = Full Tray (Multiples of 100 required)



GPPC-PX-1-2-EP-ST-CMM-X SHOWN

NO. OF POSITIONS	A	B	C
–02	(7.62) .300	(10.92) .430	(3.56) .140

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMPM Cable Assemblies
RF047-A, RF086, RF23C



VSWR

RF047-A: 1.40 max.
RF086: 1.40 max.
RF23C:
1.20 max. (DC to 26.5 GHz)
1.40 max. (26.5 GHz to 50 GHz)

SERIES	–	END 1 CONNECTOR	–	END 2 CONNECTOR	–	OVERALL LENGTH

RF047-A
= (1.2 mm) .047" overshield DIA
29 AWG millimeter cable

RF086
= (2.18 mm) .086" overshield DIA
23 AWG millimeter cable

RF23C
= MWC-2350CU-01 millimeter wave cable with copper foil shield

–M0SP
= SMPM Straight Plug, Full Detent

–M0SJ
= SMPM Straight Jack

–M0RJ
= SMPM Right-angle Jack
(RF047-A only)

–M0BJ
= SMPM Straight Bulkhead Jack
(RF047-A only)

–"XXXX"
= Overall Length
in millimeters

–0100 (100 mm)
3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMP, SMA = RF047-A

1.85 mm, 2.40 mm, 2.92 mm, SMP, SMA = RF086

2.40 mm, 2.92 mm, SMP, SMA = RF23C

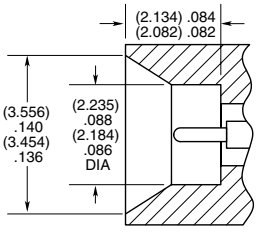
SMPM Cable Connectors
PRFM0



CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRFM0-J-C-EE-085-BD	Harbour SS405
PRFM0-J-C-EE-047A-BD	Temp-Flex 1000671047
PRFM0-J-C-HG-047A-SD	Temp-Flex 1000671047
PRFM0-J-C-EE-047A-RD	Temp-Flex 1000671047
PRFM0-P-C-HG-047A-SD	Temp-Flex 1000671047
PRFM0-J-C-EE-047B-SD	Temp-Flex 1001935047
PRFM0-J-C-EE-086-SD	Temp-Flex 1001935086
PRFM0-P-C-EE-086-SD	Temp-Flex 1001935086

For a complete list of SMPM cable connectors, visit www.samtec.com?PRFM0
P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
HG = Plating (30 µ" Gold center contact, 10 µ" Gold outer contact)
SD = Straight, Direct Solder
BD = Bulkhead, Direct Solder
RD = Right-angle, Direct Solder

INTERFACE STANDARD (CATCHER'S MITT)

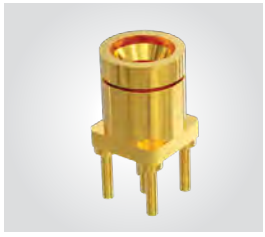


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

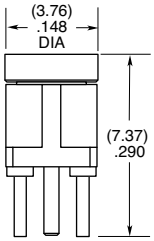
SMPM TO 65 GHz

SMPM Board Connectors
SMPM-SM, SMPM-TH, SMPM-RA, SMPM-MT, SMPM-EM

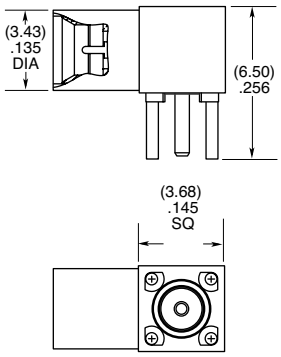
Cable Mates:
RF047-A, RF086, RF23C



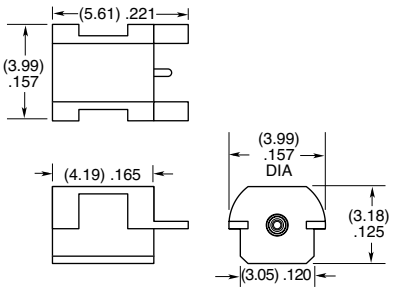
SMPM	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION
	–PF = Full Detent **–PS** = Smooth Bore **–PC** = Catcher's Mitt (–ST–TH, –ST–MT & –ST–SM only)	**–P** = PCB Mount	**–HG** = 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer contact (–ST only) **–HF** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–RA only) **–EG** = 50 µ" (1.27 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body (–MT & –SM only) **–EE** = 50 µ" (1.27 µm) extra heavy Gold center contact and outer body (SM-2 only)	**–ST** = Straight **–RA** = Right-angle (–TH required)	**–EM** = Drop-in Edge Mount (–ST only) **–TH** = Through-hole **–SM** = Surface Mount (–ST only) **–MT** = Mixed Technology (–ST only)	**–1** = Standard **–2** = Reverse Mount (–EE and –SM only; see website for print)



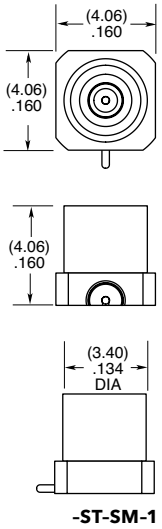
-ST-TH-1



-RA-TH-1



-ST-EM-1

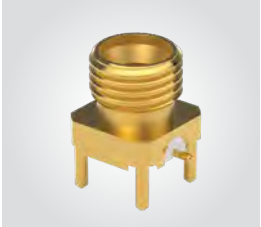


-ST-SM-1

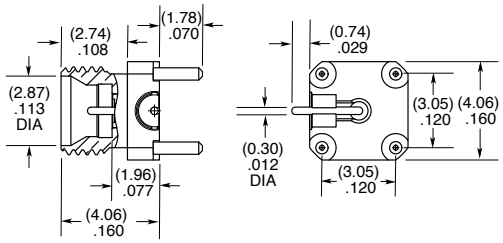
SMPM THREADED TO 65 GHz

SMPMT Board Connectors
SMPMT-MT

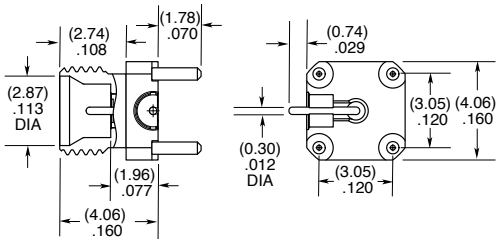
Cable Mates:
RF047-A, RF086, RF23C



SMPMT	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION
	–PF = Full Detent **–PS** = Smooth Bore	**–P** = PCB Mount	**–EG** = 50 µ" (1.27 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body	**–ST** = Straight	**–MT** = Mixed Technology	**–1** = Standard



SMPMT-PF-P-EG-ST-MT-1

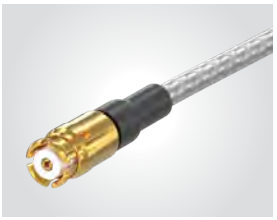


SMPMT-PS-P-EG-ST-MT-1

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMP Cable Assemblies

RF047-A, RF086, RF23C, RF25S, RF405



VSWR

RF047-A: 1.50 max.
RF086: 1.50 max.
RF23C: 1.50 max.
RF25S: Contact Samtec
RF405: Contact Samtec

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH

RF047-A
= (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable

RF086
= (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable

RF23C
= MWC-2350CU-01 millimeter wave cable with copper foil shield

RF25S
= MWC-2550-01 microwave cable with 25 AWG solid FEP dielectric

RF405
= RG 405 (.086") 24 AWG semi-flexible microwave cable

–00SJ
= SMP Straight Jack (RF047-A, RF086 & RF23C only)

–00MJ
= SMP Right-angle Jack (RF047-A, RF086 & RF23C only)

–00BF
= SMP Bulkhead Jack, Full Detent (RF086 & RF23C only)

–00BL
= SMP Bulkhead Jack, Limited Detent (RF086 & RF23C only)

–00BS
= SMP Bulkhead Jack, Smooth Bore (RF086 & RF23C only)

–00BC
= SMP Bulkhead Jack, Catcher's Mitt (RF086 & RF23C only)

–00SJ7
= SMP Straight Jack (RF25S & RF405 only)

–00RJ7
= SMP Right-angle Jack (RF25S & RF405 only)

–"XXXX"
= Overall Length in millimeters

–0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMA = RF047-A

1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMA = RF086

2.40 mm, 2.92 mm, SMPM, SMA = RF23C

SMA = RF25S

SMA = RF405

SMP Cable Connectors

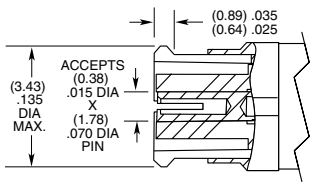
PRF00

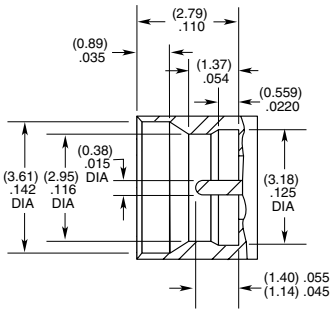


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF00-J-C-EE-047A-RD	Temp-Flex 1000671047
PRF00-J-C-EE-085A-SD	.086 Semi-Rigid
PRF00-PF-C-KK-047D-BD	.047 Semi-Rigid

For a complete list of SMP cable connectors, visit www.samtec.com?PRF00
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
KK = Plating (100 µ" Gold over Nickel center contact, passivated outer contact)
BD = Bulkhead, Direct Solder
SD = Straight, Direct Solder
RD = Right-angle, Direct Solder

INTERFACE STANDARD (FULL DETENT)



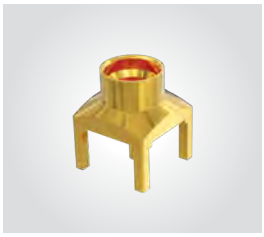


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMP Board Connectors

SMP-TH, SMP-EM,
SMP-MT, SMP-SM

Cable Mates:
RF047-A, RF086,
RF23C, RF405, RF25S



SMP	–	GENDER	–	TYPE	–	PLATING	–	ORIENTATION	–	TERMINATION

–PF
= Plug, Full Detent

–PL
= Plug, Limited Detent

–PS
= Plug, Smooth Bore

–PC
= Plug, Catcher's Mitt

–P
= PCB Mount

–HG
= 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body

–ST
= Straight

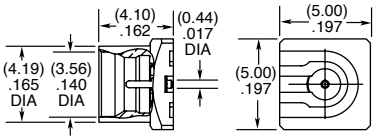
–SM
=Surface Mount

–TH"X"
= Through-hole (Specify "X" from chart)

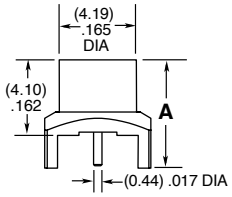
–MT"X"
= Mixed Technology (Specify "X" from chart)

–EM
= Edge Mount (–PF, –PL & –PS only)

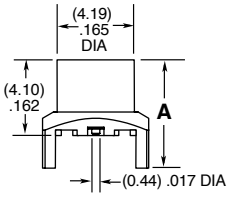
OPTION (X)	A (HEIGHT DIM.)	BOARD THICKNESS
1 (-MT only)	(5.88) .2315	(1.60 mm) .062" PCB
2 (-MT only)	(6.72) .2645	(2.36 mm) .093" PCB
3 (-TH only)	(5.88) .2315	(1.60 mm) .062" PCB
4 (-TH only)	(6.72) .2645	(2.36 mm) .093" PCB



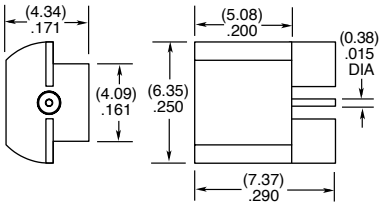
–SM



–TH(X)



–MT(X)



–EM

ALSO AVAILABLE

Low Frequency options.
Contact RFGroup@samtec.com

SMP Bullet Adaptor

SMP-B



SMP	–	J	–	TYPE	–	PLATING	–	ORIENTATION	–	BULLET LENGTH

–B
= Bullet Adaptor

–HG
= 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body

–ST
= Straight

–0625
= (6.25 mm) .246"

–0645
= (6.45 mm) .254"

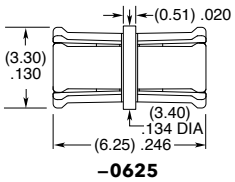
–0725
= (7.25 mm) .285"

–0825
= (8.25 mm) .325"

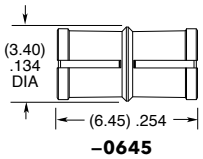
–0925
(9.25 mm) .364"

–1325
(13.25 mm) .522"

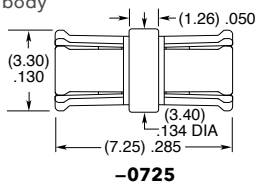
–1450
= (14.50 mm) .571"



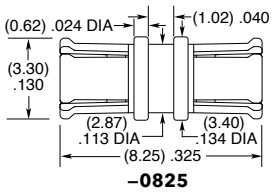
–0625



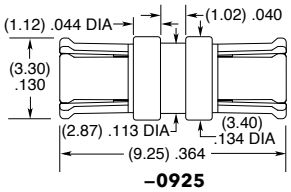
–0645



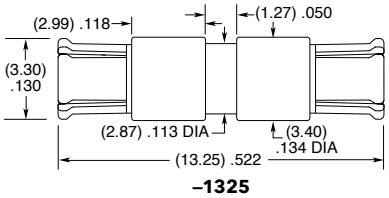
–0725



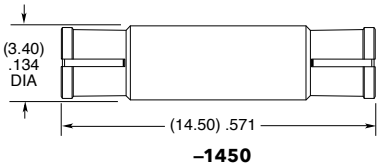
–0825



–0925



–1325



–1450

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

N Type Cable Assemblies
RF180, RF280



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF180 = (4.52 mm) .178" overshield DIA, 16 AWG microwave cable	**–06SP** = N Type Straight Plug	**–06SP** = N Type Straight Plug	**-"XXXX"** = Overall length in millimeters
RF280 = (7 mm) .277" overshield DIA, 11 AWG microwave cable	**–06RP** = N Type Right-angle Plug	**–06RP** = N Type Right-angle Plug	–0152 (152 mm) 5.984" minimum (RF180)
	–06BJ = N Type Straight Bulkhead Jack	**–06BJ** = N Type Straight Bulkhead Jack	–0200 (200 mm) 7.87" minimum (RF280)

ALSO AVAILABLE

SMA, TNCA = RF180

SMA, TNCA = RF280

VSWR

RF 180:
1.35 max. (-06SP & -06BJ)
1.45 max. (-06RP)
RF 280:
1.35 max. (-06SP & -06BJ)
1.35 max. (DC to 14 GHz) (-06RP)
1.50 max. (14 GHz to 18 GHz)

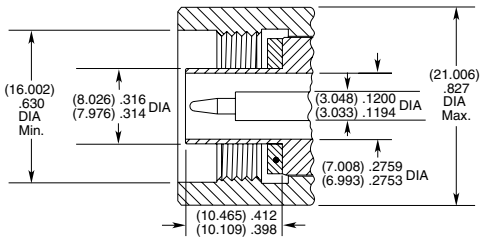
N Type Cable Connectors
PRF06

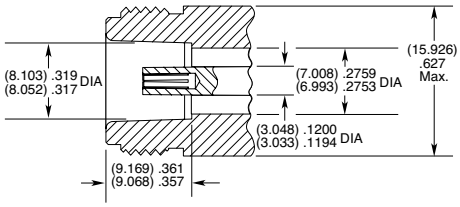


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF06-P-C-EP-141A-SS	Harbour SS402
PRF06-J-C-EP-142-BS	Harbour LL142
PRF06-P-C-EP-142-SS	Harbour LL142
PRF06-P-C-EP-142-RS	Harbour LL142
PRF06-P-C-EP-142A-SS	Harbour SB142
PRF06-J-C-EP-335-BS	Harbour LL335
PRF06-P-C-EP-335-SS	Harbour LL335
PRF06-P-C-EP-335-RS	Harbour LL335
PRF06-P-C-EP-335A-SS	Harbour LL335i
PRF06-P-C-EP-335A-SS	Harbour LL335i
PRF06-P-C-EP-335A-RS	Harbour LL335i
PRF06-J-C-EP-160A-BS	Harbour LL160
PRF06-P-C-EP-160A-SS	Harbour LL160
PRF06-P-C-EP-160A-RS	Harbour LL160
PRF06-P-C-EP-120A-SS	Semflex HP120
PRF06-J-C-EP-190-BS	Semflex HP190
PRF06-P-C-EP-190-SS	Semflex HP190
PRF06-P-C-EP-190-RS	Semflex HP190
PRF06-J-C-EP-290-BS	Semflex LA290
PRF06-P-C-EP-290-SS	Semflex LA290
PRF06-P-C-EP-290-RS	Semflex LA290
PRF06-P-C-EP-305-SS	Semflex HP305
PRF06-J-C-EP-402-4S	RG 402, .141, semi-rigid
PRF06-P-C-EP-300A-SS	Times Max Gain 300
PRF06-P-C-EP-180B-SS	IW 1801
PRF06-P-C-EP-135-SS	Dynawave DF440W
PRF06-P-C-EP-270A-RS	Dynawave DF218
PRF06-P-C-EP-160B-SS	ATM CF-210
PRF06-P-C-EP 135B-SS	Lab-Flex 160S
PRF06-P-C-EP-284-SS	Micro-Coax UFB311A

For a complete list of N Type cable connectors, visit www.samtec.com?PRF06

INTERFACE STANDARD

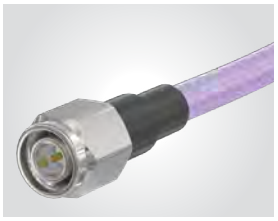




P-C = Cable Plug
J-C = Cable Jack
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
RS = Right-angle, Solder Clamp
BS = Bulkhead, Solder Clamp
4S = 4-hole Flange, Solder Clamp

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TNCA Cable Assemblies
RF180, RF280



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF180 = (4.52 mm) .178" overshield DIA, 16 AWG microwave cable	**–04SP** = TNCA Straight Plug	**–04SP** = TNCA Straight Plug	**-"XXXX"** = Overall length in millimeters
RF280 = (7 mm) .277" overshield DIA, 11 AWG microwave cable	**–04RP** = TNCA Right-angle Plug (RF180 only)	**–04RP** = TNCA Right-angle Plug (RF180 only)	–0152 (152 mm) 5.984" minimum (RF180)
	–04BJ = TNCA Straight Bulkhead Jack	**–04BJ** = TNCA Straight Bulkhead Jack	–0200 (200 mm) 7.87" minimum (RF280)

VSWR

RF180: 1.35 max. (-04SP & -04BJ)
1.45 max. (-04RP)
RF280: 1.35 max. (-04SP & -04BJ)

ALSO AVAILABLE

SMA, N Type = RF180

SMA, N Type = RF280

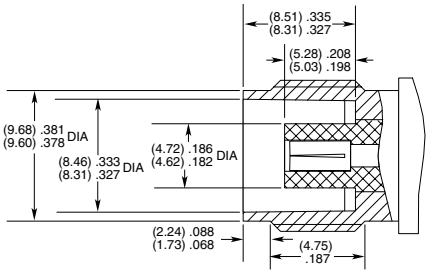
TNCA Cable Connectors
PRF04

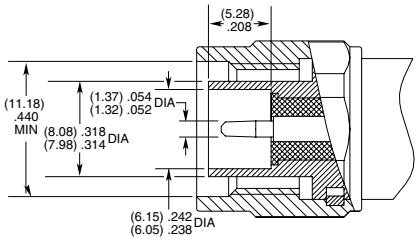


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF04-P-C-EP-142-RS	Harbour LL142
PRF04-J-C-EP-142-BS	Harbour LL142
PRF04-P-C-EP-142-SS	Harbour LL142
PRF04-P-C-EP-335-SS	Harbour LL335
PRF04-P-C-EP-290-SS	Semflex LA290
PRF04-J-C-EP-190-BS	Semflex HP190
PRF04-P-C-EP-190-RS	Semflex HP190
PRF04-P-C-EP-190-SS	Semflex HP190
PRF04-P-C-EP-335A-RS	Harbour LL335i
PRF04-J-C-EP-335A-BS	Harbour LL335i
PRF04-P-C-EP-300A-SS	Times Max Gain 300
PRF04-P-C-EP-200-SS	Times Max Gain 200
PRF04-P-C-EP-160A-SS	Harbour LL160
PRF04-J-C-EP-270A-BS	Dynawave DF218
PRF04-P-C-EP-135-SS	Dynawave DF440W
PRF04-P-C-EP-300A-SS	Times Max Gain 300
PRF04-J-C-EP-210A-BS	Micro-Coax UFA210A
PRF04-P-C-EP-210A-SS	Micro-Coax UFA210A
PRF04-P-C-EP-284-SS	Micro-Coax UFB311A
PRF04-J-C-EP-127-4S	Storm VSR150

For a complete list of TNCA cable connectors, visit www.samtec.com?PRF04

INTERFACE STANDARD





P-C = Cable Plug
J-C = Cable Jack
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
RS = Right-angle, Solder Clamp
BS = Bulkhead, Solder Clamp
4S = 4-Hole Flange

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

1.85 mm, 2.40 mm, 2.92 mm In-Series Adaptors

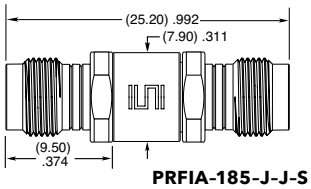
PRFIA



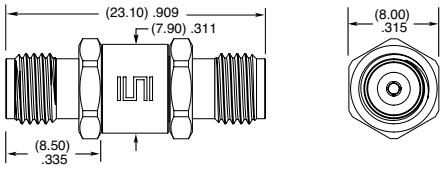
VSWR

–185: 1.30 max.
–240: 1.20 max.
–292: 1.15 max.

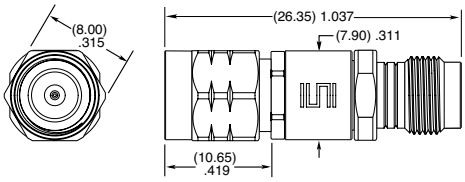
PRFIA	CONNECTOR	END 1 GENDER	END 2 GENDER	ORIENTATION	1
	–185 = 1.85 mm **–240** = 2.40 mm **–292** = 2.92 mm	**–P** = Plug **–J** = Jack	**–P** = Plug (Only available with -P on end 1) **–J** = Jack	**–S** = Straight	Required for -292 Jack-to-Jack adaptor (PRFIA-292-J-J-S-1) Leave blank for all other part numbers.



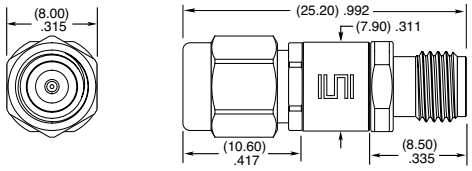
PRFIA-185-J-J-S



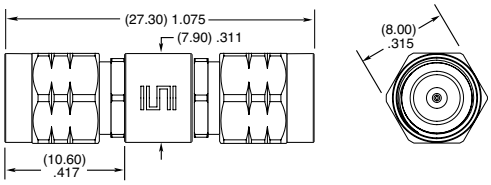
PRFIA-292-J-J-S-1



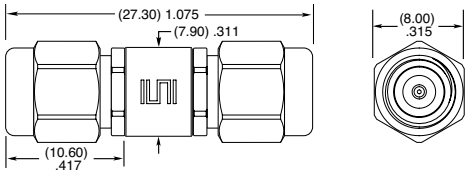
PRFIA-185-P-J-S



PRFIA-292-P-J-S



PRFIA-240-P-P-S



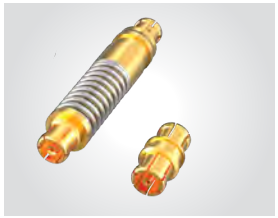
PRFIA-292-P-P-S

SMPM In-Series Adaptor:

PRFIA

Mates With:

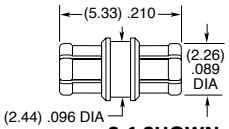
SMPM, GPPB, GPPC



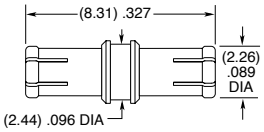
VSWR

1.15 max. (DC to 26.5 GHz)
1.35 max. (26.5 GHz to 40 GHz)
1.50 max. (40 GHz to 65 GHz)

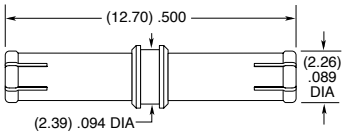
PRFIA	SMPM	END 1 GENDER	END 2 GENDER	ORIENTATION	–S LENGTH	–SP LENGTH
		–J = Jack	**–J** = Jack	**–S** = Straight **–SP** = Spring Loaded	Use with –S orientation **–1** = (5.33 mm) .210" **–2** = (8.31 mm) .327" **–3** =(12.70 mm) .500" **–4** = (4.22 mm) .166"	Use with –SP orientation **–1** = (10.45 mm) .412" max. extension; (9.65 mm) .380" max. compression **–2** = (16.50 mm) .650" max. extension; (13.96 mm) .550" max. compression



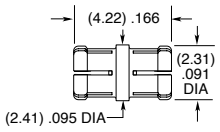
-S-1 SHOWN



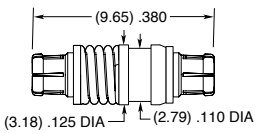
-S-2 SHOWN



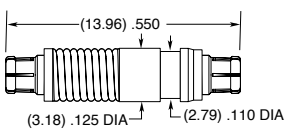
-S-3 SHOWN



-S-4 SHOWN



-SP-1 SHOWN (COMPRESSED)

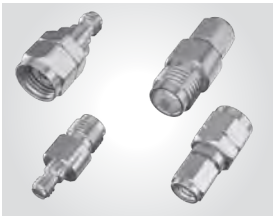


-SP-2 SHOWN (COMPRESSED)

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

1.00 mm to 1.85 mm Adaptors

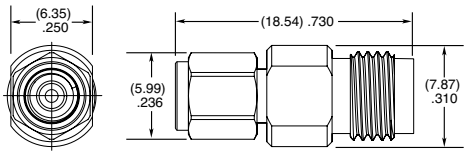
PRFBA



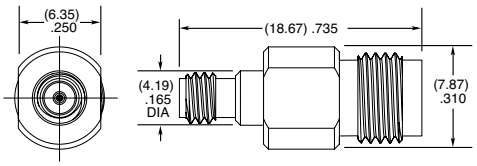
PRFBA	–	CONNECTOR	–	END 1 GENDER	–	CONNECTOR	–	END 2 GENDER	–	ORIENTATION
		–100 = 1.00 mm		**–P** = Plug **–J** = Jack		**–185** = 1.85 mm		**–P** = Plug **–J** = Jack		**–S** = Straight

VSWR

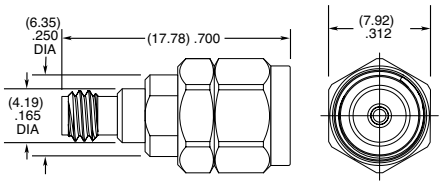
1.12 max. (DC to 26.5 GHz)
1.25 max. (26.5 GHz to 40 GHz)
1.30 max. (40 GHz to 50 GHz)
1.35 max. (50 GHz to 67 GHz)



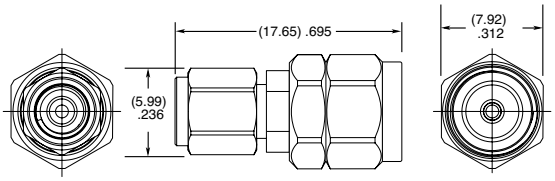
PRFBA-100-P-185-J-S



PRFBA-100-J-185-J-S



PRFBA-100-J-185-P-S



PRFBA-100-P-185-P-S

2.92 mm to SMPM Adaptors

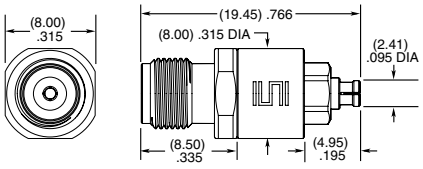
PRFBA



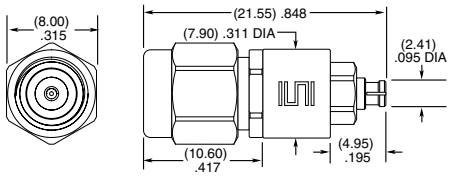
PRFBA	–	CONNECTOR	–	END 1 GENDER	–	CONNECTOR	–	END 2 GENDER	–	ORIENTATION	–	1
		–292 = 2.92 mm		**–P** = Plug **–J** = Jack		**–SMPM**		**–J** = Jack **–PF** = Plug Full Detent		**–S** = Straight		Required for Jack-to-Jack adaptor (PRFBA-292-J-SMPM-J-S-1) Leave blank for all other part numbers.

VSWR

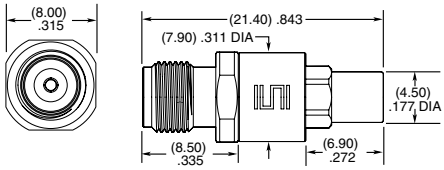
1.30 max. (DC to 40 GHz)



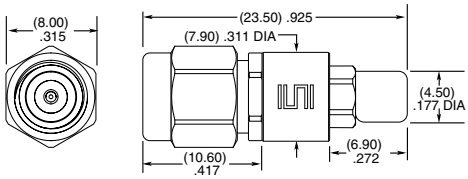
PRFBA-292-J-SMPM-J-S-1



PRFBA-292-P-SMPM-J-S



PRFBA-292-J-SMPM-PF-S



PRFBA-292-P-SMPM-PF-S

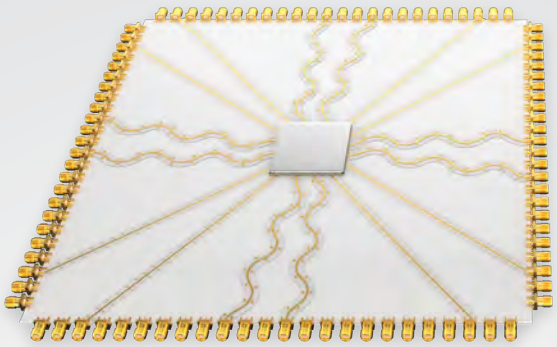
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BULLSEYE®
TEST POINT SYSTEM

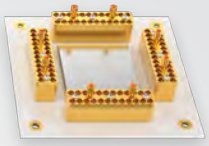
TEST & MEASUREMENT

OPTIMIZED PERFORMANCE TO 90 GHZ

Traditional with SMAs



Bulls Eye®



ENABLES SMALLER EVALUATION BOARDS
& SHORTER TRACE LENGTHS

DC TO 90 GHz

PAM4 224 Gbps

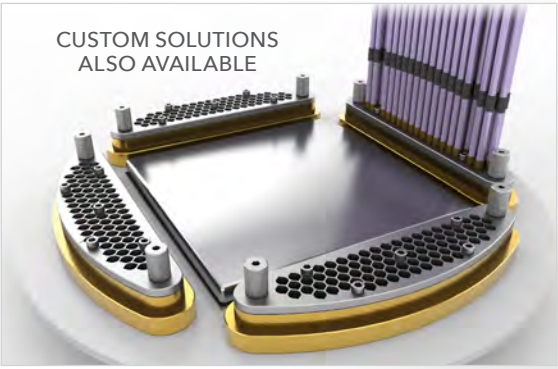


Bulls Eye® High-Performance Test

The Bulls Eye® high-performance test assembly features a high-density, space-saving design that enables smaller evaluation boards and shorter trace lengths in test and measurement applications to 90 GHz.

- Compression mounts to the board for placement directly adjacent to the SerDes being characterized
- Solderless design improves cost and is easy to use within a lab setting
- Microwave cable assemblies: .047" and .086", and Nitrowave™ phase and amplitude stable in distinctive Samtec orange
- End 2 connection to instrumentation: 1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm or 2.92 mm
- High-density, space-saving design
- Single row or double row
- Complete list of applications: SerDes characterization, clock/data recovery (CDR), mmWave radar, automated test equipment, FR2 5G networks

CUSTOM SOLUTIONS
ALSO AVAILABLE



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PRODUCT FAMILY CROSS REFERENCE GUIDE

ASSEMBLY	90 GHz	71 GHz	70 GHz	50 GHz	40 GHz
Block Bottom View					
SerDes Characterization	224 Gbps PAM4	224 Gbps PAM4	112 Gbps PAM4	56 Gbps PAM4	
End 2 Connector	1.00 mm 1.35 mm	1.85 mm	1.85 mm	2.40 mm	2.92 mm
Samtec Series	BE90A	BE71A	BE70A	BE40A	
Cable Type	.047	High-Performance Nitrowave™ LL071	.086	MWC-2350CU-01	
Cable Management	Yes				
PCB Transition	Microstrip/CPW or Stripline				
Bulls Eye® Connector Design	Spring-Loaded Contact; 360˚ Grounding	Robust Pogo-Pin; 360˚ Grounding	Spring-Loaded Contact; 360˚ Grounding	Pogo-Pin for Signal & Ground	
No. of Rows	Single or Double			Double	
No. of Positions	**1x:** 2, 4, 8, 12 **2x:** 4, 8, 12, 16	**1x:** 2, 4, 8, 12 **2x:** 3, 4, 6, 8, 10, 12, 14, 16		**2x:** 3, 4, 6, 8, 10, 12, 14, 16	
Impedance	50 Ω				
FPGA Development Kit	–			Xilinx® Zynq® UltraScale+™ RFSoC ZCU1275	
SI Evaluation Kit	–		70 GHz: REF-213864-01	50 GHz: REF-213497-01	

71 GHz ASSEMBLIES WITH NITROWAVE™ CABLE

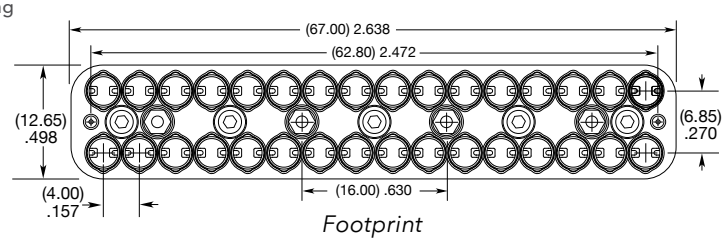
BE71A	–	TRANSMISSION TYPE	–	END 2	–	PHASE MATCH (RANGE)	–	PHASE MATCH (LOCATION)	–	2	–	POSITIONS PER ROW	–	OVERALL LENGTH
		–S = Stripline **–M** = Microstrip		**–18SP** = 1.85 mm Straight Plug **–18BJ** = 1.85 mm Straight Jack		**–H** = 0.5 Pico-second **–1** = 1.0 Pico-second **–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching		**–R** = In-row **–A** = Across-row				**–03, –04, –06, –08, –10, –12, –14, –16**		**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum

DC TO 71 GHz | PAM4 224 Gbps

PRELIMINARY

BE71A
End 2 Connectors:
1.85 mm (71 GHz)
2.92 mm (40 GHz)





Footprint

16 POSITIONS PER ROW SHOWN

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

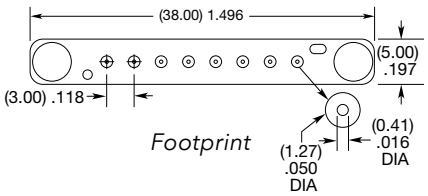
90 GHz ASSEMBLIES

BE90A	– TRANSMISSION TYPE	– END 2	– PHASE MATCHING	– ROW OPTION	– POSITIONS PER ROW	– OVERALL LENGTH
	–S = Stripline **–M** = Microstrip	**–10BJ** = 1.00 mm Straight Jack **–10SP** = 1.00 mm Straight Plug **–13BJ** = 1.35 mm Straight Jack **–13SP** = 1.35 mm Straight Plug	**–1** = 1.0 Pico-second **–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching	**–1** = Single Row (–02, –04, –08 & –12 positions only) **–2** = Double Row (–04, –08, –12 & –16 positions only)	**–02, –04, –08, –12, –16**	**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum (Single Row) –0100 (100 mm) 3.937" minimum (Double Row)

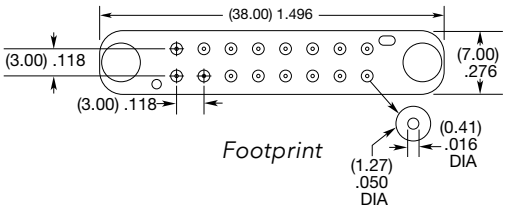
BE90A
End 2 Connectors:
1.00 mm, 1.35 mm



DC TO 90 GHz
PAM4 224 Gbps



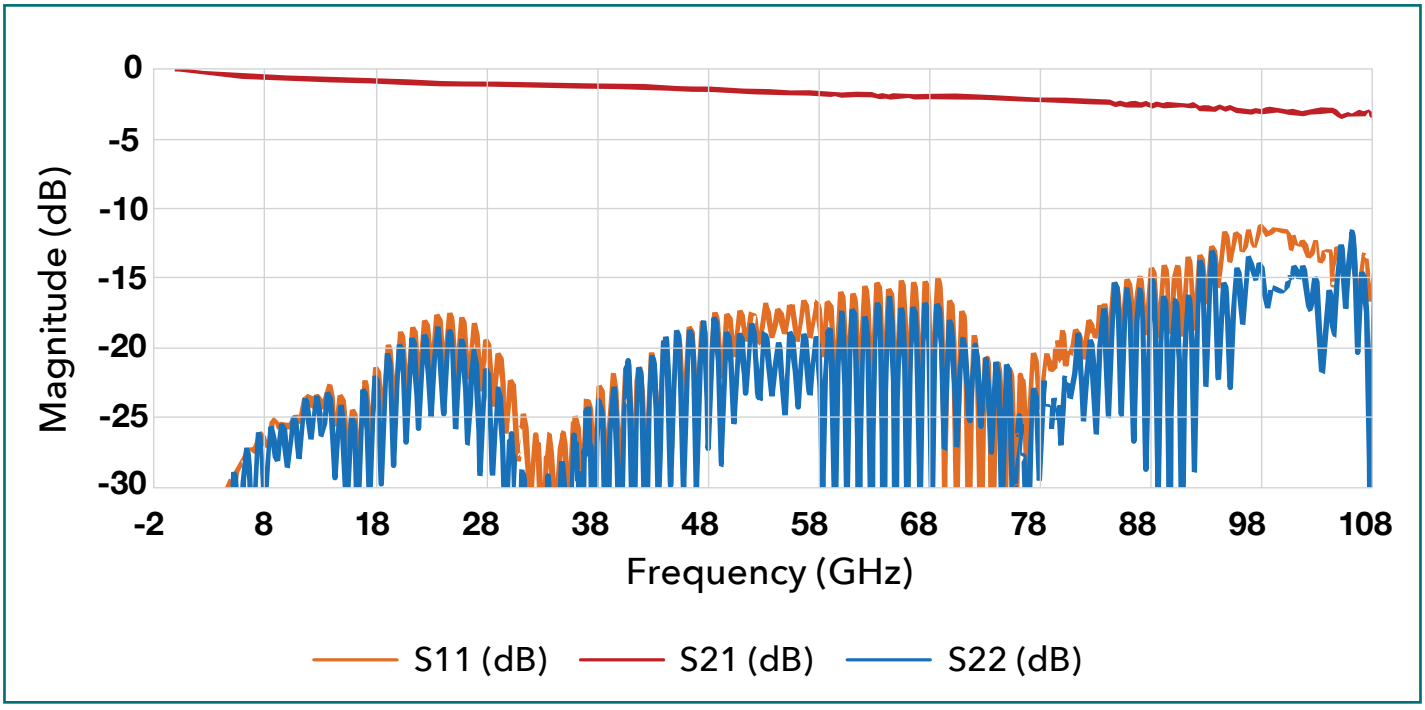
8 POSITIONS PER ROW -1 SHOWN



8 POSITIONS PER ROW -2 SHOWN

BE90A, 2 X 4 FOOTPRINT

Measured performance of a BE90A, 2x4-S (stripline) block, 100 mm low-loss microwave cable and 1.00 mm end 2 connectors. Results include BE90A cable assembly, the launch region, and 1.75 mm of trace. All other effects have been removed by de-embedding



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

70 GHz ASSEMBLIES

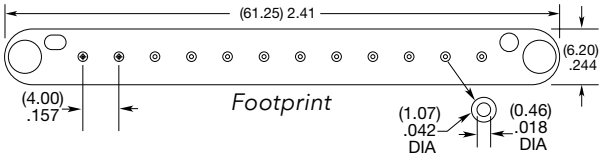
BE70A	–	TRANSMISSION TYPE	–	END 2	–	PHASE MATCHING	–	ROW OPTION	–	POSITIONS PER ROW	–	OVERALL LENGTH
		–S = Stripline **–M** = Microstrip		**–18SJ** = 1.85 mm Straight Jack **–18SP** = 1.85 mm Straight Plug		**–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching		**–1** = Single Row (–02, –04, –08 & –12 positions only) **–2** = Double Row (–03 through -16 positions only)		**–02, –03, –04, –06, –08, –10, –12, –14, –16**		**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum

DC TO 70 GHz | PAM4 112 Gbps

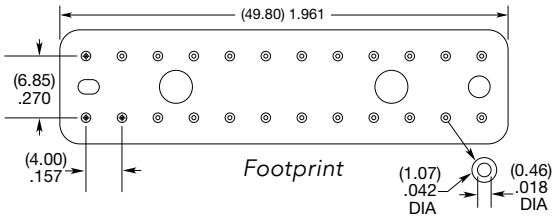
BE70A
End 2 Connectors:
1.85 mm (70 GHz)



12 POSITIONS PER ROW –1 SHOWN



12 POSITIONS PER ROW –2 SHOWN



50 GHz & 40 GHz ASSEMBLIES

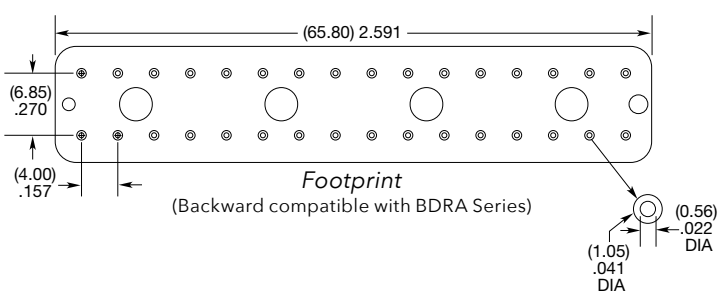
BE40A	–	TRANSMISSION TYPE	–	END 2	–	PHASE MATCHING	–	2	–	POSITIONS PER ROW	–	OVERALL LENGTH
		–S = Stripline **–M** = Microstrip		**–92SJ** = 40 GHz, 2.92 mm Straight Jack **–24SJ** = 50 GHz, 2.40 mm Straight Jack **–92SP** = 40 GHz, 2.92 mm Straight Plug **–24SP** = 50 GHz, 2.40 mm Straight Plug		**–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching				**–03, –04, –06, –08, –10, –12, –14, –16**		**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum

DC TO 50 GHz | PAM4 56 Gbps

BE40A
End 2 Connectors:
2.40 mm (50 GHz)
2.92 mm (40 GHz)



16 POSITIONS PER ROW SHOWN



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RUGGED, BLIND MATE MODULES & CONTACTS

MODULAR, CONFIGURABLE SOLUTIONS

Samtec offers a flexible blind-mate module solution for RF and optical that is ideal for rugged applications. Choose from numerous options to create a customized module that meets the needs of your application. These pages highlight a few of the many options available; contact the **RFGroup@samtec.com** for more options or information.

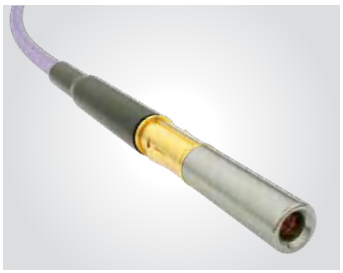
STEPS FOR BUILDING A SOLUTION



1. Choose Block



2. Choose Contact



3. Choose Cable Option (RF/Optical)



4. Finished Solution

BLOCK OPTIONS

VBM - **GENDER** - **APERTURE FILL** - **CARD THICKNESS**



–M
= Male
(For GPCC-P pin option only)

–F
= Female
(For GPCC-S socket option only)

PRELIMINARY

–A
= 6x Size 20, 1x MT Ferrule

–B
= 2x MT Ferrule

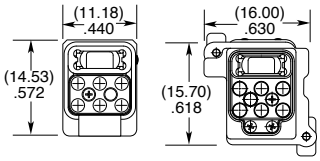
–C
= 6x Size 16, 1x MT Ferrule

–D
= 8x Size 16

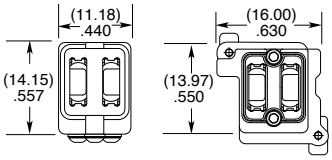
–E
= 10x Size 20

–01
= (1.60 mm) .062" thick card

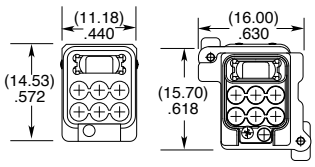
–02
= (2.36 mm) .093" thick card



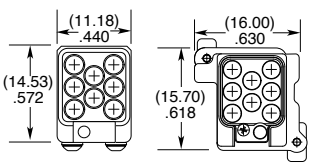
–A FEMALE **–A MALE**



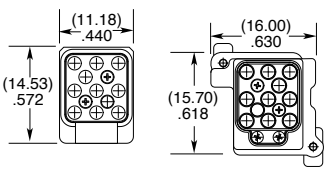
–B FEMALE **–B MALE**



–C FEMALE **–C MALE**



–D FEMALE **–D MALE**



–E FEMALE **–E MALE**

View complete specifications at: **samtec.com?VBM**

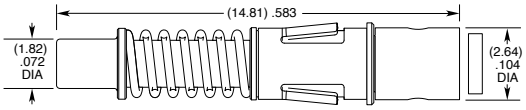
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

CONTACT OPTIONS

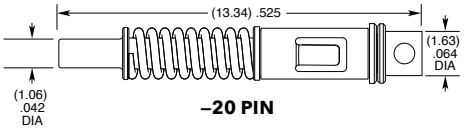
GPCC	SIZE	SERIES	GENDER	TYPE	PLATING	CABLE CALLOUT	ORIENTATION	OPTION
	–16 = Size 16 **–20** = Size 20	**–N** = Size 16 only **–V** = Size 20 only	**–P** = Pin (For VBM-M block only) **–S** = Socket (For VBM-F block only)	**–C** = Cable	**GG** = 10 µ" (0.25 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body	**–086F** = CCA-086F-PTFE, 75 Ω (Size 16, pin only) **–047J** = CCA-047J-PTFE, 75 Ω (Size 16, socket only) **–047A** = CCA-047-PFA, 50 Ω (Size 20 only)	**–SD** = Direct Solder	**–1** **–2** (Socket, Size 20 only)



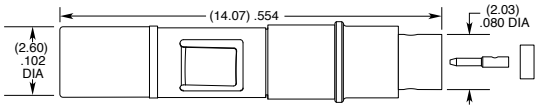
PRELIMINARY



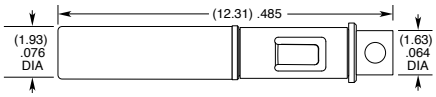
–16 PIN



–20 PIN



–16 SOCKET



–20 SOCKET

CABLE ASSEMBLY OPTIONS

View complete specifications at: **samtec.com?GPCC-16 or samtec.com?GPCC-20**

RF047-A	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
	–MTSJ = Threaded SMPM Jack **–M0SJ** = SMPM Jack **–20VP** = Size 20 Pin **–20VS** = Size 20 Socket		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum



PRELIMINARY

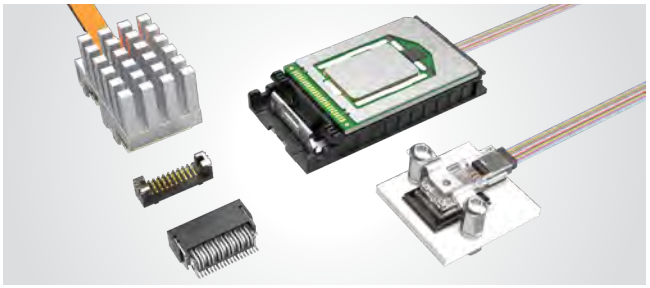
ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMA

OPTICAL OPTIONS

View complete specifications at: **samtec.com?RF047-A**

Samtec's rugged mid-board optical transceivers are available with industry standard MT ferrule end options: FireFly™, FireHawk™ and Halo®. Contact **RFGroup@samtec.com** for assistance with this solution.



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

NEXT GEN FLEXIBLE WAVEGUIDE

HIGH FREQUENCY • FLEXIBLE CABLE • SMALL FORM FACTOR • LOW LOSS

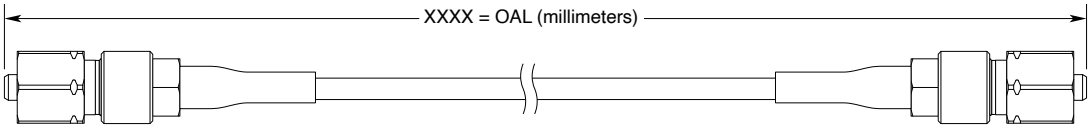
Samtec's new, high frequency micro waveguide technology is designed to support the demands of next generation millimeter wave systems. It uses a cable design allowing flexibility and a reduced size, and supports frequencies up to 75 GHz (V-band), but with a loss performance greatly improved over coaxial cables.

V-BAND CABLE

V-Band Cable Assemblies
WF15



SERIES	CORE TYPE	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
WF15 = 50-75 GHz	**–S** = Solid	**–75TP** = 75 GHz Threaded Plug	**–75TP** = 75 GHz Threaded Plug	**–"XXXX"** = Overall Length in millimeters –0102 (102 mm) 4.016" min.

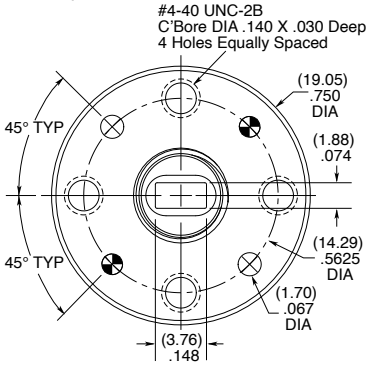


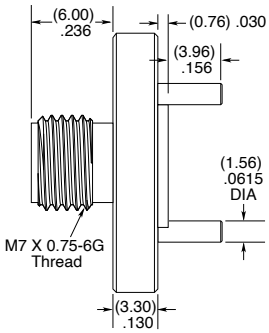
ADAPTORS

V-Band Adaptors
WGBA



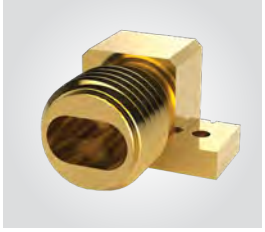
WGBA	SERIES	END 1 SERIES	END 2 SERIES	GENDER	ORIENTATION
	–BA = Between Series Adaptor	**–385** = UG385/U	**–75T** = 50 to 75 GHz Threaded Waveguide	**–J** = Jack	**–S** = Straight



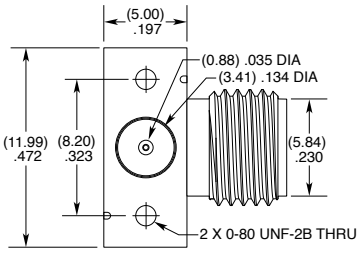


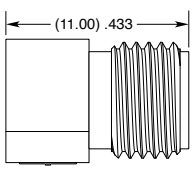
BOARD CONNECTORS

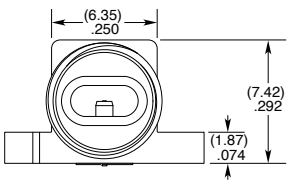
V-Band Board Connectors
75T



SERIES	GENDER	TYPE	PLATING OPTION	ORIENTATION	TERMINATION
75T = 50 to 75 GHz Threaded Waveguide	**–J** = Jack	**–P** = PCB	**–EE** = 50 µ" (1.27 µm) Extra Heavy Gold center contact and outer body	**–RA** = Right-angle	**–CM** = Compression mount stripline







Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

LOW FREQUENCY CABLE SPECIFICATIONS

STANDARD OFF-THE-SHELF ASSEMBLIES

SERIES		MH081	MH113	RF178	RF174	IJ5C✦ (IsoRate®)	RF316, IJ5C, IJ5H, GRF1-C, GRF1H-C	RS316	RF058	RF179, GRF7-C, GRF7H-C	RFB8T	RFC8T	RFB6T	RFC6T	RFA6T	C28S
TYPE		50 Ω CABLES								75 Ω CABLES						100 Ω CABLES
		0.81 mm (34 AWG)	1.13 mm (31 AWG)	RG 178 (28 AWG)	RG 174 (24 AWG)	Samtec 26 AWG, high-temp micro coax	RG 316 (24 AWG)	RG 316, double shielded (24 AWG)	RG 58 (20 AWG)	RG 179 (28 AWG)	Belden 1855A (23 AWG)	12G-SDI, Belden 4855R (23 AWG)	Belden 1694A (18 AWG)	12G-SDI, Belden 4694R (18 AWG)	RG 6 (18 AWG)	Samtec 28 AWG, shielded twisted pair
ELECTRICAL																
Impedence	Ω	50 ± 3	50 ± 2		50 ± 5	50 ± 2		50 ± 3		75 ± 3						100 ± 5
Insertion Loss (dB/m)	100 MHz	1.00	0.60	0.50	0.40	0.68	0.30	1.40 @ 2 GHz	0.20	0.30	0.12		0.07	0.06	0.07	------
	1 GHz	3.10	1.90	1.70	1.40	2.37	1.25	1.60 @ 3 GHz	0.80	0.80	0.37	0.36	0.21	0.19	0.21	------
	6 GHz	8.60	4.90	5.90	4.40	6.53	4.25	2.20 @ 5 GHz	5.40	3.60	0.97	0.91	0.59	0.51	0.59	------
Propagation Delay	nS/m	4.70	4.70	4.83	5.06	4.17	4.83	------	5.05	4.83	4.12	4.06		3.92	4.03	------
Current Rating	Amps	1.20	2.10	3.00	5.00	3.00	5.00	------		3.00	5.00	4.70	------	16.00	------	
Capacitance	pF/m	100.00	95.00	96.00	101.00	85.60	96.00	95.80	102.00	64.00	55.70	53.40	53.14	52.20	53.14	38.00
CONSTRUCTION																
Center Conductor	Material	Silver Plated Copper		Silver Plated Copper Clad Steel	Bare Copper	Silver Plated Copper	Silver and Copper Plated Steel	Silver Plated Copper Clad Steel	Tinned Copper	Silver Plated Copper	Bare Copper	Silver Plated Copper	Bare Copper	Silver Plated Copper	Bare Copper	Silver Plated Copper
	AWG	34	31	28	24	26	24		20	28	23		18			28
Dielectric	Material	FEP		PTFE	KLPE	Foamed FEP	PTFE	FEP	Solid Polyeth-ylene	PTFE	FHDPE	PE (Foam)	FHDPE	PE (Foam)	FHDPE	FEP
Shield	Material	Silver Plated Copper	Tinned Copper	Silver Plated Copper	Tinned Copper	Silver Plated Copper			Tinned Copper	Silver Plated Copper	1. Al Foil-Polyester Tape-Al Foil 2. Tinned Copper		1. Bonded Al Foil 2. Al Wire	1. Al Foil-Polyester Tape-Al Foil 2. Tinned Copper		Silver Plated Copper
Jacket	Material	PFA	FEP		PVC	FEP			PVC	FEP	PVC					
MECHANICAL																
Operating Temp		-40 °C to +90 °C		-50 °C to +165 °C	-20 °C to +80 °C	-40 °C to +200 °C	-55 °C to +165 °C		-50 °C to +90 °C	-50 °C to +165 °C	-30 °C to +75 °C			-20 °C to +75 °C	-30 °C to +75 °C	-20 °C to +105 °C
Bend Radius	Min	5.00 mm	6.80 mm	10.20 mm	25.40 mm	3.18 mm	12.80 mm	12.80 mm	49.50 mm	10.20 mm	38.10 mm	41.00 mm	69.85 mm	70.00 mm	69.85 mm	19.05 mm
Connector Options		MHF1, MHF3, MHF4	MHF1, SMA	MMCX, MCX, SMA, SMB, BNC, TNC, N Type	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type, Ganged	IsoRate®	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type, Ganged	MMCX, MCX, SMA, BNC, TNC	SMA, TNC, N Type	MCX, MMCX7, SMB, BNC, DIN 1.0/2.3, Ganged	HD-BNC, DIN 1.0/2.3		BNC, HD-BNC, DIN 1.0/2.3			CJT

✦ ALSO USES RG 316

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

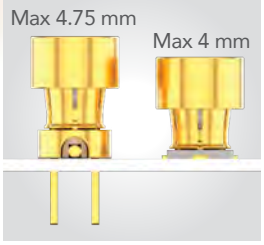
RUGGED U.FL / MHF® 1 SOLUTIONS

FEATURES

- Extended ferrule length provides a metalized strain relief for increased durability
- 500 mating cycles
- Mixed technology PCB connector for improved durability, prevents shearing (RSP-237256-XX)
- Intermateable with industry standard U.FL/MHF® 1 board connectors (RSP-122811-01)
- 50 Ohm impedance
- Frequency: DC to 10 GHz
- .047" low-loss flexible cable, 29 AWG (RF047-A)
- Mated height (with right-angle cable connector):
  - 4 mm max. (-11RP9 HMHF1 + RSP-122811-01)
  - 4.75 mm max. (-11RP9 HMHF1 + RSP-237256-XX)
- Visit **samtec.com/rugged-ufl** or contact **RFGroup@samtec.com** for more information



MATED HEIGHTS



50 Ω U.FL/MHF® 1 RF CABLE TO 10 GHZ

MHF® is a registered trademark of I-PEX® Inc.

SERIES	-	END 1 CONNECTOR	-	END 2 CONNECTOR	-	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable		**Specify END OPTION from chart**				**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

U.FL/MHF® 1 Cable Assemblies
RF047-A

PRELIMINARY



RELATED SOLUTIONS

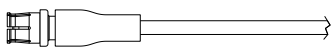
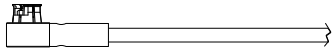
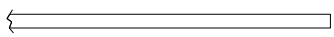
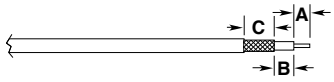
Micro High Frequency (MHF® 1) to 6 GHz
- On 0.81 mm cable (MH081 Series)
- On 1.13 mm cable (MH113 Series)

STRIPPED & TINNED (Dimensions in mm)

CALLOUT	A	B	C
-303030	3.0	3.0	3.0
-303040	3.0	3.0	4.0
-403030	4.0	3.0	3.0
-403040	4.0	3.0	4.0
-404040	4.0	4.0	4.0

Both center conductor and braid shield are stripped, only the center conductor is tinned.

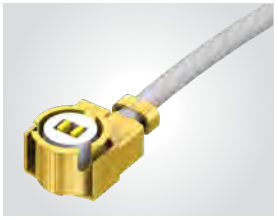
END OPTIONS

–11SP9 = HMHF1 U.FL/MHF® 1 Straight Plug	
–11RP9 = HMHF1 U.FL/MHF® 1 Right-Angle Plug, Metal Strain Relief	
-SING = Single Ended (End 2 Callout)	
-XXXXXX = Stripped & Tinned (End 2 Callout)	

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MHF® Cable Assemblies

MH081, MH113



SPECIFICATIONS

Outer Contact Material:
Au plated Phosphor Bronze
Center Contact Material:
Au plated Phosphor Bronze (MHX)
Au plated BeCu (SMA)
Insulator Material:
PBT (MHX)
PTFE (SMA)
Operating Temperature:
-40 °C to +90 °C
Voltage Rating:
170 V max
Dielectric Withstanding Voltage:
200 Vrms

0.81 mm Cable:

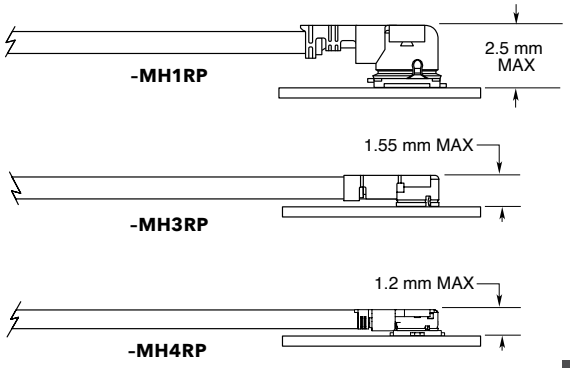
Capacitance:
100 pF/meter
Max Attenuation (cable only):
3.1 dB @ 1 GHz
Conductor Size:
36 AWG, (0.81 mm) .032" dia.
Conductor Material:
Silver Plated Copper
Conductor Resistance:
1.40 Ω/meter max
Insulator Diameter:
(0.4 mm) .016"
Insulator Material: FEP
Shield Material:
Silver Plated Copper
Jacket Material: PFA
Jacket Diameter:
(0.81 mm) .032" dia.
Bend Radius: 5.0 mm
Jacket Temp Rating:
-40 °C to +90 °C

1.13 mm Cable:

Capacitance:
95 pF/meter
Max Attenuation (cable only):
2 dB @ 1 GHz
Conductor Size:
32 AWG, (1.13 mm) .045" dia.
Conductor Material:
Silver Plated Copper
Conductor Resistance:
0.60 Ω/meter max
Insulator Diameter:
(0.66 mm) .026"
Insulator Material:
FEP
Shield Material:
Tinned Copper
Jacket Material:
FEP
Jacket Diameter:
(1.13 mm) .045" dia
Bend Radius:
6.8 mm
Jacket Temp Rating:
-40 °C to +90 °C

SERIES		END 1 CONNECTOR		END 2 CONNECTOR		OVERALL LENGTH
MH081 = 0.81 mm Cable **MH113** = 1.13 mm Cable	–	Specify END OPTIONS from chart	–		–	**–0030** = 1.18" (30 mm) **–0050** = 1.97" (50 mm) **–0100** = 3.94" (100 mm) **–0150** = 5.91" (150 mm) **–0300** = 11.81" (300 mm)

APPLICATION



EXTRACTION TOOLS

MH1RP = RSP-122893-01
MH3RP = RSP-122893-02
MH4RP = RSP-122893-03

MATING SOLUTIONS

MH1RP end mates with RSP-122811-01 (Cycles: 30 max.)

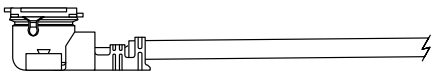
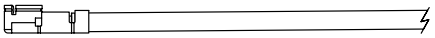
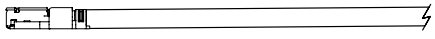
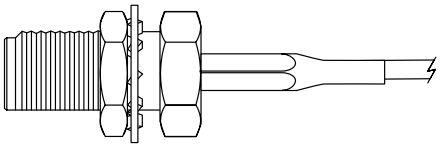
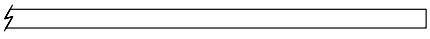
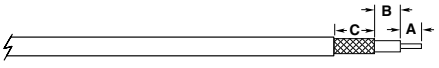
MH3RP end mates with RSP-122811-02

MH4RP end mates with RSP-122811-03



MHF® is a registered trademark of I-PEX® Inc.

END OPTIONS

–MH1RP = MHF1 Type Plug (3.9 µ" (0.1 µm) Gold on Center Contact, 1.9 µ" (0.05 µm) Gold on Shell)	
–MH3RP = MHF3 Type Plug (3.9 µ" (0.1 µm) Gold on Center Contact, 1.9 µ" (0.05 µm) Gold on Shell) (MH081 only)	
–MH4RP = MHF4 Type Plug (10 µ" (0.25 µm) Gold on Center Contact, 1.9 µ" (0.05 µm) Gold on Shell) (MH4RP is not available with MH1RP & MH3RP) (MH081 only)	
–01BJ1 = SMA Straight Bulkhead Jack (MH081 only) **–01BJ2 = SMA** Straight Bulkhead Jack, Reversed Polarity **–01SB1 = SMA** Straight Jack, Sealed Bulkhead **–01SR1 = SMA** Straight Jack, Sealed Bulkhead, Reversed Polarity (30 µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
–SING = Single Ended (End 2 callout)	
XXXXXX = Stripped & Tinned (End 2 callout)	

STRIPPED & TINNED (Dimensions in mm)

CALLOUT	A	B	C
–303030	3.0	3.0	3.0
–303040	3.0	3.0	4.0
–403030	4.0	3.0	3.0
–403040	4.0	3.0	4.0
–404040	4.0	4.0	4.0

Both center conductor and braid shield are stripped, only the center conductor is tinned.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMA Cable Assemblies

RF174, RF178, RF316, RS316, RF058



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–01SP1** = SMA Straight Plug	**–01SP1** = SMA Straight Plug	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable (–01BJ1 & –01BR1 only)	**–01RP1** = SMA Right-angle Plug	**–01RP1** = SMA Right-angle Plug	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–01BJ1** = SMA Straight Bulkhead Jack	**–01BJ1** = SMA Straight Bulkhead Jack	
RS316 = RG 316 Cable, Double Shield (–01SP1 & –01BJ1 only)	**–01SB1** = Straight Bulkhead Jack, Sealed	**–01SB1** = Straight Bulkhead Jack, Sealed	
RF058 = RG 58 Cable (–01SP1, –01BJ1 & –01SB1 only)	**–01SR1** = Straight Bulkhead Jack, Sealed, Reversed Polarity	**–01SR1** = Straight Bulkhead Jack, Sealed, Reversed Polarity	
	–01BR1 = Straight Bulkhead Jack, Reversed Polarity	**–01BR1** = Straight Bulkhead Jack, Reversed Polarity	
	–01PN1 = 4-Hole Panel Mount Jack	**–01PN1** = 4-Hole Panel Mount Jack	

ALSO AVAILABLE

50 Ω: MCX, MMCX, SMB, BNC, TNC, N Type = RF174, RF178, RF316

50 Ω: MCX, MMCX, BNC, TNC = RS316

50 Ω: TNC = RF058

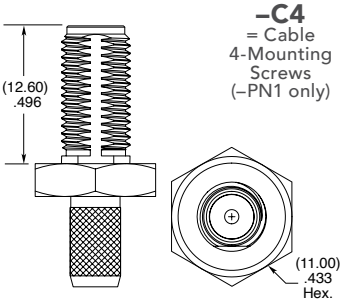
SMA Cable Connectors

SMA-CA



Supplied with pins, washers, nuts and ferrules. See website for dimensions.

SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	**–C** = Cable	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (N/A with –BH1S)	**–ST** = Straight	**–BH1** = Bulkhead RG 174 / 316 Cable	**–BH1S** = Bulkhead RG 316 Cable, Double Shield	Leave blank for individually bagged.
		–C4 = Cable 4-Mounting Screws (–PN1 only)	**–HF** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–BH1S only)		**–BH2** = Bulkhead RG 178 Cable	**–B10** = Bulkhead RG 58 Cable	**–B** = Bulk packaged (–BH1 only)
					–BR1 = Bulkhead RG 174 / 316, Reversed Polarity	**–PN1** = 4-Hole Panel Mount RG 174 / 316 Cable	
					–BR2 = Bulkhead RG 178 Cable, Reversed Polarity	**–S10** = Sealed Bulkhead RG 58 Cable	



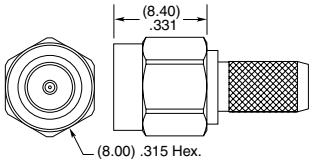
-S10, -B10



SMA Board Connectors

See page 163 for Board Connectors

SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–P = Plug	**–C** = Cable	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–CA1, –C10 only)	**–ST** = Straight	**–CA1** = RG 174 / 316 Cable	Leave blank for individually bagged.
				–RA = Right-angle	**–C10** = RG 58 Cable (–ST only)	**–B** = Bulk packaged (–CA1 only)
			–HF = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–CA1S only)		**–CA1S** = RG 316 Double Shielded Cable (–ST only)	



-ST-C10

Supplied with pins, washers, nuts and ferrules. See website for dimensions.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MCX Cable Assemblies

RF174, RF178, RF316, RS316



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–02SJ1** = MCX Straight Jack	**–02SJ1** = MCX Straight Jack	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–02RP1** = MCX Right-angle Plug (RS316 not available)	**–02RP1** = MCX Right-angle Plug (RS316 not available)	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–02SP1** = MCX Straight Plug	**–02SP1** = MCX Straight Plug	
RS316 = RG 316 Cable, Double Shielded			

ALSO AVAILABLE

50 Ω: MMCX, SMA, SMB, BNC, TNC,

N Type = RF174, RF178, RF316

50 Ω: MMCX, SMA, BNC, TNC = RS316

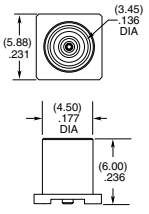
MCX Board Connectors

MCX-TH, MCX-SM, MCX-EM, MCX-MT

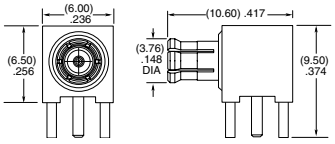
Cable Mates:
RF174, RF178, RF316, RS316, GRF1H-C, IJ5H



MCX	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack **–P** = Plug	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–ST** = Straight **–RA** = Right-angle	**–TH1** = Through-hole (–ST plug not available) **–TH2** = Elevated Through-hole (–ST plug only) **–SM1** = Surface Mount (Jack only) **–EM1** = Edge Mount (–ST jack only) **–MT1** = Mixed Technology (–ST jack only)



-ST-SM1 (Jack)



-RA-TH1 (Plug)

MCX Cable Connectors

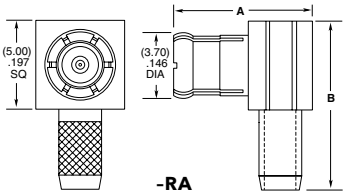
MCX-CA



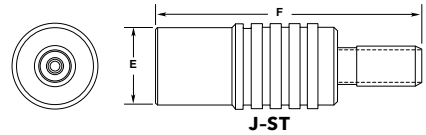
CONNECTORS FOR INDUSTRY STANDARD CABLES	
MCX-J-C-H-ST-CA1	RG 174/316 Cable
*MCX-J-C-H-ST-CA2	RG 178 Cable
MCX-J-C-HF-ST-CA1S	RG 316 Double Shielded Cable
*MCX-P-C-H-ST-CA1	RG 174/316 Cable
MCX-P-C-H-ST-CA2	RG 178 Cable
MCX-P-C-HF-ST-CA1S	RG 316 Double Shielded Cable
*MCX-P-C-H-RA-CA1	RG 174/316 Cable
MCX-P-C-H-RA-CA2	RG 178 Cable

*Add "–B" to the end of the part number for bulk packaging

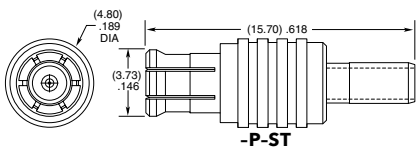
P-C = Cable Plug
J-C = Cable Jack
H or HF = Plating (30 µ" Gold center contact, 3 µ" Gold outer contact)
ST = Straight
RA = Right-angle



-RA



J-ST



-P-ST

TYPE (-RA)	A	B
–P–CA1	(7.78) .306	(9.50) .374
–P–CA2	(8.58) .338	(10.00) .394

TYPE (-ST)	E	F
–J–CA1	(4.50) .177	(15.50) .610
–J–CA2	(4.78) .188	(15.00) .591
–J–CA1S	(4.50) .177	(15.50) .610

Supplied with pins and ferrules.
See website for dimensions.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MMCX Cable Assemblies

RF174, RF178, RF316, RS316



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–03SP1** = MMCX Straight Plug	**–03SP1** = MMCX Straight Plug	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable (–03SP1 & –03RP1 only)	**–03RP1** = MMCX Right-angle Plug	**–03RP1** = MMCX Right-angle Plug	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–V3SP1** = MMCXV Straight Plug, High Vibration	**–V3SP1** = MMCXV Straight Plug, High Vibration	
RS316 = RG 316 Cable, Double Shielded (–03SP1 only)	**–V3RP1** = MMCXV Right-angle Plug, High Vibration	**–V3RP1** = MMCXV Right-angle Plug, High Vibration	
	–V3SJ1 = MMCXV Straight Jack, High Vibration	**–V3SJ1** = MMCXV Straight Jack, High Vibration	

ALSO AVAILABLE

50 Ω: MCX, SMA, SMB, BNC, TNC, N Type = RF174, RF178, RF316

50 Ω: MCX, SMA, BNC, TNC = RS316

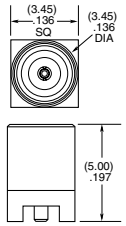
MMCX Board Connectors

MMCX-SM, MMCX-TH, MMCX-MT, MMCX-EM

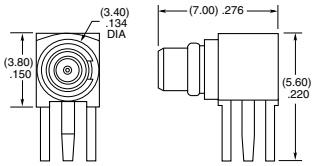
Cable Mates:
RF174, RF178, RF316, RS316, GRF1H-C, IJ5H



MMCX	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–ST** = Straight	**–TH1** = Through-hole
	–P = Plug			**–RA** = Right-angle	**–MT1** = Mixed Technology (–ST only)
					–SM1 = Surface Mount (–RA plug not available)
					–EM1 = Edge Mount (–ST only)



-ST-SM1 (Jack)



-RA-TH1 (Plug)

MMCX Cable Connectors

MMCX-CA



CONNECTORS FOR INDUSTRY STANDARD CABLES	
MMCX-P-C-H-ST-CA1	RG 174/316 Cable
MMCX-P-C-H-ST-CA2	RG 178 Cable
MMCX-P-C-HF-ST-CA1S	RG 316 Double Shielded Cable
MMCX-P-C-H-RA-CA1	RG 174/316 Cable
MMCX-P-C-H-RA-CA2	RG 178 Cable

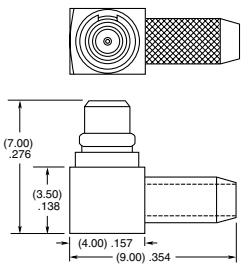
Add "–B" to the end of the part number for bulk packaging

P-C = Cable Plug

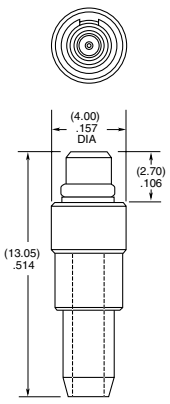
H or HF = Plating (30 µ" Gold center contact, 3 µ" Gold outer contact)

ST = Straight

RA = Right-angle



-RA-CA1 & RA-CA2



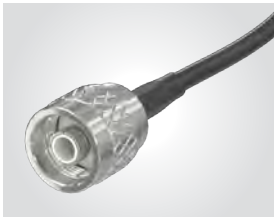
-ST-CA1, -ST-CA2 & -ST-CA1S

Supplied with pins and ferrules.
See website for dimensions.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TNC Cable Assemblies

RF174, RF178, RF316, RS316, RF058



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–05SP3** = TNC Straight Plug (RF058 not available)	**–05SP3** = TNC Straight Plug (RF058 not available)	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–05BJ3** = TNC Straight Bulkhead Jack (RS316 & RF058 not available)	**–05BJ3** = TNC Straight Bulkhead Jack (RS316 & RF058 not available)	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–05SR3** = TNC Straight Plug, Reversed Polarity (RF058 only)	**–05SR3** = TNC Straight Plug, Reversed Polarity (RF058 only)	
RS316 = RG 316 Cable, Double Shielded			
RF058 = RG 58 Cable			

ALSO AVAILABLE

50 Ω: MCX, MMCX, SMA, SMB, BNC, N Type = RF174, RF178, RF316

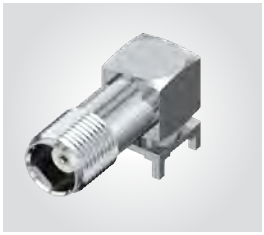
50 Ω: MCX, MMCX, SMA, BNC = RS316

50 Ω: SMA, N Type = RF058

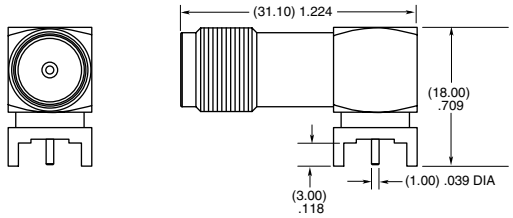
TNC Board Connectors

TNC-TH

Cable Mates:
RF174, RF178, RF316, RS316, RF058, GRF1H-C



TNC	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, Nickel on shell	**–RA** = Right-angle	**–TH1** = Through-hole



TNC Cable Connectors

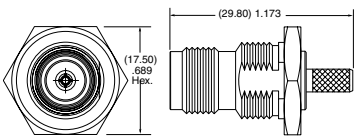
TNC-CA



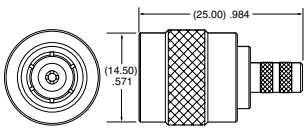
Supplied with pins, washers, nuts and ferrules. See website for dimensions.

CONNECTORS FOR INDUSTRY STANDARD CABLES	
TNC-P-C-GN-ST-CA1	RG 174/316 Cable
TNC-P-C-GN-ST-CA2	RG 178 Cable
TNC-P-C-GN-SR-C10	RG 58 Cable
TNC-J-C-GN-ST-BH1	RG 174/316 Cable, Bulkhead
TNC-J-C-GN-ST-BH2	RG 178 Cable, Bulkhead

P-C = Cable Plug
J-C = Cable Jack
GN = Plating (10 µ" Gold on contact, Nickel on body)
ST = Straight
SR = Straight Reverse Polarity



-J



-P

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BNC Cable Assemblies

RF174, RF178, RF316, RS316



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–04SP3** = BNC Straight Plug (RS316 not available)	**–04BJ2** = BNC Bulkhead Jack	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable			–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield			
RS316 = RG 316 Cable, Double Shielded			

ALSO AVAILABLE

50 Ω: MCX, MMCX, SMA, SMB, TNC, N Type = RF174, RF178, RF316

50 Ω: MCX, MMCX, SMA, TNC = RS316

BNC Cable Connectors

BNC5-CA



Supplied with pins, washers, nuts, gaskets and ferrules. See website for dimensions.

CONNECTORS FOR INDUSTRY STANDARD CABLES	
*BNC5-P-C-GN-ST-CA1	RG 174/316 Cable
*BNC5-P-C-GN-ST-CA2	RG 178 Cable
*BNC5-J-C-GN-ST-BH1	RG 174/316 Cable, Bulkhead
BNC5-J-C-GN-ST-BH2	RG 178 Cable, Bulkhead
BNC5-J-C-GN-ST-BH1S	RG 316 Double Shielded Cable, Bulkhead

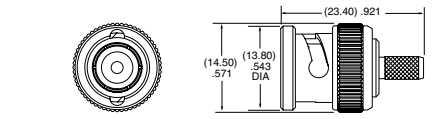
*Add "-B" to the end of the part number for bulk packaging

P-C = Cable Plug

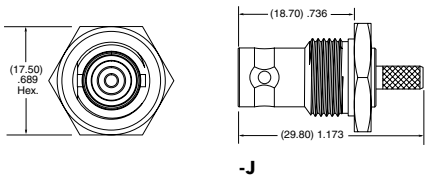
J-C = Cable Jack

GN = Plating (10 µ" Gold on contact, Nickel on body)

ST = Straight



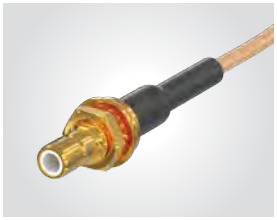
-P



-J

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMB Cable Assemblies
RF174, RF178, RF316



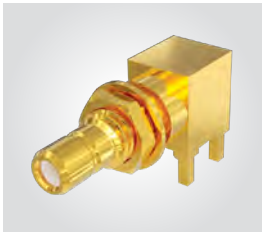
SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–07SP1** = SMB Straight Plug		**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–07RP1** = SMB Right-angle Plug		–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–07BJ1** = SMB Bulkhead Jack		
	–07BJ2 = SMB Bulkhead Jack (RF178 only)		

ALSO AVAILABLE

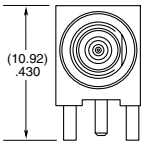
50 Ω: MCX, MMCX, SMA, BNC, TNC, N Type = RF174, RF178, RF316

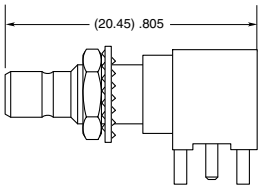
SMB Board Connectors
SMB5-TH

Cable Mates:
RF174, RF178, RF316, GRF1H-C, IJ5H



SMB5	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–RA** = Right-angle	**–TH1** = Through-hole



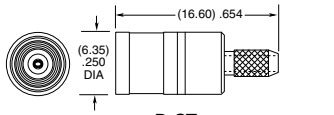


SMB Cable Connectors
SMB5-CA

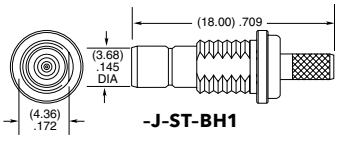


CONNECTORS FOR INDUSTRY STANDARD CABLES	
SMB5-P-C-H-ST-CA1	RG 174/316 Cable
SMB5-P-C-H-RA-CA1	RG 174/316 Cable
SMB5-J-C-H-ST-CA2	RG 178 Cable
SMB5-J-C-H-ST-BH1	RG 316 Cable, Bulkhead

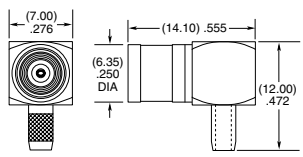
P-C = Cable Plug
J-C = Cable Jack
H = Plating (30 µ" Gold center contact, 3 µ" Gold on outer contact)
ST = Straight
RA = Right-angle



-P-ST



-J-ST-BH1



-P-RA

Supplied with pins, washers, nuts and ferrules. See website for dimensions.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BNC Cable Assemblies

RFC6T, RFA6T, RFB6T, RF179



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFC6T* = 12G-SDI, Belden 4694R Cable	**–74SP3** = 75 Ω BNC Straight Plug	**–74SP3** = 75 Ω BNC Straight Plug	**–"XXXX"** = Overall Length in millimeters
RFA6T = RG 6 Cable	**–D4SP3** = 75 Ω BNC Die Cast Straight Plug (RFA6T, RFB6T, RF179 only)	**–D4SP3** = 75 Ω BNC Die Cast Straight Plug (RFA6T, RFB6T, RF179 only)	–0300 (300 mm) 11.81" minimum (RFA6T, RFB6T, RFC6T)
RFB6T = Belden 1694A Cable	**–74BJ3** = 75 Ω BNC Bulkhead Jack (RF179 only)	**–74BJ3** = 75 Ω BNC Bulkhead Jack (RF179 only)	–0100 (100 mm) 3.94" minimum (RF179)
RF179 = RG 179 Cable	**–74RP3** = 75 Ω BNC Right-angle Plug (RFA6T, RFB6T, RFC6T only)	**–74RP3** = 75 Ω BNC Right-angle Plug (RFA6T, RFB6T, RFC6T only)	

ALSO AVAILABLE

75 Ω: DIN 1.0/2.3, HDBNC = RFA6T, RFB6T, RFC6T

75 Ω: DIN 1.0/2.3, SMB, MCX, MMCX = RF179

*Designed to meet SMPTE 2082 12G-SDI specifications.

BNC Cable Connectors

BNC7T-CA

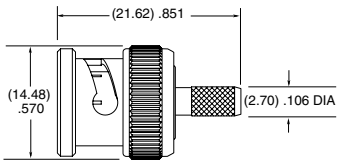


Supplied with pins, washers, nuts, gaskets and ferrules. See website for dimensions.

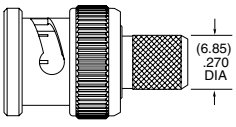
CONNECTORS FOR INDUSTRY STANDARD CABLES	
**BNC7T-P-C-GN-ST-CA3	Machined, RG 179 Cable
**BNC7T-P-C-GN-RA-CA3	Machined, RG 179 Cable
**BNC7T-P-C-GN-ST-CA6	*Machined, RG 6 Cable
**BNC7T-P-C-GN-RA-CA6	*Machined, RG 6 Cable
**BNC7T-P-C-GN-ST-CA6B	Belden 4694R Cable
**BNC7T-P-C-GN-RA-CA6B	Belden 4694R Cable
**BNC7T-J-C-GN-ST-BH3	Machined, Bulkhead, RG 179 Cable
BNC7T- P-C-GN-ST-CA3D	Die Cast, RG 179 Cable
BNC7T-P-C-GN-ST-CA6D	Die Cast, RG 179 Cable

P-C = Cable Plug
J-C = Cable Jack
GN = Plating (10 µ" Gold on contact, Nickel on outer contact and shell)
ST = Straight
RA = Right-angle

**Add "–B" to the end of the part number for bulk packaging
*Designed to meet SMPTE 2082 12G-SDI specifications.

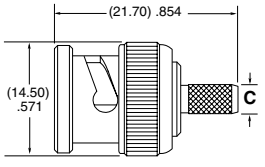


-CA3D

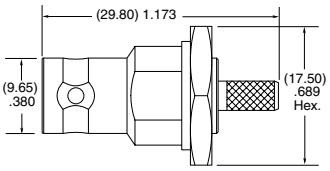


-CA6D

DIE CAST



-P-ST-CA3 & -P-ST -CA6



-J-ST-BH3

MACHINED

TERMINATION	C (DIA)
–CA3	(2.70) .106
–CA6	(6.85) .270

Note:
Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

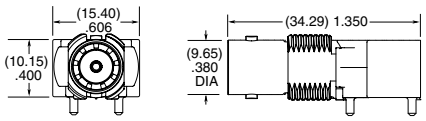
75 Ω DIE CAST BNC TO 12 GHz

BNC Board Connectors
BNC7T-TH, BNC7T-BH, BNC7T-BM, BNC7T-EM

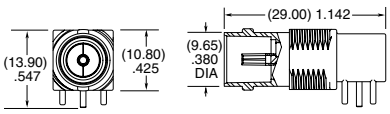
Cable Mates:
RF179, RFA6T, RFB6T, RFC6T, GRF7H-C



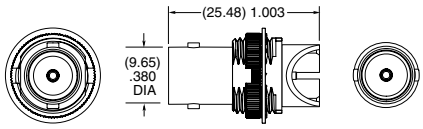
BNC7T	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	–P = PCB Mount	–GN = 10 µ" (0.25 µm) Gold contact, 100 µ" (2.54 µm) Nickel Shell	–ST = Straight –RA = Right-angle Bulkhead/Panel Mount	–TH2D = Tall Through-hole Die Cast (–ST only) –BH2D* = Low Profile Die Cast Bulkhead Through-hole (–RA only) –BM1D* = Low Profile Die Cast Bulkhead Mixed Technology for (1.60 mm) .062" PCB (-RA only) –BM2D* = Low Profile Die Cast Bulkhead Mixed Technology for (3.18 mm) .125" PCB (-RA only) –EM1D* = Edge Mount Die Cast Bulkhead/Panel Mount for (1.60 mm) .062" PCB (–ST only) –EM2D* = Edge Mount Die Cast Bulkhead/Panel Mount for (2.40 mm) .093" PCB (–ST only)	Leave blank for individually bagged. –B = Bulk packaged (–BH2D only)



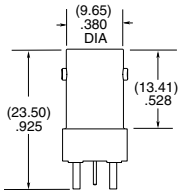
-RA-BM1D
(BALANCED FOR PICK-AND-PLACE)



-RA-BH2D



-ST-EM1D & -ST-EM2D



-ST-TH2D

Notes:
Contact RFGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Board Connectors. Contact RFGroup@samtec.com

*Lock washers & knurled nuts supplied with bulkhead/panel mount options

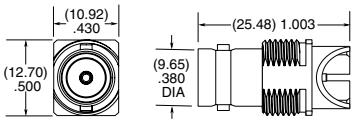
75 Ω MACHINED BNC TO 12 GHz

BNC Board Connectors
BNC7T-TH, BNC7T-BH, BNC7T-EM

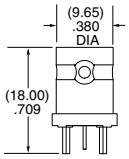
Cable Mates:
RF179, RFA6T, RFB6T, RFC6T, GRF7H-C



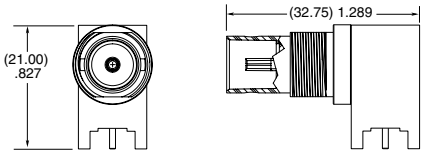
BNC7T	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	–P = PCB Mount	–GN = 10 µ" (0.25 µm) Gold contact, 100 µ" (2.54 µm) Nickel Shell	–ST = Straight –RA = Right-angle Bulkhead/Panel Mount	–TH1 = Standard Through-hole (–ST only) –BH1* = Standard Bulkhead Through-hole (–RA only) –EM1* = Edge Mount Bulkhead/Panel Mount for (1.60 mm) .062" PCB (–ST only) –EM2* = Edge Mount Bulkhead/Panel Mount for (2.40 mm) .093" PCB (–ST only)	Leave blank for individually bagged. –B = Bulk packaged (–BH1 only)



-ST-EM1 & -ST-EM2



-ST-TH1



-RA-BH1

Notes:
Contact RFGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Board Connectors. Contact RFGroup@samtec.com

*Lock washers & knurled nuts supplied with bulkhead/panel mount options

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-DENSITY BNC Cable Assemblies

RFA6T, RFB6T, RFB8T, RFC6T, RFC8T



*Designed to meet SMPTE 2082 12G-SDI specifications.

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFC6T* = 12G-SDI, Belden 4694R Cable **RFC8T*** = 12G-SDI, Belden 4855R Cable **RFA6T** = RG 6 Cable **RFB6T** = Belden 1694A Cable **RFB8T** = Belden 1855A Cable		**–H4SP3** = 75 Ω High-Density BNC Straight Plug	**–"XXXX"** = Overall Length in millimeters –0300 (300 mm) 11.81" minimum

ALSO AVAILABLE

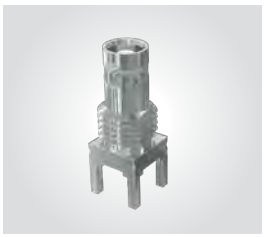
75 Ω: DIN 1.0/2.3, BNC = RFB6T, RFA6T, RFC6T

75 Ω: DIN 1.0/2.3 = RFB8T, RFC8T

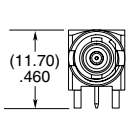
HIGH-DENSITY BNC Board Connectors

HDBNC-TH, HDBNC-EM, HDBNC-BH, HDBNC-BM

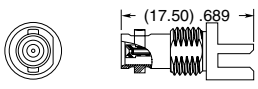
Cable Mates:
RFA6T, RFB6T, RFB8T, RFC6T, RFC8T



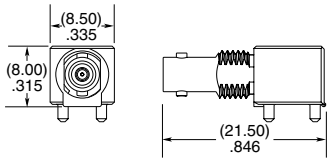
HDBNC	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–GN** = 10 µ" (0.25 µm) Gold contact, 100 µ" (2.54 µm) Nickel shell	**–ST** = Straight **–RA** = Right-angle	**–BH1** = Through-hole **–BH2** = Through-hole (2.36 mm) .093" PCB (-RA only) **–BM1D** = Die Cast Bulkhead Mixed Technology for (1.60 mm) .062" PCB (-RA only) **–BM2D** = Die Cast Bulkhead Mixed Technology for (3.18 mm) .125" PCB (-RA only) **–EM1** = Edge Mount (–ST only) **–TH1** = Through-hole, Three Legs (-ST only)	Leave blank for individually bagged. **–B** Bulk packaged (–BHX only)



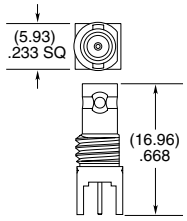
-RA-BH2



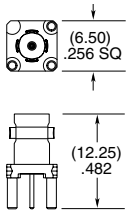
-ST-EM1



-RA-BM1D & -BM2D
(BALANCED FOR PICK-AND-PLACE)



-ST-BH1



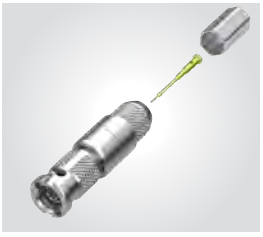
-ST-TH1

Notes:
Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

HIGH-DENSITY BNC Cable Connectors

HDBNC-CA



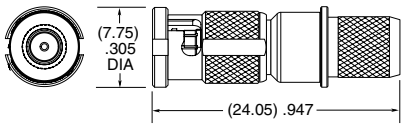
CONNECTORS FOR INDUSTRY STANDARD CABLES	
HDBNC-P-C-GN-ST-CA6	RG 6, Belden 1694A or Belden 4694R Cable
HDBNC-P-C-GN-ST-CA8	Belden 1855A or Belden 4855R Cable

Add "-B" to the end of the part number for bulk packaging (100 max.)

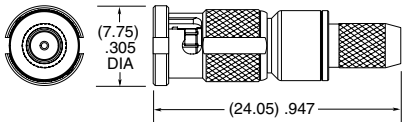
P-C = Cable Plug
GN = Plating (10 µ" Gold on contact, Nickel on outer contact & shell)
ST = Straight

Supplied with pins and ferrules. See website with dimensions.

Designed to meet SMPTE 2082 12G-SDI specifications.



-CA6



-CA8

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

DIN Cable Assemblies

RFA6T, RFB6T, RF179, RFB8T, RFC6T, RFC8T



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFC6T* = 12G-SDI, Belden 4694R Cable **RFC8T*** = 12G-SDI, Belden 4855R Cable **RFA6T** = RG 6 Cable **RFB6T** = Belden 1694A Cable **RF179** = RG 179 Cable **RFB8T** = Belden 1855A Cable		**–78SP4** = 75 Ω DIN Straight Plug	**–"XXXX"** = Overall length in millimeters –0100 (100 mm) 3.94" minimum (RF179) –0300 (300 mm) 11.81" minimum (RFA6T, RFB6T, RFB8T, RFC6T, RFC8T)

ALSO AVAILABLE

75 Ω: HDBNC, BNC = RFB6T, RFA6T, RFC6T

75 Ω: BNC, SMB, MCX, MMCX = RF179

75 Ω: HDBNC = RFB8T, RFC8T

*Designed to meet SMPTE 2082 12G-SDI specifications.

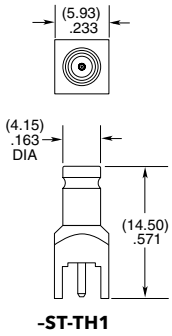
DIN Board Connectors

DIN7A-TH, DIN7A-BH

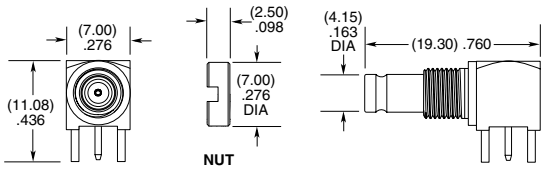
Cable Mates:
RFA6T, RFB6T, RF179, RFB8T, RFC6T, RFC8T, GRF7H-C



DIN7A	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–GF** = 10 µ" (0.25 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact, (100 µ" (2.54 µm) Nickel body –RA only)	**–ST** = Straight (–TH1 only) **–RA** = Right-angle (–BH1 only)	**–TH1** = Through-hole (–ST only) **–BH1** = Bulkhead Through-hole (–RA only)	Leave blank for individually bagged. **–B** = Bulk packaged (–BH1 only)



-ST-TH1



-RA-BH1

Notes:
Contact RFGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

DIN Cable Connectors

DIN7A-CA



CONNECTORS FOR INDUSTRY STANDARD CABLES	
DIN7A-PP-C-GF-ST-CA3	RG 179
DIN7A-PP-C-GF-ST-CA6	*RG 6, Belden 1694A or Belden 4694R Cable
DIN7A-PP-C-GF-ST-CA8	*Belden 1855A or Belden 4855R Cable

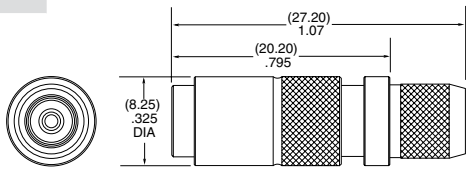
Add "-B" to the end of the part number for bulk packaging (100 max.)

*Designed to meet SMPTE 2082 12G-SDI specifications.

PP-C = Push Pull Plug Cable

GF = Plating (10 µ" Gold on center contact, Flash Gold on outer contact, Nickel on Shell)

ST = Straight



-CA6

Supplied with pins and ferrules.
See website for dimensions

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMB Cable Connectors
RF179



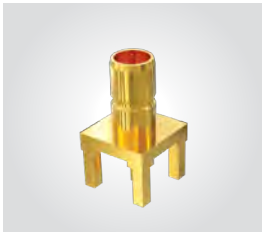
SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF179 = RG 179 Cable	**–77SP1** = 75 Ω SMB Straight Plug **–77RP1** = 75 Ω SMB Right-angle Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

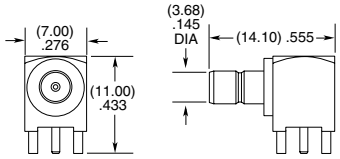
75 Ω: DIN 1.0/2.3, BNC, MCX, MMCX = RF179

SMB Cable Connectors
SMB7H-TH, SMB7H-EM

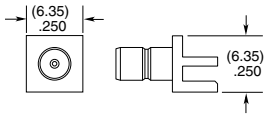
Cable Mates:
RF179, GRF7H-C



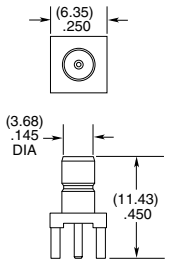
SMB7H	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–ST** = Straight **–RA** = Right-angle	**–TH1** = Through-hole ((0.90 mm) .035" DIA Signal Pin) **–TH2** = Through-hole ((0.51 mm) .020" DIA Signal Pin) (–ST only) **–EM1** = Edge Mount (–ST only)



-RA-TH1



-ST-EM1



-ST-TH1 & -ST-TH2

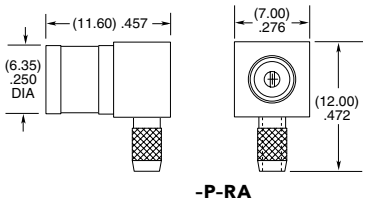
Note:
Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

SMB Cable Connectors
SMB7H-CA

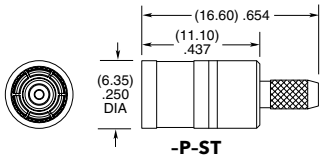


CONNECTORS FOR INDUSTRY STANDARD CABLES	
SMB7H -P-C-H-ST-CA3	RG 179 Cable
SMB7H-P-C-HF-RA-CA3	RG 179 Cable

P-C = Cable Plug
H or HF = Plating (30 µ" Gold center contact, 3 µ" Gold outer contact)
ST = Straight
RA = Right-angle



-P-RA



-P-ST

Supplied with pins and ferrules.
See website for dimensions

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ORIGINAL SOLUTIONS LOW FREQUENCY RF

SHIELDED TWISTED PAIR SYSTEM

DC TO 4 GHz

- 100 Ω differential pair
- 28 AWG shielded twisted pair cable assembly
- High-reliability BeCu contacts
- 1/4-turn bayonet lock

GANGED MICRO-MINI SYSTEMS

DC TO 6 GHz

- 50 Ω & 75 Ω board stacking and cable assemblies
- High-performance rugged contacts
- Variety of End 2 connectors (GRF1H-C, GRF7H-C Series)

ISORATE® SYSTEMS

DC TO 9.5 GHz

- 50 Ω board stacking and cable assemblies
- Isolated signal systems for 90 percent performance of traditional RF at 50 percent of the cost

MINI & MICRO-MINI INTERCONNECTS

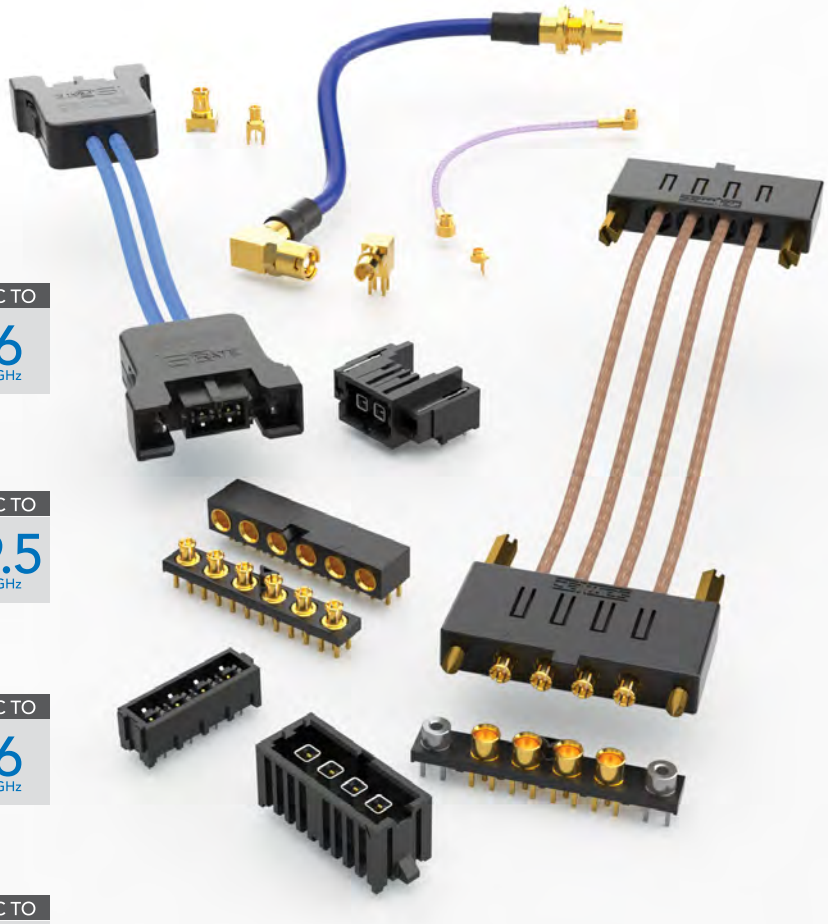
DC TO 6 GHz

- 75 Ω impedance (MMCX7 & MCX7 Series)
- Higher extraction forces (MMCXV Series)
- Not intermateable with standard MMCX, MCX

HIGH-CYCLE U.FL CABLE PLUG

DC TO 10 GHz

- 500 cycle U.FL compatible plug (HMHF1 Series)
- .047" DIA low-loss flexible cable (RF047-A Series)



High Frequency Original RF Solutions Available. See page 155

CABLE SOLUTIONS

SERIES	C28S/CJT	GRF1-C/GRF7-C	GRF1H-C/GRF7H-C	RF047-A	IJ5C/IJ5H
Application	Shielded Twisted Pair	50 Ω & 75 Ω Micro-Mini Ganged	50 Ω & 75 Ω Micro-Mini Hybrid Ganged	50 Ω .047 DIA Flexible Cable	50 Ω IsoRate®
URL	**samtec.com?C28S samtec.com?CJT-BH samtec.com?CJT-TH**	**samtec.com?GRF1-C samtec.com?GRF7-C**	**samtec.com?GRF1H-C samtec.com?GRF7H-C**	**samtec.com?RF047-A**	**samtec.com?IJ5C samtec.com?IJ5H**

BOARD-TO-BOARD SOLUTIONS

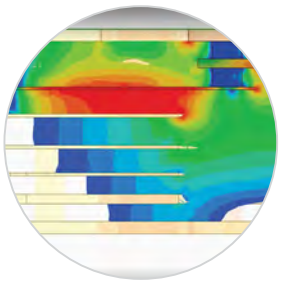
SERIES	GRF1-P/GRF1-J	GRF7-P/GRF7-J	MMCX7	MCX7	MMCXV	IJ5/IP5
Application	50 Ω Micro-Mini Ganged	75 Ω Micro-Mini Ganged	75 Ω Mini and Micro-Mini Interconnects		High-Vibration Micro-Mini	50 Ω IsoRate®
URL	**samtec.com?GRF1-P samtec.com?GRF1-J**	**samtec.com?GRF7-P samtec.com?GRF7-J**	**samtec.com?MMCX7-TH samtec.com?MMCX7-CA**	**samtec.com?MCX7 samtec.com?MCX7-CA**	**samtec.com?MMCXV-TH samtec.com?MMCXV-EM samtec.com?MMCXV-CA**	**samtec.com?IJ5 samtec.com?IP5**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

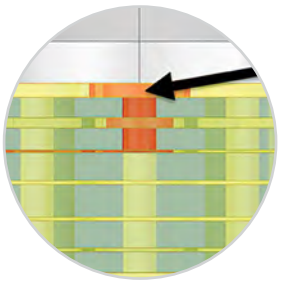
RF DESIGN, DEVELOPMENT & TECHNICAL SUPPORT

SIGNAL INTEGRITY & RF DESIGN EXPERTISE & SUPPORT

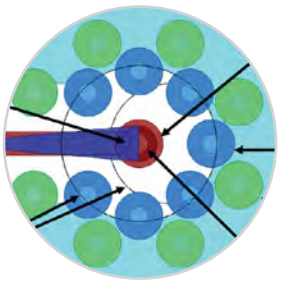
- Launch optimization & design services
- Simulation
- Prototyping
- Physical test and measurement verification
- Full channel analysis, system support
- Application specific design and development assistance



E-field Simulation



3D Modeling



Launch Optimization

TECHNICAL RESOURCES

Samtec's Technical Library contains white papers, application/technical notes, published papers, webinars and presentations on high-performance system design. These resources underscore how Samtec supports interconnectivity needs across multiple industries, applications, performance requirements and operating environments.

WHITE PAPERS

- Wideband RF Launches
- Impacts of Solder Reflow on RF Connectors
- Millimeter Wave Design
- Visit **samtec.com/tech-library**

TECHNICAL REPORTS

- Precision Alignment in Test and Measurement Applications: **samtec.com/alignment**

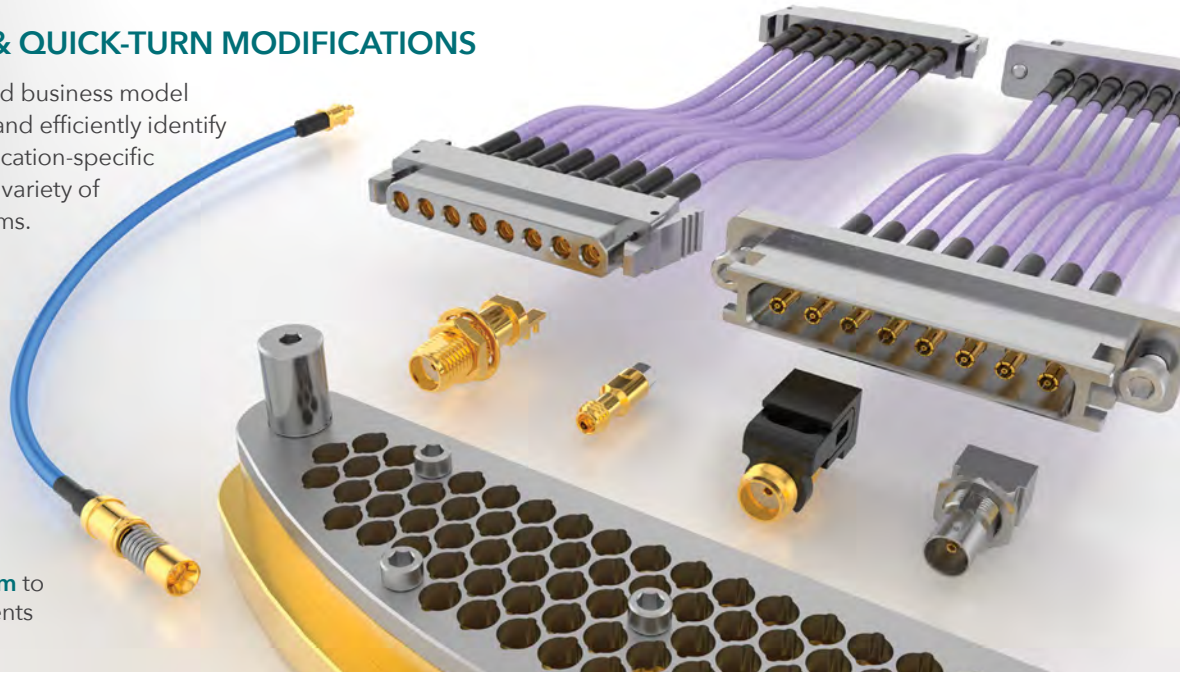
PRESENTATIONS & WEBINARS

- Understanding Transmission Line Discontinuities: **samtec.com/system-impedance**
- Precision RF Connector PCB Launches for 224 Gbps Devices: **samtec.com/rf-launches-224**

CUSTOM SOLUTIONS & QUICK-TURN MODIFICATIONS

Samtec's fully vertically integrated business model enables the flexibility to quickly and efficiently identify and/or develop innovative, application-specific interconnect solutions to meet a variety of demands in digital/analog systems.

- Board termination types
- Tin dipping capabilities
- Heat-shrink tubing
- Alternate platings
- Pick & place machine designs
- Automated assembly counterweights
- Contact **RFGroup@samtec.com** to discuss your system requirements



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ULTRA RUGGED SOLUTIONS

EXTREME HIGH MATING CYCLES • RUGGED MIL-DTL MATERIALS • SEVERE ENVIRONMENT TESTING

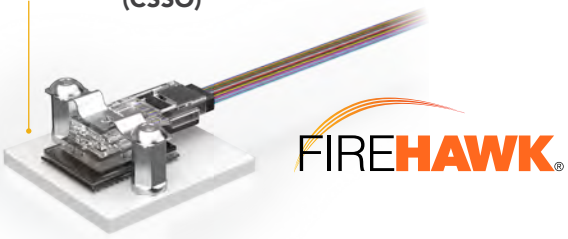
199 RUGGED POWER I/O SYSTEMS (B1SD(T)/P1PD(T)/P1M, B1SM/P1SM)



199 38999 RUGGED I/O SYSTEMS (NVA3E/NVA3P)



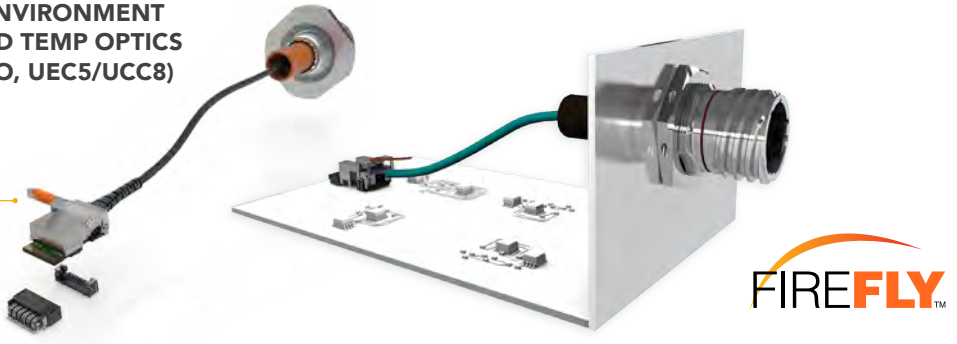
200 SPACE MID-BOARD OPTICAL TRANSCEIVERS (CSSO)



200 VITA™ 90 VNX+™ SOLUTIONS (SEARAY™, VBM, RUGGED OPTICS)



200 EXTREME ENVIRONMENT & EXTENDED TEMP OPTICS (ETMO, ETUO, UEC5/UCC8)



Hardware & High-Reliability Plating 201

Ultra Rugged Testing (SET, E.L.P.™, DQT & Lot Screen) 202-203

ULTRA RUGGED SOLUTIONS



Samtec's ultra rugged solutions provide reliability and flexibility in small form factors for extreme/harsh environments. From rugged I/O cable assemblies, sealed & compact optics, and VITA™ 90 VNX+™ modules to ultra rugged hardware and high-temp coatings, these solutions are ideal for military, aerospace, submersible and other harsh environment applications. Many ultra rugged offerings are available now with a robust roadmap to meet or exceed requirements for harsh environment applications and industries.

For design flexibility and cost optimization, Samtec's Severe Environment Testing (SET) qualified products are Commercial-Off-the-Shelf (COTS) and modified COTS to get solutions to market faster. See page 202-203 or visit **samtec.com/set** for more information.



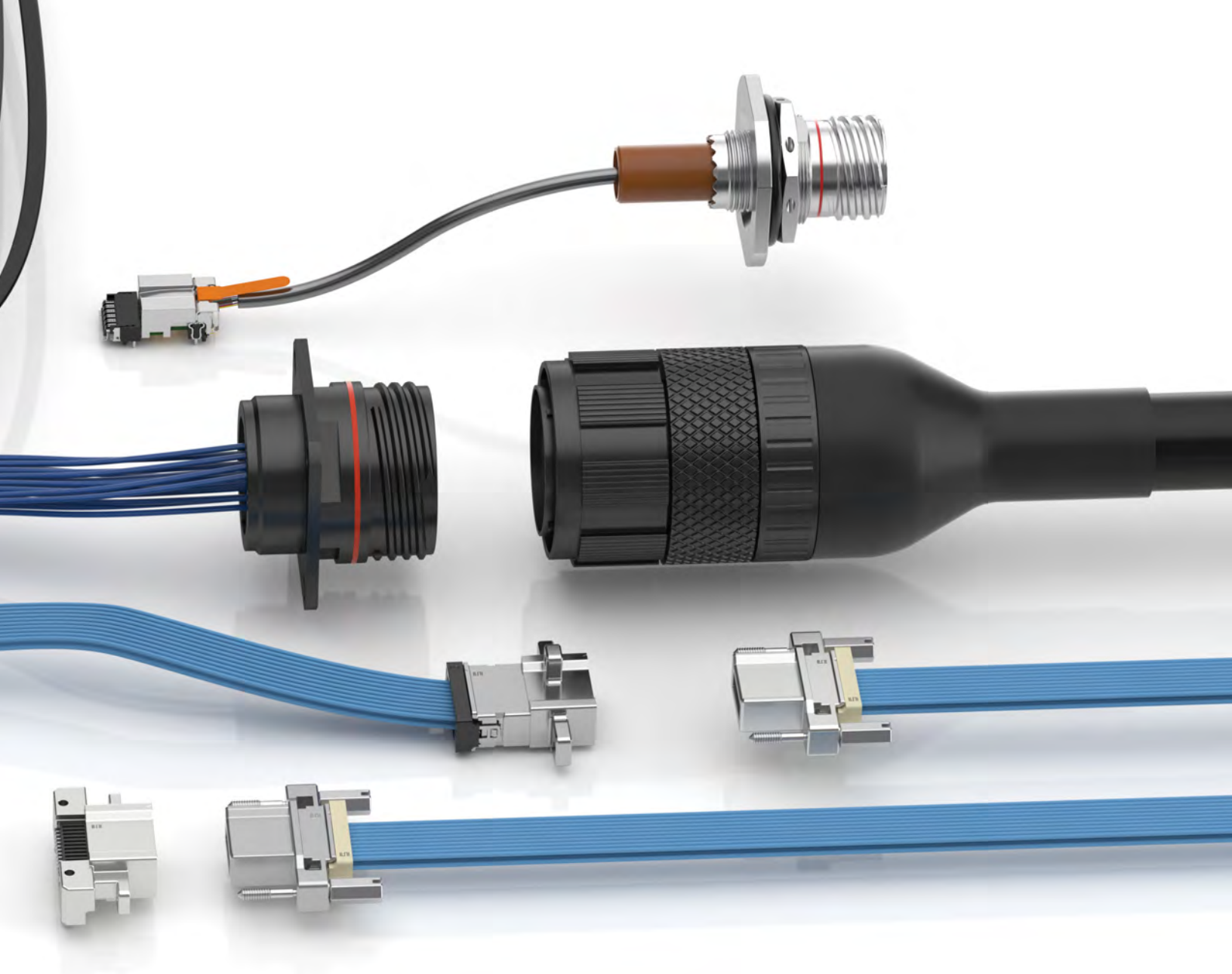






VITA/VNX/VNX+ are all respective trademarks of VITA

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.





RUGGED I/O SYSTEMS

MIL AERO SPACE

- Hyper Claw™ contacts with four points of contact for a reliable connection and high mating cycles
- Variety of high-speed, RF and power contacts in 1 to 5 bank configurations
- EMI shielding limits signal degradation and optimizes performance
- Series: B1SD(T)/P1PD(T)/P1M, B1SM/P1SM
- See page 226-231 for more information
- samtec.com/ursa



38999 RUGGED I/O SYSTEMS

MIL AERO

- High data rate cable system in a rugged 38999 shell
- Salt fog resistant to 48 hours; IP67 for dust and waterproof sealing
- Threaded cable-to-panel design
- High-density 16 and 32 pair
- Series: NVA3E/NVA3P
- See page 107 for more information
- samtec.com/novaray-io

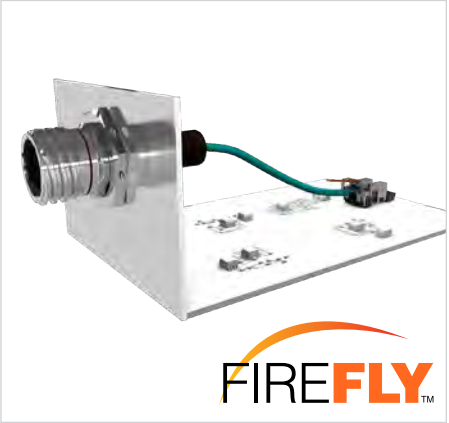
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



EXTREME ENVIRONMENT MID-BOARD OPTICAL TRANSCEIVERS

MIL AERO SUB

- Sealed and parylene-coated for exposed military and aerospace applications
- Other rugged environment capabilities include salt fog resistance and tin whisker mitigation
- Extended temp range of -40 °C to +85 °C
- Series: ETMO/UEC5/UCC8
- See page 139 for more information
- samtec.com/firefly



EXTENDED TEMP MID-BOARD OPTICAL TRANSCEIVERS

MIL AERO

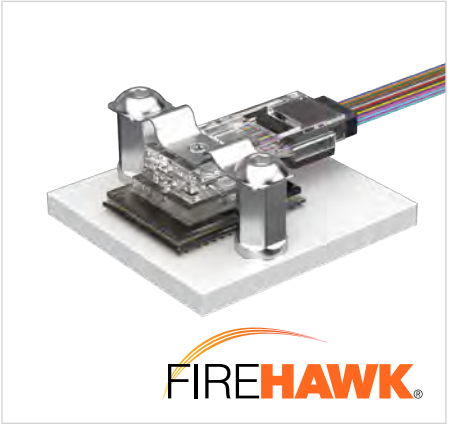
- Extended temperature range from -40 °C to +85 °C
- x4 and x12 designs to 25 Gbps per lane performance
- Samtec's Extended Temp FireFly™ optical with Amphenol® Aerospace bulkhead interconnects
- Small footprint allows for increased density
- Series: ETUO/UEC5/UCC8
- See page 138 for more information
- samtec.com/firefly



VITA™ 90 VNX+™ SOLUTIONS

MIL AERO SPACE

- RF backplane system to support 110 GHz with high-density size 20 and 16 coaxial contacts
- Rugged blind mate solution
- Configured with SEARAY™ right-angle array and rugged optics
- SWaP-C reductions make this ideal for military and aerospace applications
- COTS or modified COTS solution for cost and time flexibility
- See page 344-345 for more information
- samtec.com/vnx-plus



SPACE MID-BOARD OPTICAL TRANSCEIVERS

MIL AERO SPACE

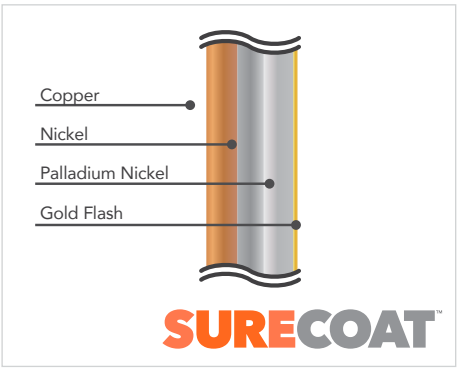
- FireHawk® is the smallest optical transceiver in the industry – 10 x 7.7 x 4.4 mm, less than 0.4 grams
- Extreme performance up to 40 Gbps aggregate
- Rugged BGA attach withstands high shock and vibration
- Radiation tolerant design for space/satellites
- Series: CSSO
- See page 145 for more information
- samtec.com/firehawk

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



ULTRA RUGGED HARDWARE

- Guide post standoffs (GPSO) allow for .035" of initial misalignment
- 303 stainless steel with MIL-C-13924 black oxide finish
- Jack screw precision standoffs (JSO) reduce the risk of component damage
- Standoffs (SO) with precision machined tolerances (+/- .002" (0.05 mm))
- Guide post with built-in grounding pin for first mate/last break applications
- See pages 34-36 for more information
- samtec.com/hardware



HIGH-RELIABILITY PLATING

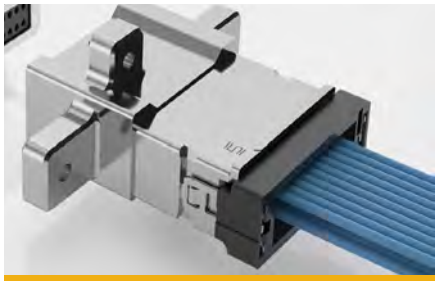
- 30 µ" palladium nickel plating with gold flash for high-temp, high-cycle applications
- Qualified up to 150 °C ambient
- Available on SEARAY™ 1.27 mm pitch high-density arrays and Edge Rate® 0.80 mm pitch high-speed strips to 5,000 cycles
- Product Roadmap includes SEARAY™ 0.80 mm, AcceleRate® HP, LP Array™ and Generate® 0.80 mm
- Ideal for ATE applications

RUGGEDIZING OPTIONS



LATCHING

Manually activated latches increase unmating force by up to 200%



STRAIN RELIEF

Helps protect against damage caused by frequent movement, strain or stress



WELD TABS

Significantly increases shear resistance of connector to PCB



GUIDE POSTS

Easy and secure mating



SHIELDING

360° shielding reduces EMI



SCREW DOWNS / PANEL SCREWS

Secure mechanical attachment to the board or panel

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ULTRA RUGGED TESTING

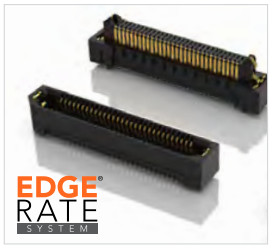
SEVERE ENVIRONMENT TESTING (SET) | SAMTEC.COM/SET

Additional testing beyond typical industry standards for performance confidence in military, space, automotive, industrial and other extreme environment applications. Qualified products are Commercial Off-the-Shelf (COTS) and modified COTS for quick-to-market solutions. Visit **samtec.com/SET** or contact **SET@samtec.com** for more information and test results.

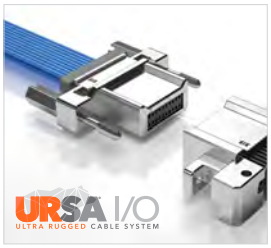
VITA™ STANDARD		MEETS	EXCEEDS
47.1	Module Insertions	✓	
	Operating Shock Class OS2	✓	
	Vibration Class VS3	✓	
	Electrostatic Discharge Resistance	✓	
	Temperature Cycling Class C4		✓
	Non-Operating Temperature Class C4		✓
	Altitude for DWV		✓
47.3	Humidity	✓	

QUALIFIED SERIES	PITCH	TYPE
LSHM	0.50 mm	Razor Beam™ Hermaphroditic Strips
ERF8/ERM8	0.80 mm	Edge Rate® Rugged, High-Speed Strips
SEAF8/SEAM8	0.80 mm	SEARAY™ 0.80 Ultra-High Density Arrays
B1SDT/P1M	1.00 mm	URSA® I/O Ultra Rugged Cable System
SFM/TFM/SFSDT	1.27 mm	Rugged Tiger Eye™ Connectors
SEAF/SEAM	1.27 mm	SEARAY™ High-Density Arrays
FTSH/CLP	.050"	Flexible Stacking Header & Socket
S2M/T2M	2.00 mm	Tiger Eye™ Micro Rugged System
UMPS/UMPT	2.00 mm	mPOWER® Ultra Micro Power Connectors
SSM/TSM	.100"	Square Post Header & Socket











LOT SCREEN TESTING

This program provides assurance for upscreening board-to-board interconnects for mission critical applications. Lot Screen Testing and Qualification Conformance Inspection (QCI) are both modeled after MIL-DTL-55302 and parallel EIA-364 standards. Contact **map@samtec.com** or visit **samtec.com/mil-aero** for details.

NASA-ALIGNED SOLUTIONS

SET products are approved for NASA Class D missions including LEO satellites, Small-Sats, CubeSats and other space exploration applications. NASA outgassing data is used to determine if certain products meet ASTM E595-77/84/90 requirements. Visit **outgassing.nasa.gov**.

TESTING OPTIONS	LOT SCREEN TESTING	QCI
Visual & Mechanical Inspection	✓	✓
Mating/Unmating Forces	✓	✓
Low Level Contact Resistance	✓	✓
Insulation Resistance	✓ (Pin-to-Pin & Row-to-Row)	✓ (Pin-to-Pin, Row-to-Row & Closest Metallic Hardware)
Dielectric Withstanding Voltage	✓ (Sea Level)	✓ (Sea Level & High Altitude)
Solderability	✓	✓
Contact Resistance	✓	✓
Mechanical Shock		✓
Random Vibration		✓
Extended Life		✓ (Plating Thickness Verification, Mating Cycle, Thermal Shock & Humidity)
Workmanship		✓

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

EXTENDED LIFE PRODUCT™ (E.L.P.™) | SAMTEC.COM/ELP

E.L.P.™ products are tested to rigorous standards, which evaluate contact resistance in simulated storage and field conditions.

- 10 year Mixed Flowing Gas (MFG)
- High Mating Cycles (250 to 2,500)
- Certain plating and/or contact options will apply

For complete details about Samtec's E.L.P.™ program, a list of qualifying products and test results, please visit **samtec.com/ELP** or email the Customer Engineering Support Group at **ASG@samtec.com**





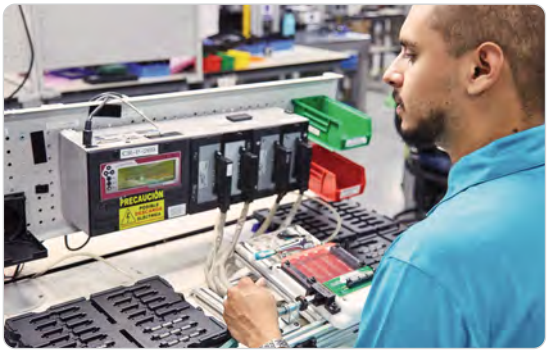




DESIGN QUALIFICATION TESTING (DQT)

All Samtec series undergo Design Qualification Testing (DQT), which includes:

- Gas Tight
- Normal Force
- Thermal Aging
- Mating/Unmating/Durability
- IR/DWV
- Current Carrying Capacity (CCC)
- Mechanical Shock/Random Vibration/LLCR
- Mechanical Shock/Random Vibration/Event Detection



TESTING REFERENCE CHART

TEST	SET	E.L.P.™	DQT
Gas Tight	✓*	✓*	✓
Normal Force	✓*	✓*	✓
Thermal Aging	✓*	✓*	✓
Mating / Unmating / Durability (240 Hrs)	✓ (100% RH, 250 Cycles)	✓* (90-98% RH, 100 Cycles)	✓ (90-98% RH, 100 Cycles)
IR / DWV	✓ (At Altitude of 70,000 Feet)	✓*	✓
CCC	✓*	✓*	✓
Mechanical Shock / Random Vibration / LLCR & Nanosecond Event Detection	✓ (40 G Peak, 11 ms, Half Sine & 12gRMS, 5 - 2,000 Hz, 1 Hr / Axis)	✓* (100 G Peak, 6 ms, Half Sine & 7.56gRMS Avg, 2 Hr / Axis)	✓ (100 G Peak, 6 ms, Half Sine & 7.56gRMS Avg, 2 Hr / Axis)
Temperature Cycling (500 Cycles)	✓	N/A	N/A
Non-Operating Class Temperature	✓	N/A	N/A
Electrostatic Discharge (ESD)	✓	N/A	N/A
10 Year MFG (Mixed Flowing Gas)	N/A	✓	N/A
Mating Cycles (250 to 2,500)	N/A	✓	N/A

* Completed as part of initial Design Qualification Testing (DQT). E.L.P.™ and SET testing are performed in addition to DQT.

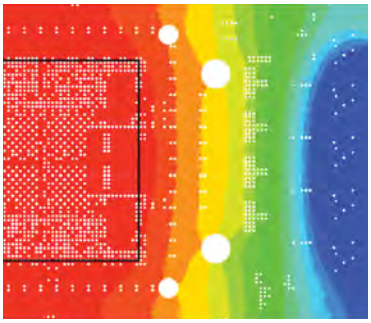
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

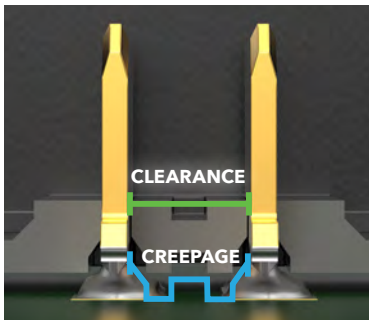
POWER SERVICES

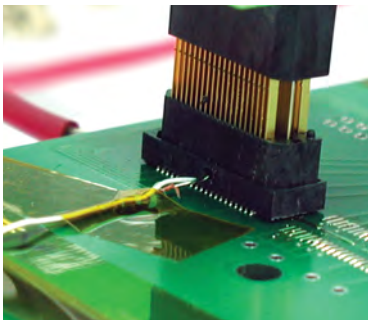
POWER INTEGRITY SERVICES

- Standard power test data, including current carrying capacity, working voltage, voltage drop and resistance, creepage and clearance, is available for select power systems
- Current Cycling Test Data, which demonstrates connector performance in realistic and common applications, is available for select series
- Power Integrity Guidelines are based on test data and proven design parameters, designed to help in connector selection and PCB design maximization
- Power Integrity Certified products undergo testing and additional requirements unique to Samtec. Products must pass Current Cycling Test EIA 365-55, have current carrying capacity, resistance vs. number of contacts data available and Power Integrity Guidelines developed
- Visit **samtec.com/powerintegrity** to learn more



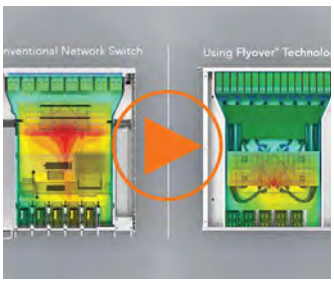




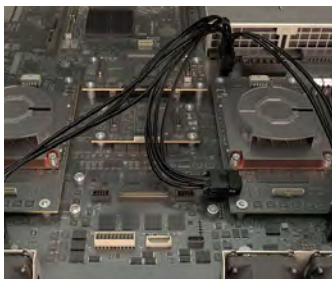


POWER ARCHITECTURE, SYSTEM DESIGN & ROUTING SERVICES

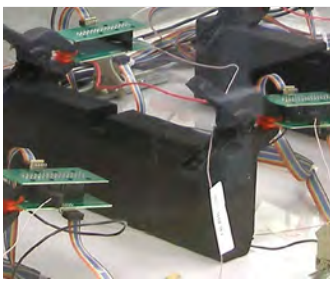
Samtec provides complete support and strategies for the optimization of system power architectures. Visit **samtec.com/sig** for more information.



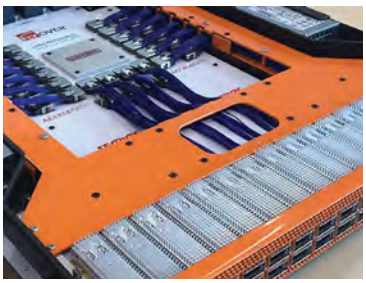
System Power Architectures & Design Solutions



Reference Routing Development for Application-Specific Solutions



Safety and Reliability Design Assurance



Recommendations for Customer-Specific Requirements

INTERACTIVE POWER CHART

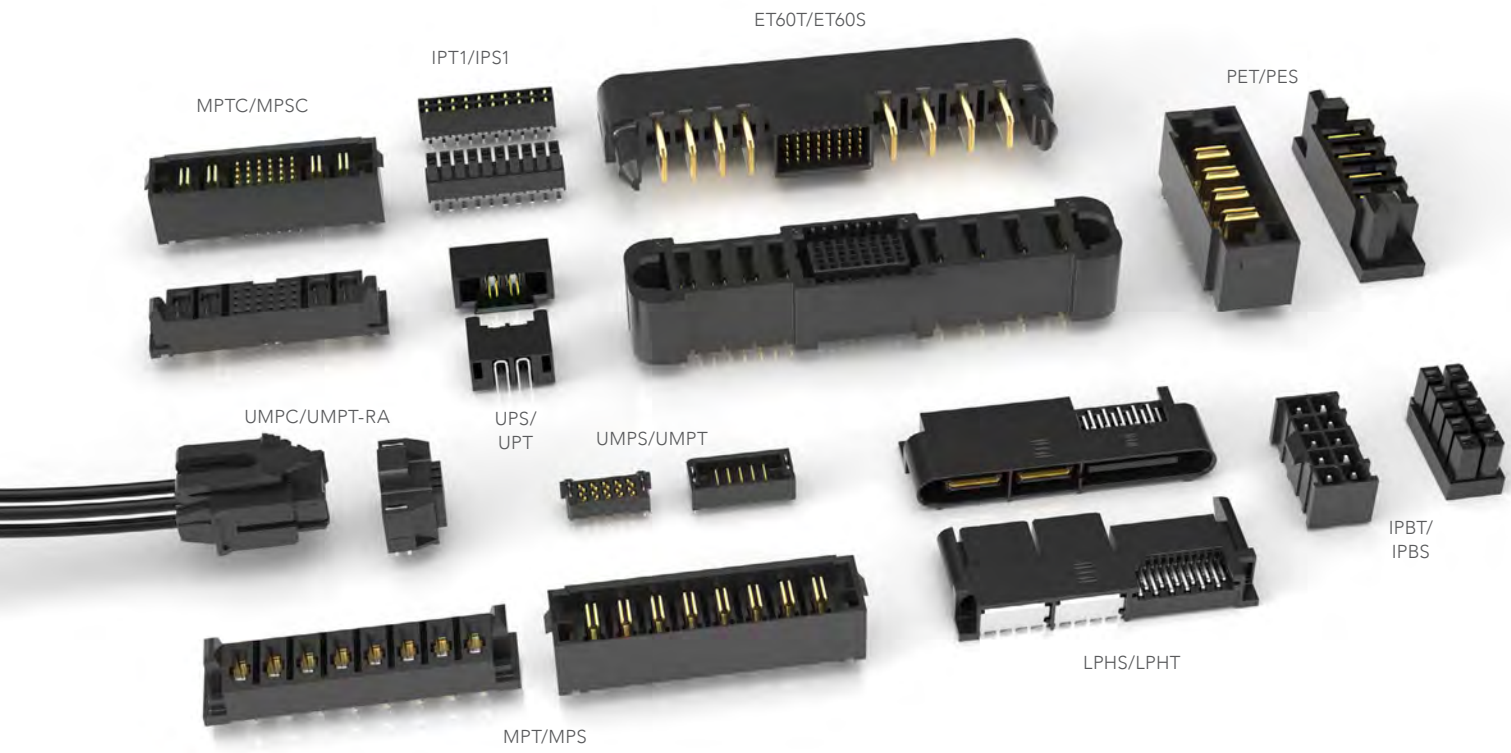
Samtec offers power simulation that can calculate temperature increase in the connector area, in real time. Find this tool on **samtec.com** when searching a product for your specific application. Contact **RuggedPower@samtec.com** for assistance.



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH POWER SYSTEMS

UP TO 60 AMPS • ULTRA MICRO POWER • POWER/SIGNAL COMBINATIONS



206-211 **mPOWER® ULTRA MICRO POWER SYSTEMS**

Socket & Terminal Board Connectors (UMPS, UMPT) 206-208
Cable-to-Board Assemblies & Components (UMPC(T), IMPC, CC489) 209
Cable-to-Cable Panel Mount Assemblies & Components (UMPE(T), UMPI(T), IMPE, IMPC, TC146, CC489) . 210-211

212-221 **FLEX POWER SYSTEMS**

EXTreme LPHPower™ Terminals and Sockets (LPHT, LPHS) 212-213
EXTreme Ten60Power™ Terminals and Sockets (ET60T, ET60S) 214-215
PowerStrip™/20 Headers & Sockets (UPS, UPT, UPPT) 216-217
PowerStrip™/30 Headers & Sockets (MPT, MPS, MPTC, MPSC) 218-219
PowerStrip™/40 Headers & Sockets (PET, PES, PETC, PESC) 220-221

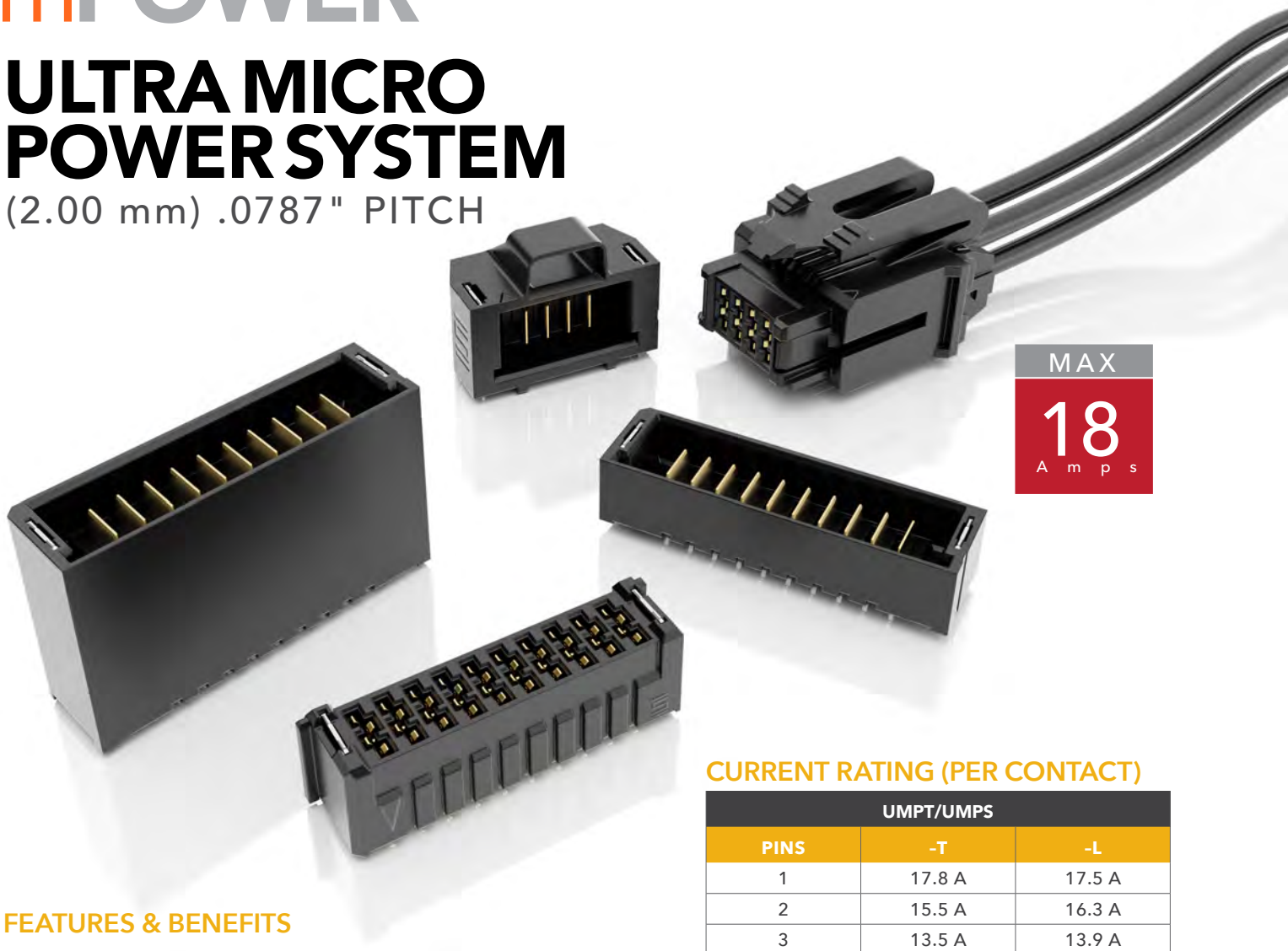
222-224 **RUGGED POWER SYSTEMS**

Mini Mate® Terminals & Sockets (IPT1, IPS1) 223
Power Mate® Terminals & Sockets (IPBT, IPBS) 224

mPOWER®

ULTRA MICRO POWER SYSTEM

(2.00 mm) .0787" PITCH



FEATURES & BENEFITS

- Board-to-board, cable-to-board and cable-to-cable
- Up to 18 A per blade (1 blade powered)
- Choice of 2 to 10 positions
- 5 mm to 20 mm stack heights; vertical and right-angle orientations
- Tin or 10 µ" Gold plated power blades; 30 µ" Gold plating available to meet specific regulations
- Optional weld tabs
- Mating cable assemblies with plastic top or metal side latching
- Severe Environment Testing qualified (UMPT/UMPS); aligns with MIL-DTL-55302. Visit samtec.com/set

CURRENT RATING (PER CONTACT)

UMPT/UMPS		
PINS	-T	-L
1	17.8 A	17.5 A
2	15.5 A	16.3 A
3	13.5 A	13.9 A
4	12.9 A	13.2 A
10	9.8 A	8.9 A

Ratings are derated 20% with 30 °C rise to maximum allowable temperature.

CREEPAGE & CLEARANCE

UMPT/UMPS	
CREEPAGE	2.20 mm
CLEARANCE	1.65 mm

Selectively loading contacts achieves customer specific creepage and clearance requirements.

KEY SPECIFICATIONS (UMPT/UMPS)

STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	VOLTAGE RATING	LEAD-FREE SOLDERABLE
5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20 mm	Black LCP	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C with Tin -55 °C to +125 °C with Gold	460 VAC/ 651 VDC	Yes

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

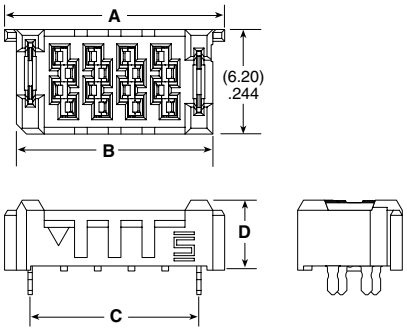
MAX 18 Amps

ULTRA MICRO POWER SOCKET

UMPS	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	V	–	S	–	OPTION	–	"X"R
		–02, –03, –04, –05, –06, –07, –08, –09, –10		–03.5 = (03.5 mm) .138" –05.5 = (05.5 mm) .217" –07.5 = (07.5 mm) .295"		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail –T = Matte Tin						–W = Weld Tab Through-hole (Leave blank for no weld tab)		–TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UMPS
Board Mates:
UMPT
Standoffs:
GPSO





UMPS-04-03.5-X-V-S-W SHOWN

NO. OF POSITIONS	A	B	C
–02	(9.05) .356	(7.65) .301	(6.00) .236
–03	(11.05) .435	(9.65) .380	(8.00) .315
–04	(13.05) .514	(11.65) .459	(10.00) .394
–05	(15.05) .593	(13.65) .537	(12.00) .472
–06	(17.05) .671	(15.65) .616	(14.00) .551
–07	(19.05) .750	(17.65) .695	(16.00) .630
–08	(21.05) .829	(19.65) .774	(18.00) .709
–09	(23.05) .907	(21.65) .852	(20.00) .787
–10	(25.05) .986	(23.65) .931	(22.00) .866

LEAD STYLE	D
–03.5	(4.15) .163
–05.5	(6.15) .242
–07.5	(8.15) .321

UMPT LEAD STYLE	MATED HEIGHT		
	UMPS LEAD STYLE		
	–03.5	–05.5	–07.5
–01.5	(5.00) .197	(7.00) .276	(9.00) .354
–02.5	(6.00) .236	(8.00) .315	(10.00) .394
–06.5	(10.00) .394	(12.00) .472	(14.00) .551
–07.5	(11.00) .433	(13.00) .512	(15.00) .591
–12.5	(16.00) .630	(18.00) .709	(20.00) .787

UMPT/UMPS CURRENT RATING (PER CONTACT)

PINS	–T	–L
1	17.8 A	17.5 A
2	15.5 A	16.3 A
3	13.5 A	13.9 A
4	12.9 A	13.2 A
10	9.8 A	8.9 A

Ratings are derated 20% with 30 °C rise to maximum allowable temperature.

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and otpons are non-standard, non-returnable

View complete specifications at: **samtec.com?UMPS**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

UMPT	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	V	–	S	–	WELD TAB	–	LATCH OPTION	–	"X"R

UMPT
Board Mates: UMPS
Cable Mates: UMPC*
(*UMPT requires -P or -M option for mating)
Standoffs: GPSO

NO. OF POSITIONS: –02, –03, –04, –05, –06, –07, –08, –09, –10

LEAD STYLE:
–01.5 = (01.5 mm) .059"
–02.5 = (02.5 mm) .098"
–06.5 = (06.5 mm) .256"
– 07.5 = (07.5 mm) .295"
– 12.5 = (12.5 mm) .492" (–W option required)

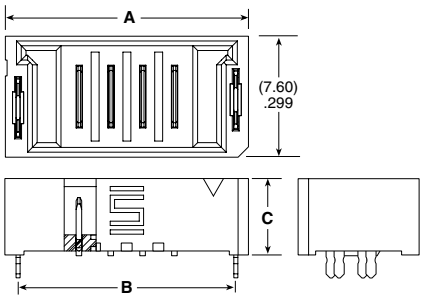
PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
–G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail
–T = Matte Tin

WELD TAB: (Leave blank for no weld tab)
–W = Weld Tab Through-hole (Required for –12.5 lead style)

LATCH OPTION: (Leave blank for no latch) (Only available on –02.5 lead style) (Weld tab required)
–P = Plastic top latch
–M = Metal side latches

"X"R:
–TR = Tape & Reel
–FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)





UMPT-04-01.5-X-V-S-W SHOWN

LEAD STYLE	C
–01.5	(4.80) .189
–02.5	(5.80) .228
–06.5	(9.55) .376
–07.5	(10.80) .425
–12.5	(15.80) .622

NO. OF POSITIONS	A (–P & No latch)	B (–P & No latch)	A (–M latch)	B (–M latch)
–02	(11.30) .445	(9.70) .382	(13.30) .524	(11.60) .457
–03	(13.30) .524	(11.70) .460	(15.30) .602	(13.60) .535
–04	(15.30) .603	(13.70) .539	(17.30) .681	(15.60) .614
–05	(17.30) .681	(15.70) .618	(19.30) .760	(17.60) .693
–06	(19.30) .760	(17.70) .697	(21.30) .839	(19.60) .772
–07	(21.30) .839	(19.70) .776	(23.30) .917	(21.60) .850
–08	(23.30) .917	(21.70) .854	(25.30) .996	(23.60) .929
–09	(25.30) .996	(23.70) .933	(27.30) 1.075	(25.60) 1.008
–10	(27.30) 1.075	(25.70) 1.012	(29.30) 1.154	(27.60) 1.087

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?UMPT**

UMPT	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	RA	–	WELD TAB	–	LATCH OPTION	–	"X"R

NO. OF POSITIONS: –02, –03, –04, –05, –06, –07, –08, –09, –10

PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
–G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail
–T = Matte Tin

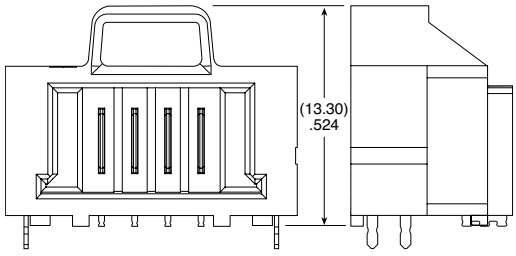
WELD TAB:
–WT = Weld Tab Through-hole

LATCH OPTION: (Leave blank for no latch)
–P = Plastic top latch
–M = Metal side latches

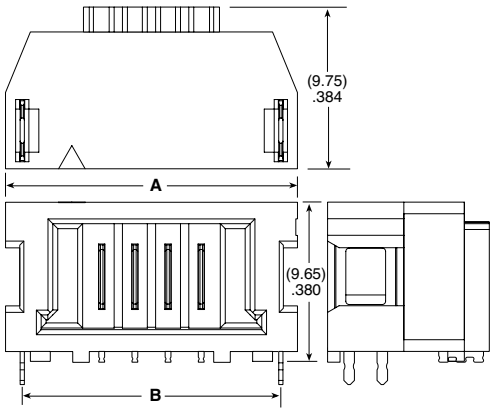
"X"R:
–TR = Tape & Reel
–FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UMPT-RA
Board Mates: UMPS
Cable Mates: UMPC*
(*UMPT requires -P or -M option for mating)





UMPT-04-01-X-RA-WT-P SHOWN



UMPT-04-01-X-RA-WT-M SHOWN

NO. OF POSITIONS	A	B (–P & No latch)	B (–M latch)
–02	(13.60) .535	(11.10) .437	(11.55) .455
–03	(15.60) .614	(13.10) .516	(13.55) .533
–04	(17.60) .693	(15.10) .594	(15.55) .612
–05	(19.60) .772	(17.10) .673	(17.55) .691
–06	(21.60) .850	(19.10) .752	(19.55) .770
–07	(23.60) .929	(21.10) .831	(21.55) .848
–08	(25.60) 1.008	(23.10) .909	(23.55) .927
–09	(27.60) 1.087	(25.10) .988	(25.55) 1.006
–10	(29.60) 1.165	(27.10) 1.067	(27.55) 1.085

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?UMPT-RA**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

mPOWER®

ULTRA MICRO POWER CABLE



SERIES	NO. OF POSITIONS	PLATING OPTION	WIRE GAUGE	LATCH OPTION	LENGTH	PINOUT
UMPC = Ultra Micro PVC Cable **UMPCT** = Ultra Micro Blue *Teflon™ Fluoropolymer Cable	**–02, –03, –04, –05, –06,–07, –08, –09, –10**	**–L** = 10 µ" (0.25 µm) Gold on contact, Tin on tail **–T** = Tin	**-16** = 16 AWG **-16C** =Color Coded Cable (UMPC only) **-18** = 18 AWG **- 18C** = Color Coded Cable (UMPC only)	(Latching required) **–P** = Plastic top latch **–M** = Metal side latches	**–"XX.X"** = Assembled Length in Inches PVC Cable Single ended = (76.2 mm) 03.0" min. Double ended = (101.6 mm) 04.0" min. (2-4 positions) Double ended = (127.0 mm) 05.0" min. (5-10 positions) Teflon™ Fluoropolymer Double ended = (228.6 mm) 09.0" min. (2-4 positions) Double ended = (254.0 mm) 10.0" min. (5-10 positions)	(Leave blank for Single ended) **–1** = Pin 01 to Pin 01 **–2** = Pin 01 to Pin N

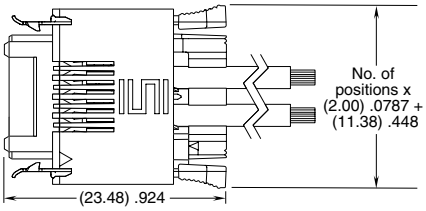
UMPC(T)
Board Mates:
UMPT
(Plastic (-P) or metal (-M) latch required)

UMPC/UMPT (TIN PLATING)	
PINS	CURRENT RATING (PER CONTACT)
1	18.1 A
2	15.8 A
3	13.5 A
4	12.2 A
10	9.2 A

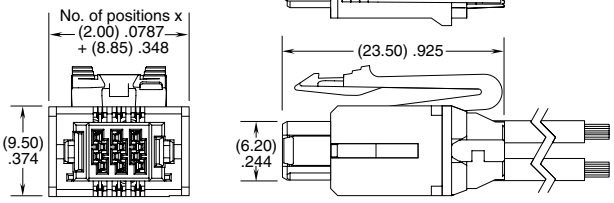
CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Wire:
16 or 18 AWG
Voltage Rating:
435 VAC/615 VDC



UMPC-04-X-XX-M-XX.X SHOWN



UMPC-03-X-XX-P-XX.X SHOWN

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

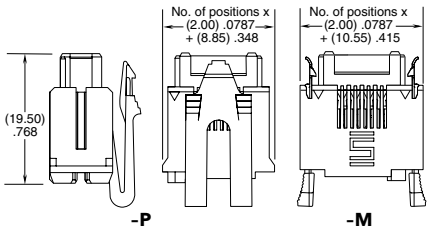
Note:
For wiring option information refer to drawings on web.

UMPC CABLE HOLDER (Required for use with IMPC)		
SERIES	NUMBER OF POSITIONS	LEAD STYLE
IMPCC	-02, -03, -04, -05, -06, -07, -08, -09, -10	01 = 16 AWG 02 = 18 AWG

View complete specifications at: **samtec.com?UMPC** & **samtec.com?UMPCT**

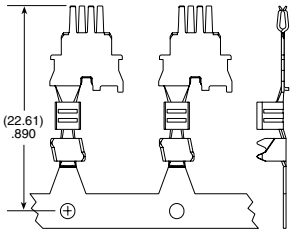
IMPC	NO. OF POSITIONS	LATCH OPTION
	–02, –03, –04, –05, –06, –07, –08, –09, –10	**–P** = Plastic top latch **–M** = Metal side latches





CC489	01	PLATING	PACKAGING
		–L = 10 µ" (0.25 µm) Gold on contact, Tin on tail **–T** = Tin	**–R** = Full Reel (5,000 Contacts) **–M** = Mini Reel (1,000 Contacts) **–B** = Bubble Bag (35 Contacts)





TOOLING

Hand Tool: CAT-HT-489-1618-13	Mini Applicator: CAT-MC-489-1618-XX-01

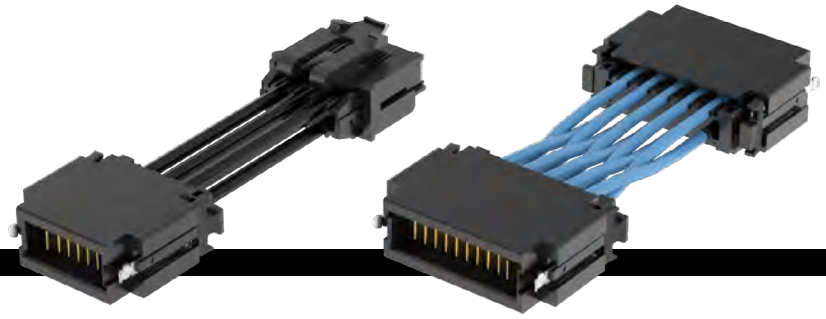
Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IMPC** & **samtec.com?CC489**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

mPOWER®

ULTRA MICRO CABLE-TO-CABLE



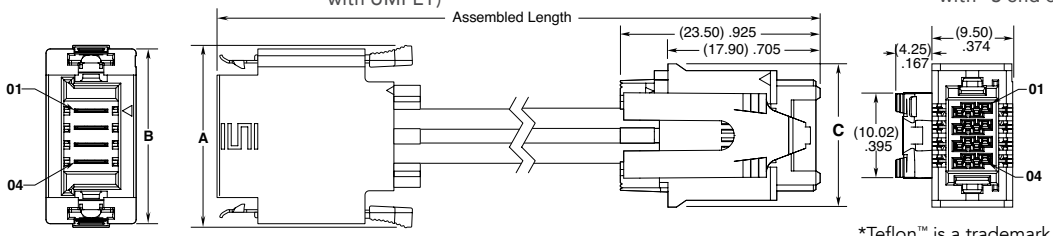
SERIES	NO. OF POSITIONS	PLATING OPTION	WIRE GAUGE	LENGTH	END 2 OPTION	PINOUT
UMPE = Ultra Micro PVC Cable **UMPET** = Ultra Micro Blue *Teflon™ Fluoropolymer Cable	**–02, –03,–04, –05,–06,–07, –08, –09, –10**	**–L** = 10 µ" (0.25 µm) Gold on contact, Tin on tail **–T** = Tin	**-16** = 16 AWG **-16C** = 16 AWG Color Coded Cable (not available with UMPET) **-18** = 18 AWG **-18C** = 18 AWG Color Coded Cable (not available with UMPET)	**–"XX.X"** = Assembled Length in Inches Single ended = (76.2 mm) 03.0" min. Double ended = (101.6 mm) 04.0" min. (2-4 positions) Double ended = (127.0 mm) 05.0" min. (5-10 positions)	(Leave blank for Single ended) **–T** = Terminal **–S** = Socket	(Leave blank for Single ended) **–M1** = Metal Latch Pin 01 to Pin 01 **–M2** = Metal Latch Pin 01 to Pin N **–P1** = Plastic Latch Pin 01 to Pin 01 **–P2** = Plastic Latch Pin 01 to Pin N (PX only available with –S end option)

UMPE(T)
Cable Mates:
UMPI(T)
End 2 Mates:
UMPI(T), UMPT

UMPET PRELIMINARY

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Wire:
16 or 18 AWG
Current Rating:
16 AWG Tin = 18.5 A per pin
18 AWG Tin = 17.5 A per pin
16 AWG Gold = 22.5 A per pin
Voltage Rating:
445 VAC/629 VDC



NO. OF POSITIONS	A	B	C
–02	(17.38) .684	(16.55) .652	(12.85) .506
–03	(19.38) .763	(18.55) .730	(14.85) .585
–04	(21.38) .842	(20.55) .809	(16.85) .663
–05	(23.38) .920	(22.55) .888	(18.85) .742
–06	(25.38) .999	(24.55) .967	(20.85) .821
–07	(27.38) 1.078	(26.55) 1.045	(22.85) .900
–08	(29.38) 1.157	(28.55) 1.124	(24.85) .978
–09	(31.38) 1.235	(30.55) 1.203	(26.85) 1.057
–10	(33.38) 1.314	(32.55) 1.281	(28.85) 1.136

CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Notes:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

For wiring option information refer to drawings on web.

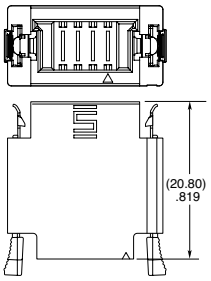
Some lengths, styles and options are non-standard, non-returnable

UMPE CABLE HOLDER (Required for use with IMPE)		
SERIES	NUMBER OF POSITIONS	LEAD STYLE
IMPEC	-02, -03, -04, -05, -06, -07, -08, -09, -10	01 = 16 AWG 02 = 18 AWG

View complete specifications at: **samtec.com?UMPE** & **samtec.com?UMPET**

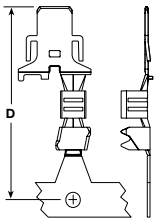
IMPE	NO. OF POSITIONS	LATCH OPTION
	–02, –03, –04, –05, –06, –07, –08, –09, –10	**–M** = Metal Side Latches





TC146	01	PLATING	HOT SWAP	PACKAGING
		–L = 10 µ" (0.25 µm) Gold on contact, Tin on tail **–T** = Tin	**–1** = 6.60 **–2** = 7.10	**–R** = Full Reel (5,000 Contacts) **–M** = Mini Reel (1,000 Contacts) **–B** = Bubble Bag (35 Contacts)





HOT SWAP	D
–1	(21.31) .839
–2	(21.81) .859

TOOLING

Hand Tool: CAT-HT-1146-1618-13	Mini Applicator: CAT-MC-489-1618-XX-01

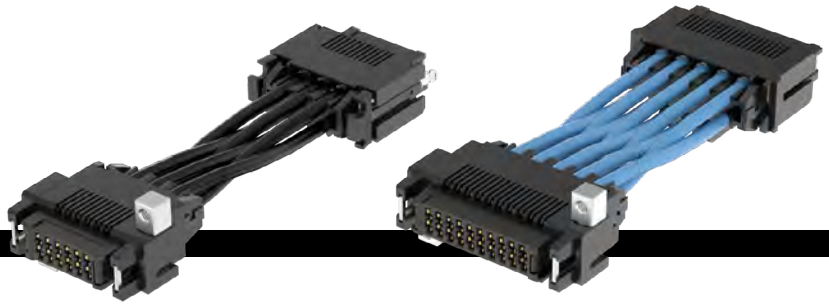
Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IMPE** & **samtec.com?TC146**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

mPOWER®

ULTRA MICRO CABLE-TO-CABLE



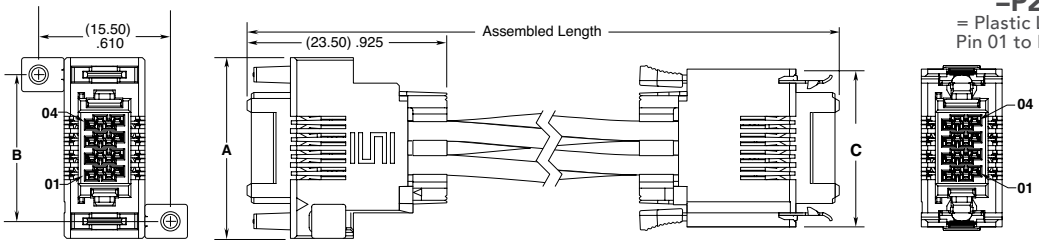
SERIES	NO. OF POSITIONS	PLATING OPTION	WIRE GAUGE	LENGTH	PINOUT
UMPI = Ultra Micro PVC Cable **UMPIT** = Ultra Micro Blue *Teflon™ Fluoropolymer Cable	–02, –03,–04, –05,–06,–07, –08, –09, –10	**–L** = 10 µ" (0.25 µm) Gold on contact, Tin on tail **–T** = Tin	**–16** = 16 AWG **–16C** = 16 AWG Color Coded Cable (not available with UMPIT) **–18** = 18 AWG **–18C** = 18 AWG Color Coded Cable (not available with UMPIT)	**–"XX.X"** = Assembled Length in Inches Single ended = (76.2 mm) 03.0" min. Double ended = (101.6 mm) 04.0" min. (2-4 positions) Double ended = (127.0 mm) 05.0" min. (5-10 positions)	(Leave blank for Single ended) **–M1** = Metal Latch Pin 01 to Pin 01 **–M2** = Metal Latch Pin 01 to Pin N **–P1** = Plastic Latch Pin 01 to Pin 01 **–P2** = Plastic Latch Pin 01 to Pin N

UMPIT PRELIMINARY

UMPI(T)
Cable Mates:
UMPE(T)
End 2 Mates:
UMPE(T), UMPT

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Wire:
16 or 18 AWG
Current Rating:
16 AWG Tin = 18.5 A per pin
18 AWG Tin = 17.5 A per pin
16 AWG Gold = 22.5 A per pin
Voltage Rating:
445 VAC/629 VDC



CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK

NO. OF POSITIONS	A	B	C
–02	(17.25) .679	(13.25) .522	(14.55) .573
–03	(19.25) .758	(15.25) .600	(16.55) .652
–04	(21.25) .837	(17.25) .679	(18.55) .730
–05	(23.25) .915	(19.25) .758	(20.55) .809
–06	(25.25) .994	(21.25) .837	(22.55) .888
–07	(27.25) 1.073	(23.25) .915	(24.55) .967
–08	(29.25) 1.152	(25.25) .994	(26.55) 1.045
–09	(31.25) 1.230	(27.25) 1.073	(28.55) 1.124
–10	(33.25) 1.309	(29.25) 1.152	(30.55) 1.203

UMPI CABLE HOLDER (Required for use with IMPC)		
SERIES	NUMBER OF POSITIONS	LEAD STYLE
IMPCC	–02, –03, –04, –05, –06, –07, –08, –09, –10	01 = 16 AWG 02 = 18 AWG

View complete specifications at: **samtec.com?UMPI** & **samtec.com?UMPIT**

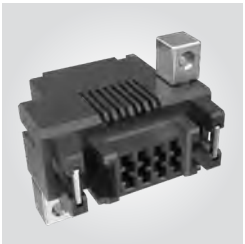
*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

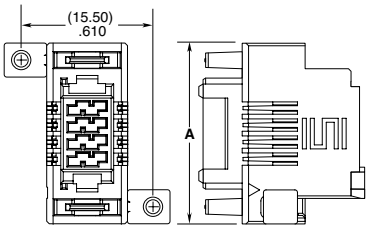
Notes:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

For wiring option information refer to drawings on web.

Some lengths, styles and options are non-standard, non-returnable

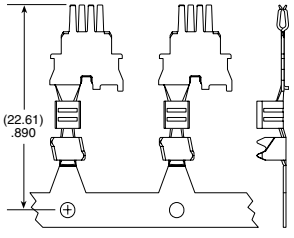
IMPC	–	NO. OF POSITIONS	–	LATCH OPTION
		–02, –03, –04, –05, –06, –07, –08, –09, –10		**–P1** = Panel Mount





CC489	–	01	–	PLATING	–	PACKAGING
				–L = 10 µ" (0.25 µm) Gold on contact, Tin on tail **–T** = Tin		**–R** = Full Reel (5,000 Contacts) **–M** = Mini Reel (1,000 Contacts) **–B** = Bubble Bag (35 Contacts)





TOOLING

Hand Tool: CAT-HT-489-1618-13	Mini Applicator: CAT-MC-489-1618-XX-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IMPC** & **samtec.com?CC489**

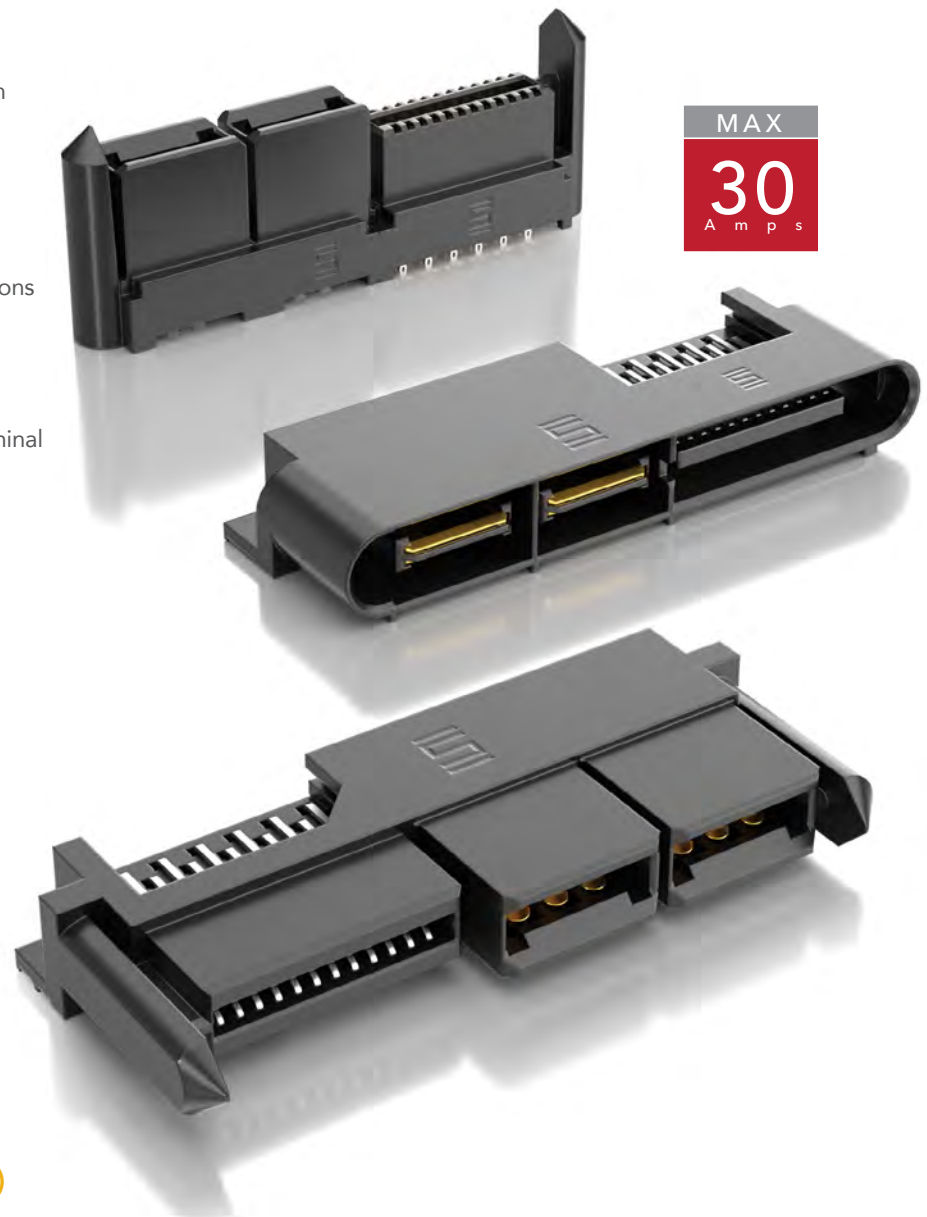
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER™ STRIP EXTreme LPH

LOW PROFILE, EXTREME HIGH-POWER/SIGNAL COMBO

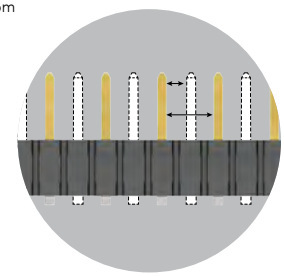
FEATURES & BENEFITS

- 30 A per power blade and 2.5 A per signal pin
- Low 7.5 mm profile design (right-angle) for improved system airflow and space savings
- Double-stacked power blades per bank for increased density and power
- Ideal for coplanar and perpendicular applications
- Rugged guide posts are standard for blind mating assistance
- Socket available as vertical with press-fit tails and right-angle through-hole; mates with terminal or standard .062" (1.60 mm) PCB card



Standard Creepage*	5.63 mm
Standard Clearance*	2.69 mm

*Selectively loading contacts achieves customer specific creepage and clearance requirements. Contact asp@samtec.com



KEY SPECIFICATIONS (LPHT/LPHS)

PITCH	INSULATOR MATERIAL	TERMINAL MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MATING CYCLES	LEAD-FREE SOLDERABLE
(12.00 mm) .472" (pwr) (1.27 mm) .050" (sig)	Black LCP	Signal: Brass Power: Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to +105 °C	30 A (Power Blade) 2.5 A (Signal Pin)	250 VAC / 354 VDC	250 (MFG Tested)	Yes (RT1 & RT2 option)

Notes:
Series is rated up to 60 A per power bank.
Some lengths, styles and options are non-standard, non-returnable.
The Molex EXTreme LPHPower™ line is a second source to the Samtec LPHT/LPHS Series.
*EXTreme LPHPower™ is a trademark of Molex Incorporated.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

30 A SIGNAL/POWER COMBO SYSTEM

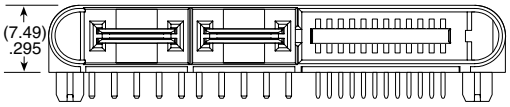
SERIES	POWER POSITIONS	SIGNAL POSITIONS	PLATING OPTION	TAIL	GP
LPHT Terminal **LPHS** Socket	Total, 2 per power bank **–02, –04, –06, –08, –10**	Total **–12, –16, –20, –24, –32**	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	**–VP1** = Vertical Press-fit (LPHS only) **–RT1** = Right-angle Through-hole (Use with (1.60 mm) .062" thick board) **–RT2** = Right-angle Through-hole (Use with (2.36 mm) .093" thick board)	

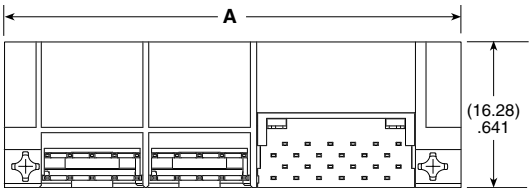
LPHT

Board Mates:
LPHS



SIGNAL POSITIONS	POWER POSITIONS				
	A (–02)	A (–04)	A (–06)	A (–08)	A (–10)
–16	(33.97) 1.337	(45.97) 1.810	(57.97) 2.282	(69.97) 2.755	(81.97) 3.227
–20	(36.51) 1.437	(48.51) 1.910	(60.51) 2.382	(72.51) 2.855	(84.51) 3.327
–24	(39.05) 1.537	(51.05) 2.010	(63.05) 2.482	(75.05) 2.955	(87.05) 3.427
–32	(44.13) 1.737	(56.13) 2.210	(68.13) 2.682	(80.13) 3.155	(92.13) 3.627

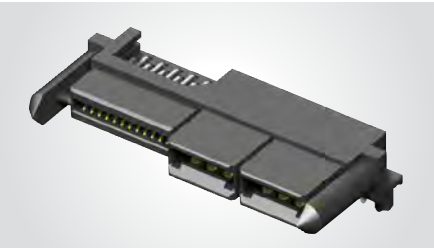




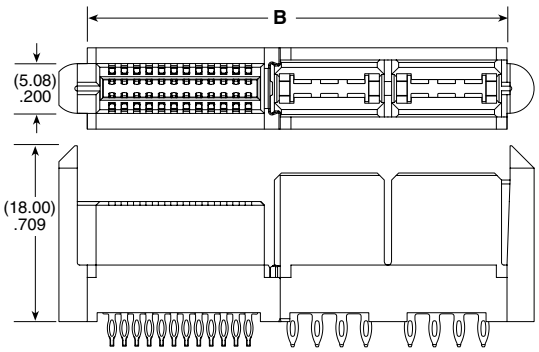
View complete specifications at: **samtec.com?LPHT**

LPHS

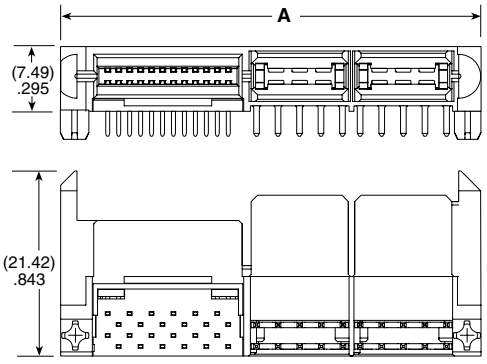
Board Mates:
LPHT



SIGNAL POSITIONS	POWER POSITIONS									
	A (–02)	B (–02)	A (–04)	B (–04)	A (–06)	B (–06)	A (–08)	B (–08)	A (–10)	B (–10)
–16	(31.64) 1.246	(25.88) 1.019	(43.64) 1.718	(37.88) 1.491	(55.64) 2.191	(49.88) 1.964	(67.64) 2.663	(61.88) 2.436	(79.64) 3.135	(73.88) 2.909
–20	(34.18) 1.346	(28.42) 1.119	(46.18) 1.818	(40.42) 1.591	(58.18) 2.291	(52.42) 2.064	(70.17) 2.763	(64.42) 2.536	(82.18) 3.235	(76.42) 3.009
–24	(36.72) 1.446	(30.96) 1.219	(48.72) 1.918	(42.96) 1.691	(60.72) 2.391	(54.96) 2.164	(72.72) 2.863	(66.96) 2.636	(84.72) 3.335	(78.96) 3.109
–32	(41.80) 1.646	(36.04) 1.419	(53.80) 2.118	(48.04) 1.891	(65.80) 2.591	(60.04) 2.364	(77.80) 3.063	(72.04) 2.836	(89.80) 3.535	(84.04) 3.309



-VP



-RT

View complete specifications at: **samtec.com?LPHS**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER™ EXTreme STRIP Ten60

EXTREME HIGH-POWER 60 A SYSTEMS

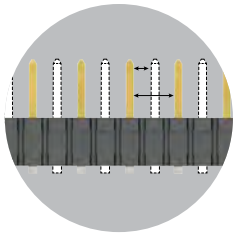


FEATURES & BENEFITS

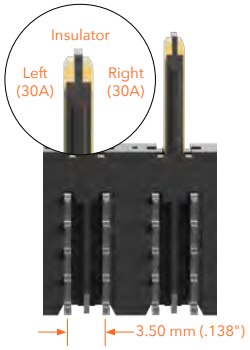
- Up to 60 A per power blade (2 blades powered)
- Split Power Option: 30 A/30 A for a total of 60 A
- Low 10 mm profile (right-angle) for enhanced system airflow
- Power only, or power/signal combinations
- 3 or 5 signal rows in the same form factor
- AC power, DC power, power/signal combinations and split power options available
- Coplanar and perpendicular solutions supporting mid-board or backplane applications
- Modules can be configured to accommodate most any design
- Rugged guide posts are standard; top design for board space savings
- Press-fit (ET60S only) and hot swap (ET60T only) options available

Standard Creepage*	3.02 mm
Standard Clearance*	1.87 mm

*Selectively loading contacts achieves customer specific creepage and clearance requirements. Contact asp@samtec.com



SPLIT POWER
8 mm (.315") pitch
Blade: 30 A / 30 A



DC POWER
5.50 mm (.217") pitch
Blade: 60 A



AC POWER
7.50 mm (.295") pitch
Blade: 60 A



BOTTOM VIEW

KEY SPECIFICATIONS (ET60T/ET60S)

PITCH		INSULATOR MATERIAL	TERMINAL MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MATING CYCLES	LEAD-FREE SOLDERABLE
Power	(5.50 mm) .217" (DC) (7.50 mm) .295" (AC) (8.00 mm) .315" (SP)	Black LCP	Signal: Phosphor Bronze Power: Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-40 °C to +105 °C	60 A (Power Pin) 30 A/30 A (Split Power) 3.3 A (Signal Pin)	300 VAC/ 424 VDC	500	Yes
Signal	(2.00 mm) .097" (5 row) (2.54 mm) .100" (3 row)								

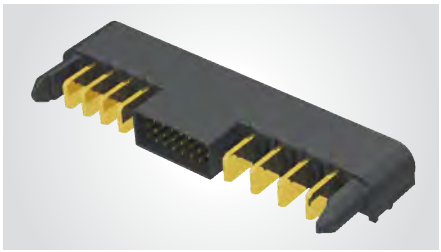
Notes:
Some lengths, styles and options are non-standard, non-returnable.
*EXTreme Ten60Power™ is a trademark of Molex Incorporated and is dual sourced by Molex®

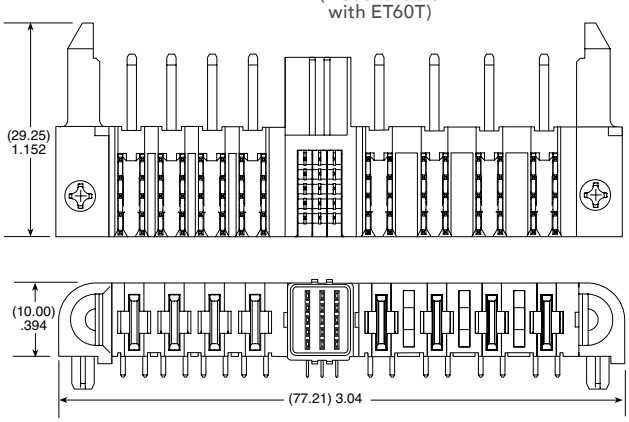
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SERIES	POWER OPTION (R)	ROWS	SIGNAL POS. PER ROW	POWER OPTION (L)	PLATING	TAIL	GUIDE POST	OPTION
ET60T Terminal **ET60S** Socket	**–AXX** = AC Power Positions (02 - 06) **–DXX** = DC Power Positions (02 - 10) **–SXX** = Split Power (01 - 03) **–000** = No Power	**–0** = No Signal **–3** **–5**	**–00** = No Signal **–08** = 3 Row only **–01, –02, –03, –04, –05, –06, –07, –08** = 5 Row only	**–AXX** = AC Power Positions (02 - 06) **–DXX** = DC Power Positions (02 - 10) **–SXX** = Split Power (01 - 03) **–000** = No Power	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Not available for 5 rows)	**–R1** = Right-angle Through-hole (Use with (1.60 mm) .062" thick card) **–VP** = Vertical Press-fit (Not available with ET60T) **–V1** = Vertical Through-hole (Use with (1.60 mm) .062" thick card) (–0 and –3 Row only) (Not available with ET60T)	(Required callout) **–S** = Side Guide Post **–T** = Top Guide Post (Not available with –SXX)	(Leave blank for no hot swap) **–H** = Hot Swap (ET60T only)

ET60T

Board Mates:
ET60S



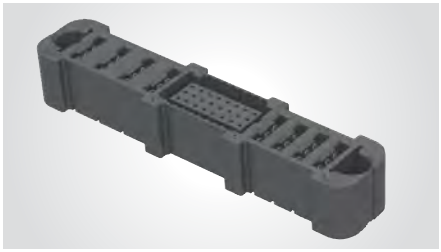


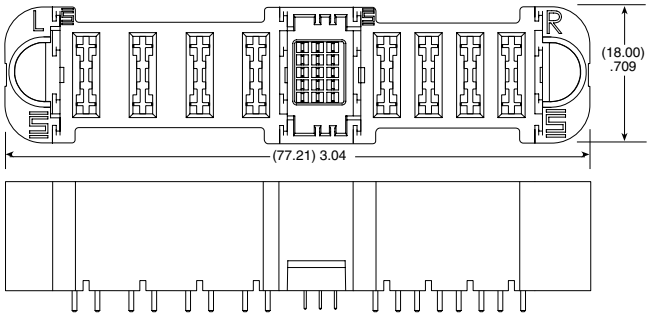
ET60T-D04-5-03-A04-X-R1-S SHOWN

View complete specifications at: **samtec.com?ET60T**

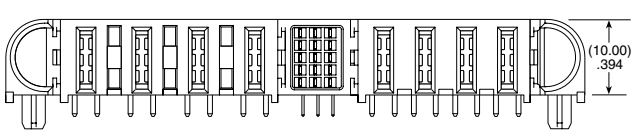
ET60S

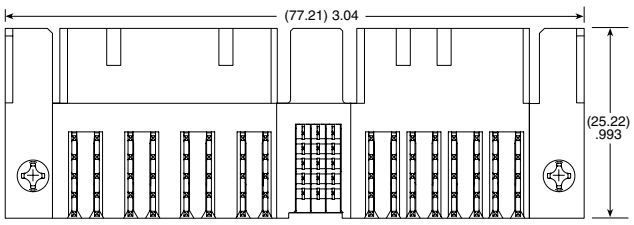
Board Mates:
ET60T





VERTICAL
ET60S-D04-5-03-A04-X-VP-S SHOWN





RIGHT-ANGLE
ET60S-D04-5-03-A04-X-R1-S SHOWN

View complete specifications at: **samtec.com?ET60S**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER™ STRIP

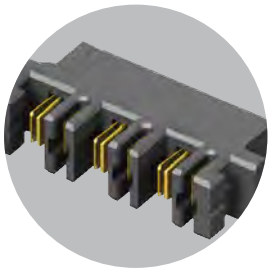
HIGH POWER SYSTEMS

20-60 A per blade

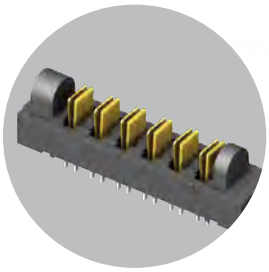
FEATURES & BENEFITS

- Current Rating: 23 A - 58.7 A per power blade
- 3.81 mm, 5.00 mm and 6.35 mm pitch
- Dual blade contact system
- Power only or power/signal combinations available
- Right-angle and vertical orientations
- Rugged screw down and locking clip options
- Wire to board assemblies with 10-16 AWG wire (see pages 262-264)
- "Hinged" for unique mating in any orientation from 0° to 90° and space confined applications





Hermaphroditic options
samtec.com?MPPT and
samtec.com?UPPT



Hinging options available
samtec.com?FMPT and
samtec.com?FMPS

CREEPAGE & CLEARANCE

SERIES	CREEPAGE	CLEARANCE
UPT/UPS/UPPT	5.50 mm	1.51 mm
MPT/MPS/MPTC/MPSC	2.95 mm	2.71 mm
PET/PES/PETC/PESC	3.66 mm	3.31 mm

Selectively loading contacts achieves customer specific creepage and clearance requirements.

KEY SPECIFICATIONS

SERIES	PITCH	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
UPT/UPS	(3.81 mm) .150"	Black LCP	BeCu	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C (Sn) -55 °C to +125 °C (Au)	23 A (1 pin powered)	438 VAC/619 VDC	Yes
UPPT	(3.81 mm) .150"	Black LCP	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C (Sn) -55 °C to +125 °C (Au)	21.4 A (1 pin powered)	425 VAC/601 VDC	Yes
MPT/MPS	(5.00 mm) .1969"	Black LCP	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C (Sn) -55 °C to +125 °C (Au)	28 A (1 pin powered)	575 VAC/813 VDC	Yes
MPTC/MPSC	(5.00 mm) .197" (pwr) (2.00 mm) .079" (sig)	Black LCP	Signal: Phosphor Bronze Terminal: Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C (Sn) -55 °C to +125 °C (Au)	28 A (pwr - 1 pin powered) 5 A (sig - 4 pins powered)	250 VAC/353 VDC	Yes
PET/PES	(6.35 mm) .250"	Black LCP	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C (Sn) -55 °C to +125 °C (Au)	58.7 A (1 pin powered)	450 VAC/636 VDC	Yes
PETC/PESC	(6.35 mm) .250" (pwr) (2.54 mm) .100" (sig)	Black LCP	Copper Alloy	Sn or Au over 50 µ" (1.27 µm) Ni	-55 °C to +105 °C (Sn) -55 °C to +125 °C (Au)	31 A (pwr - 1 pin powered) 5.7 A (sig - 4 pins powered)	650 VAC/920 VDC (pwr) 450 VAC/636 VDC (sig)	Yes

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

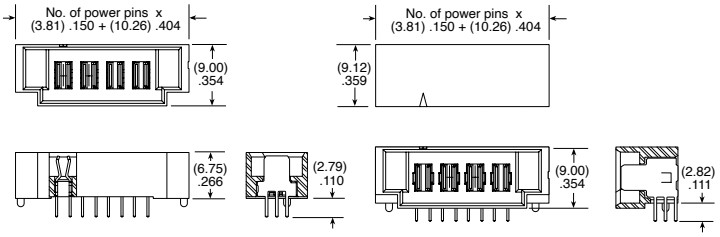
(3.81 mm) .150" PITCH • 20 A DUAL BLADE/LEAF POWER SYSTEMS

SERIES	POWER PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	TAIL	OTHER OPTION	"X"R
UPT Terminal **UPS** Socket	**–02** **–04** **–06** **–08**	**–01** = RA only **–03.0** = (03.0 mm) .118" (UPT–V & UPT–PV only) **–04.0** = (04.0 mm) .157" (UPS–V & UPS–PV only) **–07.0** = (07.0 mm) .276" (UPS–V & UPS–PV only)	**–01** = Use with (1.60 mm) .062" Thick PCB (–V & –RA only) **–03** = Use with (1.60 mm) .062" Thick PCB (–PV only)	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–T** = Matte Tin (–RA & –PV options only)	**–V** = Vertical (Not available with –T plating) **–RA** = Right-angle **–PV** = Press-fit, Vertical	**–LC** = Locking Clip (Manual placement required) Not available with –PV option	Leave blank for tube packaging **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UPT

Board Mates: UPS



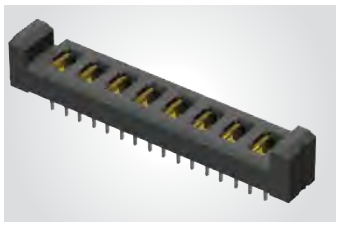


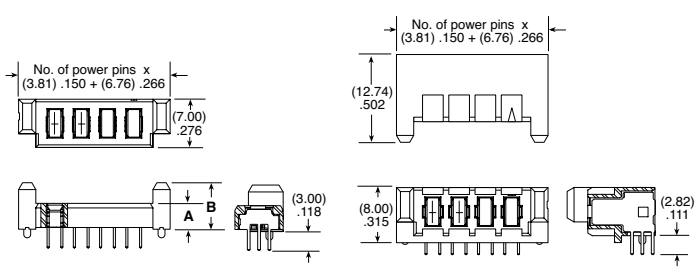
MATED HEIGHT*	
UPS LEAD STYLE	UPT LEAD STYLE –03.0
–04.0	(7.00) .276
–07.0	(10.00) .394

*Processing conditions will affect mated height.

UPS

Board Mates: UPT





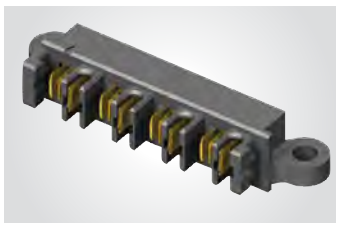
LEAD STYLE	A	B
–04.0	(3.75) .148	(6.75) .266
–07.0	(6.75) .266	(9.75) .384

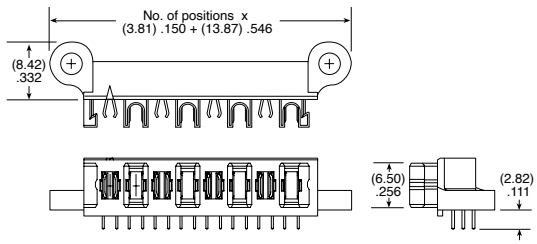
View complete specifications at: **samtec.com?UPT** & **samtec.com?UPS**

SERIES	NO. OF POSITIONS	01	TAIL LENGTH	PLATING OPTION	RA	SD	"X"R
UPPT Hermaphroditic	**–02, –04, –06, –08**		**–01** = (1.60 mm) .062" Thick PCB	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–T** = Matte Tin			Leave blank for tube packaging **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

UPPT

Board Mates: UPPT





View complete specifications at: **samtec.com?UPPT**

Note:
Some lengths, styles and options are non-standard, non-returnable

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER STRIP 30

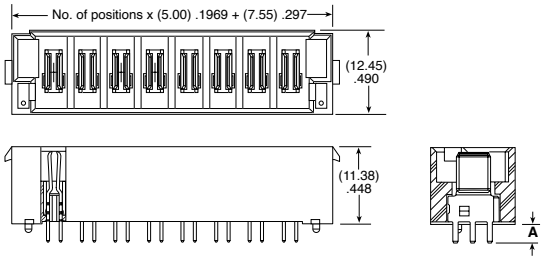
(5.00 mm) .1969" PITCH • 30 A DUAL BLADE/LEAF SYSTEMS

SERIES	POWER PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	TAIL
MPT Terminal **MPS** Socket	**–02, –03, –04, –06, –08**	**–6.30** = (6.30 mm) 0.248" (MPT only) **–7.70** = (7.70 mm) 0.303" (MPS only)	**–01** = Use with (1.60 mm) .062" Thick PCB **–03** = Use with (2.36 mm) .093" Thick PCB	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–T** = Matte Tin	(Required Callout) **–V** = Vertical

MPT

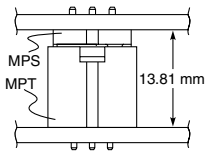
Board Mates: MPS
Cable Mates: MPSS





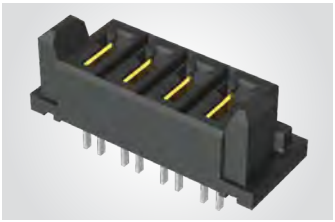
TAIL LENGTH	A
–01	(2.72) .107
–03	(3.51) .138

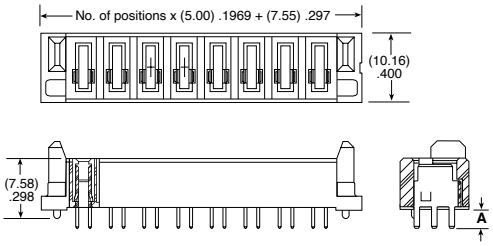
MATED HEIGHT



MPS

Board Mates: MPT





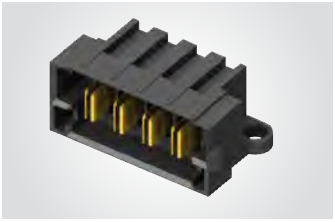
TAIL LENGTH	A
–01	(2.72) .107
–03	(3.52) .139

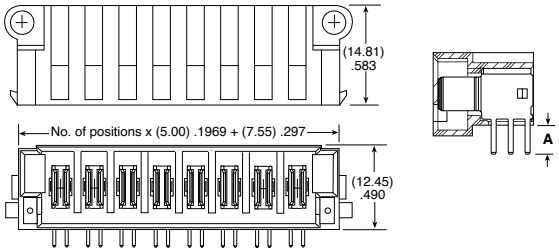
View complete specifications at: **samtec.com?MPT** & **samtec.com?MPS**

SERIES	POWER PINS	01	TAIL LENGTH	PLATING OPTION	RA	SD
MPT Terminal **MPS** Socket	**–02, –04, –06, –08**		**–01** = Use with (1.60 mm) .062" Thick PCB **–03** = Use with (2.36 mm) .093" Thick PCB	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–T** = Matte Tin		

MPT-RA

Board Mates: MPS
Cable Mates: MPSS



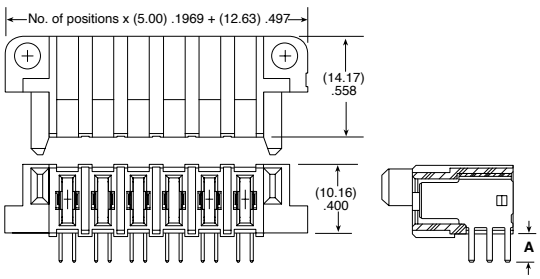


TAIL LENGTH	A
–01	(2.72) .107
–03	(3.51) .138

MPS-RA

Board Mates: MPT





TAIL LENGTH	A
–01	(2.72) .107
–03	(3.52) .139

Note:
Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?MPT** & **samtec.com?MPS**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER STRIP 30

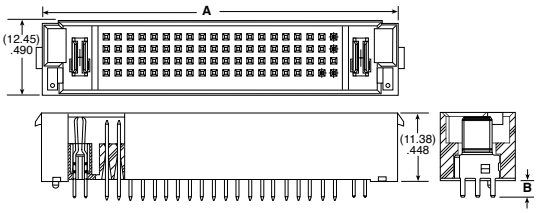
(5.00 mm) .197"(PWR) / (2.00 mm) .079"(SIG) • 30 A SIGNAL/POWER COMBO SYSTEMS

SERIES	–	POWER PINS	–	SIGNAL PINS	–	POWER PINS	–	LEAD STYLE	–	TAIL LENGTH	–	PLATING OPTION	–	V	–	OTHER OPTION
MPTC Terminal **MPSC** Socket		Per end –01 –02		–16 –24 –40 –80		Per end –01 –02		**–6.30** = (6.30 mm) 0.248" (MPTC only) **–7.70** = (7.70 mm) 0.303" (MPSC only)		**–01** = Use with (1.60 mm) .062" Thick PCB **–03** = Use with (2.36 mm) .093" Thick PCB		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal) **–T** = Matte tin on contact and tail (power), Gold on contact, Matte tin on tail (Signal)				**–LC** = Locking Clip (Manual placement required)

MPTC

Board Mates: MPSC
Cable Mates: MPCC



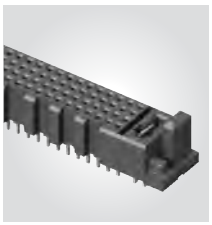


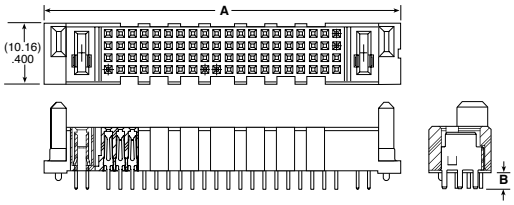
TAIL LENGTH	B
–01	(2.72) .107
–03	(3.51) .138

POWER PINS/ENDS	A			
	16 SIGNAL PINS	24 SIGNAL PINS	40 SIGNAL PINS	80 SIGNAL PINS
–01	(27.44) 1.081	(31.45) 1.238	(39.44) 1.553	(59.44) 2.340
–02	(37.44) 1.474	(41.45) 1.632	(49.44) 1.946	(69.44) 2.734

MPSC

Board Mates: MPTC





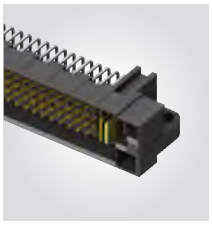
TAIL LENGTH	B
–01	(2.72) .107
–03	(3.52) .139

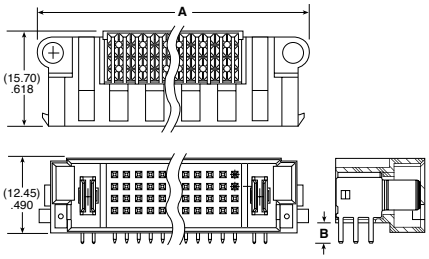
View complete specifications at: **samtec.com?MPTC & samtec.com?MPSC**

SERIES	–	POWER PINS	–	SIGNAL PINS	–	POWER PINS	–	01	–	TAIL LENGTH	–	PLATING OPTION	–	RA	–	OTHER OPTION
MPTC Terminal **MPSC** Socket		Per end –01 –02		–24 –80		Per end –01 –02				**–01** = Use with (1.60 mm) .062" Thick PCB **–03** = Use with (2.36 mm) .093" Thick PCB		**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal) **–T** = Matte Tin on contact and tail (power), Gold on contact, Matte tin on tail (Signal)				–SD or –LC is a required callout **–SD** = Screw Down **–LC** = Locking Clip (Manual placement required)

MPTC-RA

Board Mates: MPSC
Cable Mates: MPCC





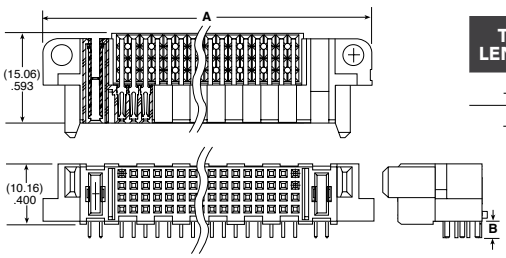
TAIL LENGTH	B
–01	(2.72) .107
–03	(3.51) .138

POWER PINS/ENDS	A	
	24 SIGNAL PINS	80 SIGNAL PINS
–01	(35.25) 1.388	(63.25) 2.490
–02	(45.25) 1.781	(73.25) 2.884

MPSC-RA

Board Mates: MPTC





TAIL LENGTH	B
–01	(2.20) .087
–03	(3.00) .118

POWER PINS/ ENDS	A	
	24 SIGNAL PINS	80 SIGNAL PINS
–01	(36.52) 1.438	(64.52) 2.540
–02	(46.52) 1.831	(74.52) 2.934

View complete specifications at: **samtec.com?MPTC & samtec.com?MPSC**

Note: Some lengths, styles and options are non-standard, non-returnable

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER STRIP 40

(6.35 mm) .250" PITCH • 40 A HIGH-POWER SYSTEM

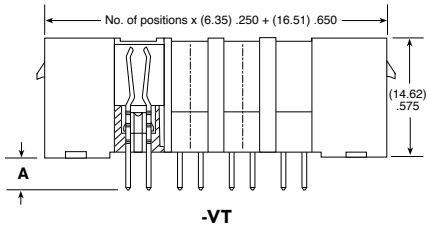
PET	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	OTHER OPTION
		–02, –04, –06, –08		–01 = Use with (1.60 mm) .062" Thick PCB –02 = Use with (3.18 mm) .125" Thick PCB		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		–VT = Vertical – RA = Right-angle (Screw Down option required)		–SD = Screw Down (Right-angle only)

PET

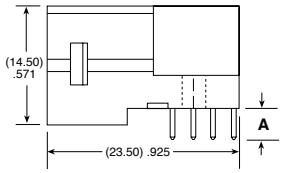
Board Mates:
PES
Cable Mates:
PESS



TAIL LENGTH	A
–01	(2.35) .093
–02	(3.95) .156



-VT



-RA-SD

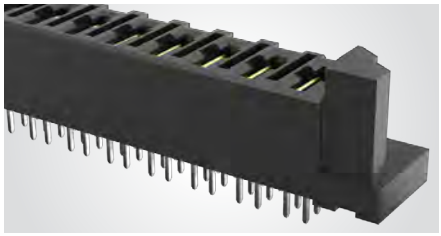
Note: Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?PET**

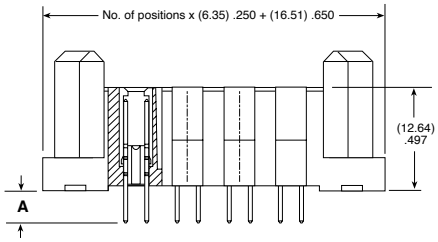
PES	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	OTHER OPTION
		–02, –04, –06, –08		–01 = Use with (1.60 mm) .062" Thick PCB –02 = Use with (3.18 mm) .125" Thick PCB		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		–VT = Vertical – RA = Right-angle (Screw Down option required)		–SD = Screw Down (Right-angle only)

PES

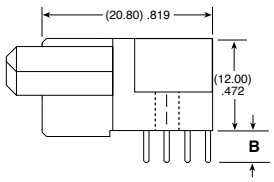
Board Mates:
PET



TAIL LENGTH	A	B
–01	(2.47) .097	(2.35) .093
–02	(4.07) .160	(3.95) .156



-VT



-RA-SD

Note: Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?PES**

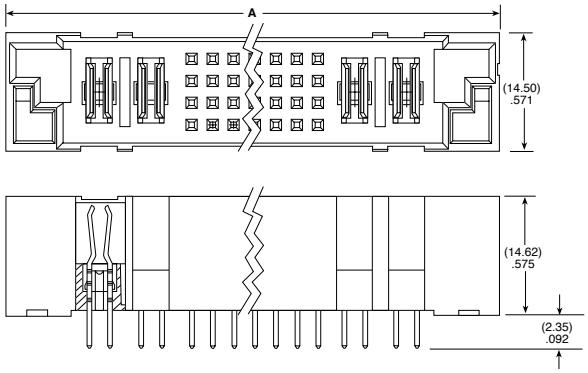
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PETC	POWER PINS	SIGNAL PINS	POWER PINS	01	PLATING OPTION	TAIL	OTHER OPTION
	–01, –02, –04	–12, –40	–01, –02, –04		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical – RA = Right-angle	–SD = Screw Down (Right-angle only) –LC = Locking Clip (Manual placement required)

PETC

Board Mates:
PESC





POWER PINS/ENDS	A	
	12 SIGNAL PINS	40 SIGNAL PINS
–01	(39.37) 1.550	(57.15) 2.250
–02	(52.07) 2.050	(69.85) 2.750
–04	(77.47) 3.050	(95.25) 3.750

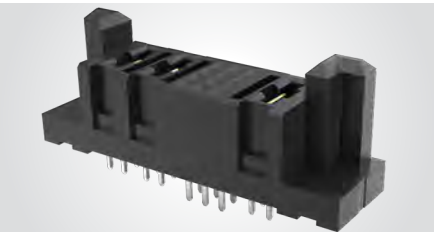
Note:
Some lengths, styles and options are non-standard, non-returnable

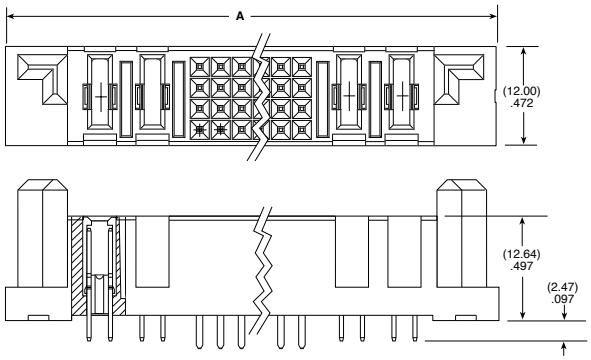
View complete specifications at: **samtec.com?PETC**

PESC	POWER PINS	SIGNAL PINS	POWER PINS	01	PLATING OPTION	TAIL	OTHER OPTION
	–01, –02, –04	–12, –40	–01, –02, –04		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical – RA = Right-angle	–SD = Screw Down (Right-angle only) –LC = Locking Clip (Manual placement required)

PESC

Board Mates:
PETC





POWER PINS/ENDS	A	
	12 SIGNAL PINS	40 SIGNAL PINS
–01	(39.37) 1.550	(57.15) 2.250
–02	(52.07) 2.050	(69.85) 2.750
–04	(77.47) 3.050	(95.25) 3.750

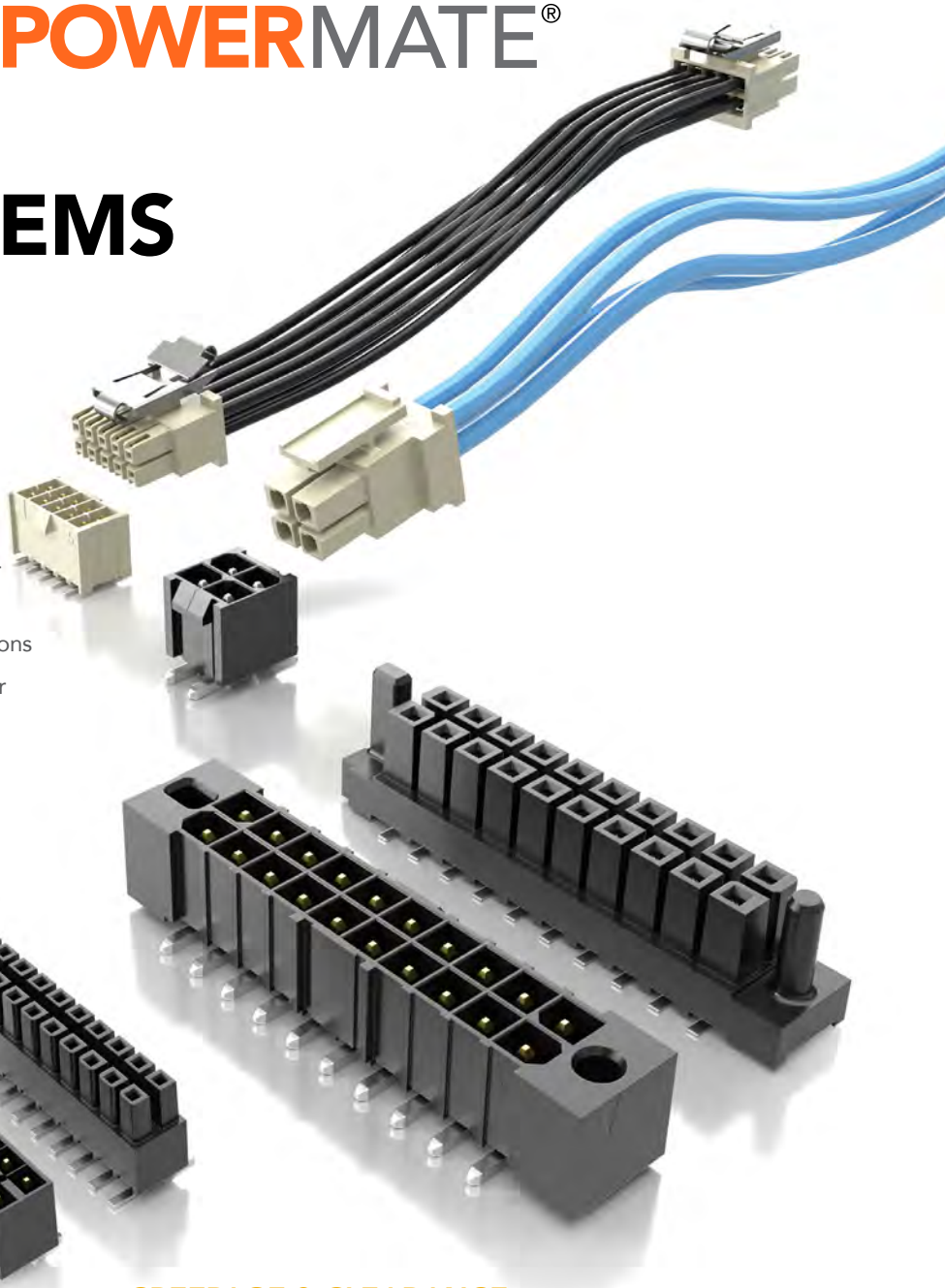
Note:
Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?PESC**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

miniMATE® | POWERMATE®

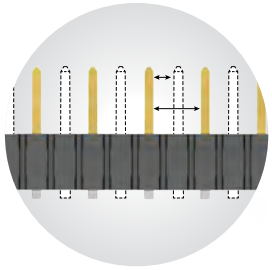
ISOLATED POWER SYSTEMS



FEATURES & BENEFITS

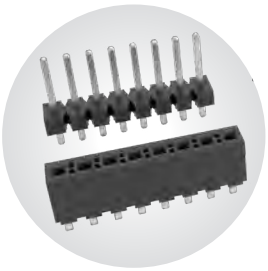
- Individually shrouded contacts for electrical and mechanical protection
- .100" (2.54 mm) and .165" (4.19 mm) pitch
- Surface mount or through-hole
- Vertical and right-angle for parallel, perpendicular and coplanar applications
- Locking clip, key polarization and guide post options
- Wire to board assemblies with 16-30 AWG PVC or Teflon™ fluoropolymer wire.
- Metal or plastic rugged latching system

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec



Selectively loading contacts achieves customer specific creepage and clearance requrements.





Flexible standard or high-power stacking systems with Power Eye three-finger BeCu contacts for reliable connection. For available series, visit samtec.com/flexiblestrips

CREEPAGE & CLEARANCE

	CREEPAGE	CLEARANCE
IPT1/IPS1 MMSS(T)/MMSD(T)/IPL1	2.54 mm	1.91 mm
IPBT/IPBS PMSS(T)/PMSD(T)	4.27 mm	3.05 mm

Selectively loading contacts achieves customer specific creepage and clearance requirements.

KEY SPECIFICATIONS

SERIES	PITCH	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
IPT1/IPS1	.100" (2.54 mm)	Black LCP	Phosphor Bronze	Sn or Au over 50 µ" (1.27 µm) Nickel	-55 °C to +125 °C	5.9 A (2 pins powerd)	700 VAC/ 990 VDC	Yes
IPBT/IPBS	.165" (4.19 mm)	Black LCP	High Copper Alloy (IPBT) Phospher Bronze (IPBS)	Sn over 50 µ" (1.27 µm) Nickel	-55 °C to +105 °C	9.3 A (2 pins powerd)	400 VAC/ 566 VDC	Yes

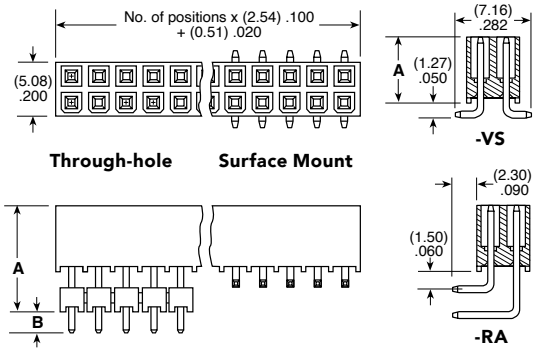
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(2.54 mm) .100" PITCH • SHROUDED POWER CONNECTOR SET

IPT1	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTIONS
			05 10 15 20 25 (Standard Sizes)		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				Requires -01 Lead Style (Leave blank for Through-hole) –RA = Right-angle –VS = Surface Mount		–A = Alignment Pin (–VS only) (N/A with –LC) –LC = Locking Clip (Manual placement required) (–VS only) (N/A with –A) –K = (6.00 mm) .236" DIA Polyimide film Pick & Place Pad (–VS only) –TR = Tape & Reel (–VS only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-VS only)

IPT1
Board Mates:
IPS1



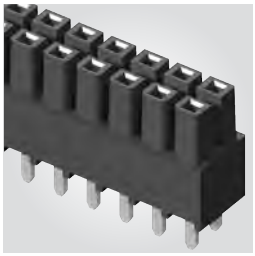


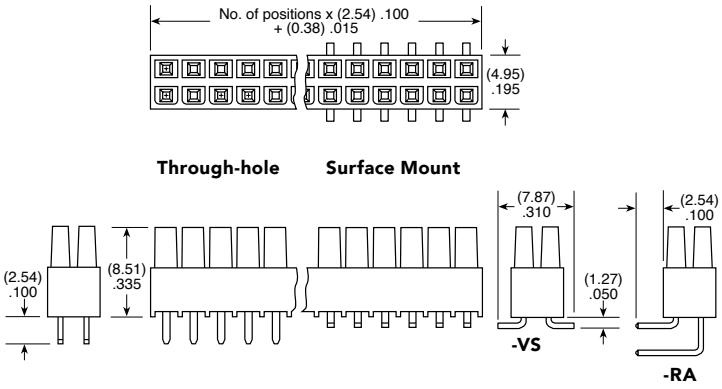
IPT1/IPS1	
PINS	CURRENT RATING (PER CONTACT)
2	5.9 A
4	4.8 A
6	4.1 A
8	3.6 A
50	2.3 A

LEAD STYLE	MATED HEIGHT	A	B
–01	(11.05) .435	(6.35) .250	(2.16) .085
-01-VS	(13.59) .535	(6.35) .250	N/A
–02	(14.00) .551	(9.30) .366	(2.64) .104
–03	(16.00) .630	(11.30) .445	(2.16) .085
–04	(17.00) .669	(12.30) .484	(2.69) .106
–05	(19.00) .748	(14.30) .563	(2.46) .097
–06	(20.00) .787	(15.30) .602	(2.35) .093
–07	(25.00) .984	(20.30) .799	(2.31) .091
–08	(30.00) 1.181	(25.30) .996	(2.39) .094
–09	(35.00) 1.378	(30.30) 1.193	(2.46) .097

IPS1	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTIONS
			05 10 15 20 25 (Standard Sizes)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				Leave blank for Through-hole –RA = Right-angle –VS = Surface Mount		–LC = Locking Clip (Manual placement required) (–VS only) –K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (–VS only) –TR = Tape & Reel (–VS only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-VS only)

IPS1
Board Mates:
IPT1





Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IPT1 & samtec.com?IPS1**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

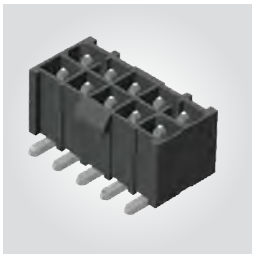
POWERMATE®

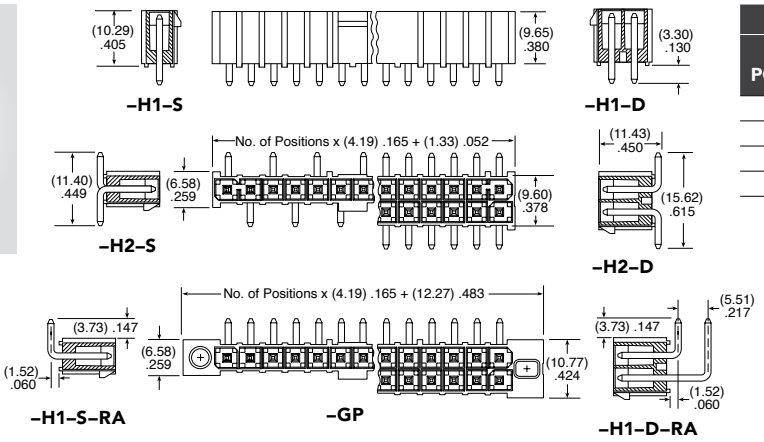
MAX 9.3 Amps

(4.19 mm) .165" PITCH • ISOLATED POWER CONNECTOR SET

IPBT	-	1	NO. OF POSITIONS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OPTIONS
			02, 03, 04, 05, 08, 10 15 (–D Only) (Standard Sizes)		–H1 = Through-hole –H2 = Surface Mount		–T = Matte Tin		–S = Single Row –D = Double Row		–RA = Right-angle (Lead Style –H1 only) –GP = Guide Post Holes (Not available with –K) –K = Keyed Polarization (Not available with –GP option, is required callout if –GP not called out)

IPBT
Board Mates:
IPBS
Cable Mates:
PMSD, PMSS

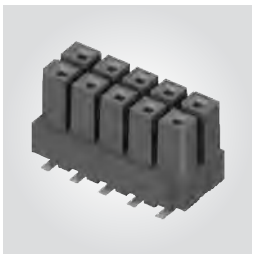


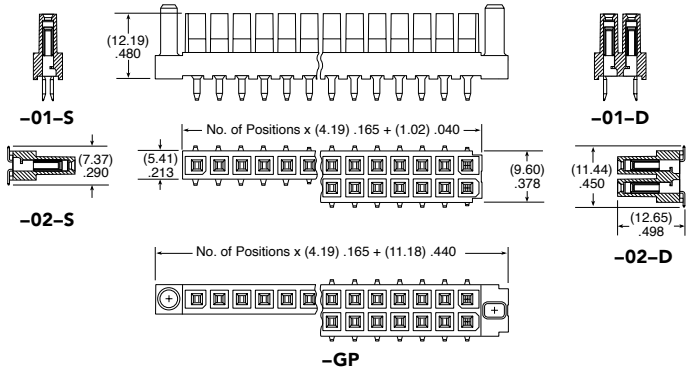


IPBT/IPBS	
PINS POWERED	CURRENT RATING (PER CONTACT)
2	9.3 A
4	7.4 A
6	6.4 A
8	5.9 A
30	4.4 A

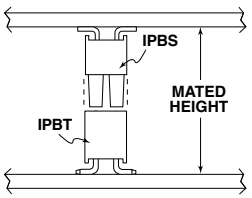
IPBS	-	1	NO. OF POSITIONS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OPTION
			02, 03, 04, 05, 08, 10 15 (–D Only) (Standard Sizes)		–01 = Standard Power –02 = Standard Power Surface Mount		–T = Matte Tin		–S = Single Row –D = Double Row		–GP = Guide Post

IPBS
Board Mates:
IPBT





MATED HEIGHT



IPBT/IPBS LEAD STYLE	MATED HEIGHT*
H1/–01	(15.25) .600
–H2/–02	(16.84) .663

*Processing conditions will affect mated height.

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IPBT & samtec.com?IPBS**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RUGGED I/O SYSTEMS

POWER I/O • MICRO-HYPERBOLOID CONTACT • SEALED CIRCULARS & RECTANGULARS



226-231 **URSA® I/O ULTRA RUGGED POWER CABLE SYSTEMS**

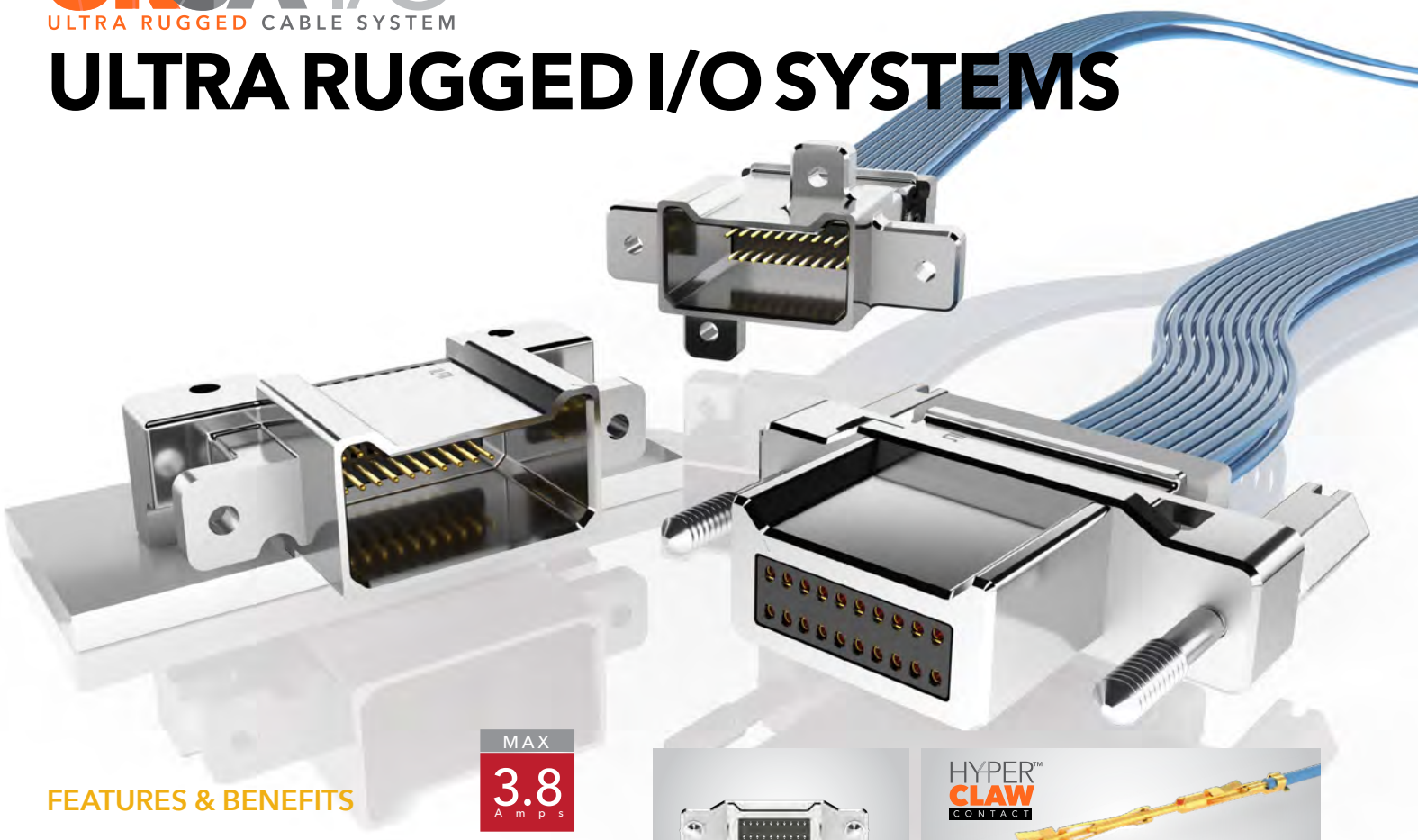
Socket Cables and Components (B1SD(T), B1SDS, IBT1, CC508) 227
Panel Mount Terminal Cables and Components (P1PD(T), P1PDS, IPP1, TC145) 228
Board Mount I/O Connector (P1M) 229
SMPM Ganged Cable Assembly (B1SM/P1SM) 230
Ultra Rugged I/O Combinations 231

232-234 **FLEXIBLE SEALED SYSTEMS**

AccliMate™ IP67 & IP68 Sealed Circular & Rectangular Systems 232-234

URSA I/O
ULTRA RUGGED CABLE SYSTEM

ULTRA RUGGED I/O SYSTEMS



MAX 3.8 Amps

FEATURES & BENEFITS

- Small form factor
- Four points of contact for a reliable connection and high mating cycles
- Up to 40 positions per row
- Cable-to-cable & cable-to-board solutions
- EMI shielding limits signal degradation and optimizes performance
- Through-hole or surface mount
- 28 & 30 AWG cable
- Availability of contacts (high-speed, RF, power) in 1 to 5 block configurations (See page 231)



Shown actual size at 20 total positions



Hyper Claw™ Hyperboloid-type contact for extreme high mating cycles



Extreme density with up to 1,450 total I/Os in a 1RU panel (29 cables at 50 total I/Os each)

KEY SPECIFICATIONS

SERIES	INSULATOR MATERIAL	CONTACT MATERIAL	SHIELD MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING
P1PD(X), B1SD(X), P1M	Liquid Crystal Polymer	Beryllium Copper	Zinc Alloy	Au over 50 µ" (1.27 µm) Ni	–10 °C to +80 °C (PVC) –40 °C to +125 °C (*Teflon™ Fluoropolymer)	3.8 A per pin (2 pins powered)	200 VAC/ 282 VDC
B1SM		Copper Alloy		50 µ" (1.27 µm) Au center contact	Testing Now!	Testing Now!	Testing Now!
P1SM				30 µ" (0.76 µm) Au center contact			

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

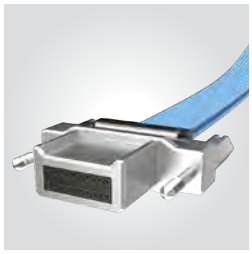
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

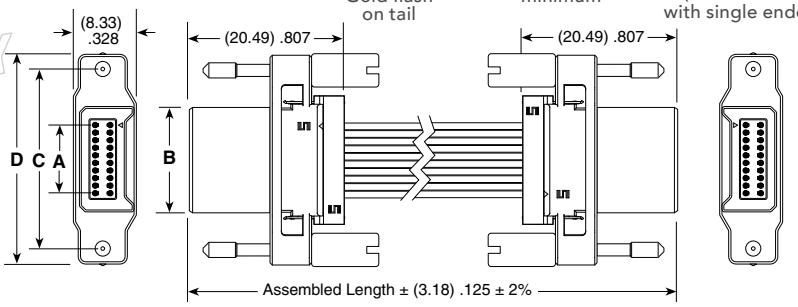
(1.00 mm) .0394" PITCH • NON-PANEL MOUNT I/O CABLE/COMPONENTS

SERIES	NO. OF POSITIONS	WIRE GAUGE	COLOR CODE	PLATING	ASSEMBLED LENGTH	EMI SHIELD	PINOUT
B1SD = Double Row Non-Panel Mount PVC Cable **B1SDT** = Double Row Non-Panel Mount Blue *Teflon™ Fluoropolymer Cable	–10, –15, –25, –30 (Per Row)	–28 = 28 AWG –30 = 30 AWG	(Leave blank for standard wire) **C** = Color Code Wire (Not available with B1SDT)	–H = 30 µ" (0.76 µm) Gold on contact area, Gold flash on tail	–"XX.X" = Length in inches 06.0" (152.4 mm) minimum	(Leave blank for non-EMI shield) –E = EMI Shield (Not available with single ended)	(Leave blank for single ended) 1 = Pin 1 to Pin 1 2 = Pin 1 to Pin 2 3 = Pin 1 to Pin N 4 = Pin 1 to Pin N-1

B1SD PRELIMINARY

B1SD, B1SDT
Cable Mates:
P1PD, P1PDT
Board Mates:
P1M





B1SDX-10-XXX-H-XX.X-3 SHOWN

NO. OF POSITIONS	A	B	C	D
–10	(9.00) .354	(13.94) .549	(23.75) .935	(27.75) 1.093
–15	(14.00) .551	(18.94) .746	(28.75) 1.132	(32.75) 1.289
–25	(24.00) .945	(28.94) 1.139	(38.75) 1.526	(42.75) 1.683
–30	(29.00) 1.142	(33.94) 1.336	(43.75) 1.722	(47.75) 1.880

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Notes:
Teflon™ Fluoropolymer Cable is intended for crimp only. Contact Samtec for solderable cable applications.

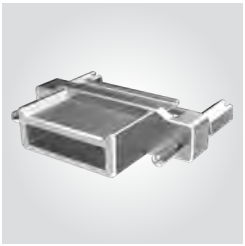
Some lengths, styles and options are non-standard, non-returnable.

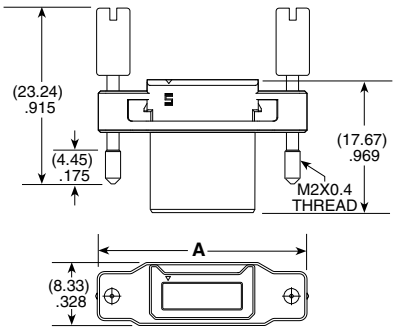
B1SD & B1SDT CABLE HOLDER (Required for use with IBT1)

SERIES	NUMBER OF POSITIONS
B1SDR	–10, –15, –25, –30

View complete specifications at: **samtec.com?B1SD** & **samtec.com?B1SDT**

B1SDS	NO. OF POSITIONS	N	OPTION
	–10, –15, –25, –30		–CS = Captive Screw



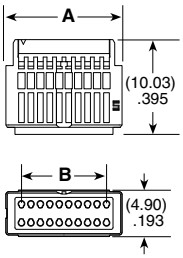


NO. OF POSITIONS	A
–10	(27.75) 1.093
–15	(32.75) 1.289
–25	(42.75) 1.683
–30	(47.75) 1.880

Note:
Some lengths, styles and options are non-standard, non-returnable.

IBT1	NO. OF POSITIONS	1
	–10, –15, –25, –30	



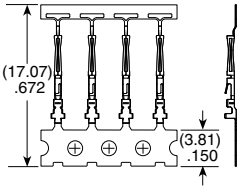


NO. OF POSITIONS	A	B
–10	(12.290) .484	(9.00) .354
–15	(17.290) .681	(14.00) .551
–25	(27.290) 1.074	(24.00) .945
–30	(32.290) 1.271	(29.00) 1.142

CC508	01	PLATING	PACKAGING



–H = 30 µ" (0.76 µm) Gold on contact area, Gold flash on tail



–R = Full Reel (25,000 Contacts Per Reel)

–M = Mini Reel (1,000 to 5,000 Contacts Per Reel)

–B = Bubble Bag (35 Contacts)

TOOLING

Hand Tool:	Mini Applicator:
CAT-HT-508-2830-12	CAT-MC-508-2830-XX-03

For more tooling information, visit **samtec.com/tooling**

View complete specifications at: **samtec.com?B1SDS**, **samtec.com?IBT1** & **samtec.com?CC508**

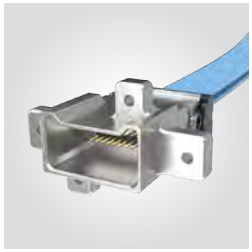
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

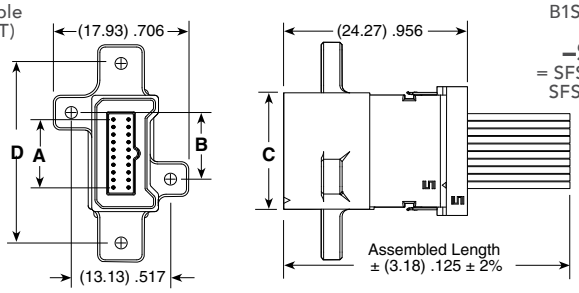
(1.00 mm) .0394" PITCH • PANEL MOUNT I/O CABLE/COMPONENTS

SERIES	NO. OF POSITIONS	WIRE GAUGE	COLOR CODE	PLATING	ASSEMBLED LENGTH	END OPTION	PINOUT
P1PD = Double Row Panel Mount PVC Cable **P1PDT** = Double Row Panel Mount Blue *Teflon™ Fluoropolymer Cable	**–10, –15, –25, –30** (Per Row)	**–28** = 28 AWG **–30** = 30 AWG	(Leave blank for standard wire) **C** = Color Code Wire (Not available with P1PDT)	**–H** = 30 µ" (0.76 µm) Gold on contact area, Gold flash on tail	**–"XX.X"** = Length in inches 06.0" (152.4 mm) minimum	(Leave blank for single ended) **–B** = B1SD & B1SDT **–S** = SFSD & SFSDT	(Leave blank for single ended) **1** = Pin 1 to Pin 1 **2** = Pin 1 to Pin 2 **3** = Pin 1 to Pin N **4** = Pin 1 to Pin N-1

P1PD PRELIMINARY

P1PD, P1PDT
Cable Mates:
B1SD, B1SDT





P1PDX-10-XXX-H-XX.X SHOWN

NO. OF POSITIONS	A	B	C	D
–10	(9.00) .354	(8.79) .346	(15.39) .606	(23.75) .935
–15	(14.00) .551	(13.79) .543	(20.39) .803	(28.75) 1.132
–25	(24.00) .945	(23.79) .937	(30.39) 1.196	(38.75) 1.526
–30	(29.00) 1.142	(28.79) 1.133	(35.39) 1.393	(43.75) 1.722

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Notes:
Teflon™ Fluoropolymer Cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

P1PD & P1PDT CABLE HOLDER (Required for use with IPP1)

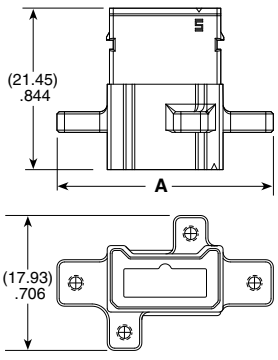
SERIES	NUMBER OF POSITIONS
P1PDR	–10, –15, –25, –30

View complete specifications at: **samtec.com?P1PD** & **samtec.com?P1PDT**

P1PDS	–	NO. OF POSITIONS	–	N

–10, –15, –25, –30





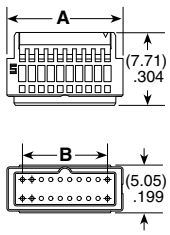
NO. OF POSITIONS	A
–10	(28.75) 1.132
–15	(33.75) 1.329
–25	(43.75) 1.722
–30	(48.75) 1.920

Note:
Some lengths, styles and options are non-standard, non-returnable.

IPP1	–	NO. OF POSITIONS	–	1

–10, –15, –25, –30



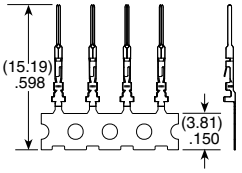


NO. OF POSITIONS	A	B
–10	(12.290) .484	(9.00) .354
–15	(17.290) .681	(14.00) .551
–25	(27.290) 1.074	(24.00) .945
–30	(32.290) 1.271	(29.00) 1.142

TC145	–	01	–	PLATING	–	PACKAGING



–H
= 30 µ" (0.76 µm) Gold on contact area, Gold flash on tail



–R
= Full Reel (25,000 Terminals Per Reel)

–M
= Mini Reel (1,000 to 5,000 Terminals Per Reel)

–B
= Bubble Bag (35 Terminals)

TOOLING

Hand Tool:	Mini Applicator:
CAT-HT-1145-2830-12	CAT-MC-1145-2830-XX-03

For more tooling information, visit **samtec.com/tooling**

View complete specifications at: **samtec.com?P1PDS**, **samtec.com?IPP1** & **samtec.com?TC145**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(1.00 mm) .0394" PITCH • I/O BOARD MOUNT

P1M	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING	–	D	–	RA	–	PIN LENGTH	–	"X"R

–10, –15, –25, –30
(Per Row)

–01
= Surface Mount

–02
= Through-hole (1.57 mm PCB)

–03
= Through-hole (2.36 mm PCB)

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail

–STL
= 30 µ" (0.76 µm) Gold on contact area, Tin/Lead on tail (–01 lead style only)

(Leave blank for standard)

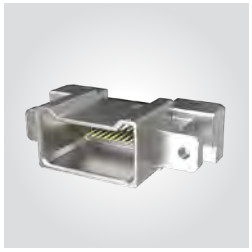
–H
= Hot Swap

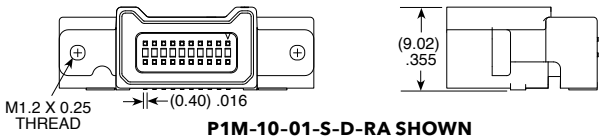
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

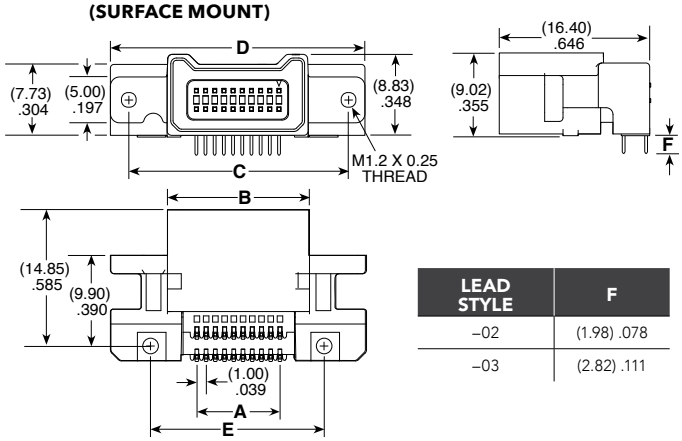
PRELIMINARY

P1M
Cable Mates:
B1SD, B1SDT





P1M-10-01-S-D-RA SHOWN (SURFACE MOUNT)



NO. OF POSITIONS	A	B	C	D	E
–10	(9.00) .354	(15.39) .606	(23.75) .935	(27.75) 1.093	(18.80) .740
–15	(14.00) .551	(20.39) .803	(28.75) 1.132	(32.75) 1.289	(23.80) .937
–25	(24.00) .945	(30.39) 1.196	(38.75) 1.526	(42.75) 1.683	(33.80) 1.331
–30	(29.00) 1.142	(35.39) 1.393	(43.75) 1.722	(47.75) 1.880	(38.80) 1.528

LEAD STYLE	F
–02	(1.98) .078
–03	(2.82) .111

P1M-10-02-S-D-RA SHOWN (THROUGH-HOLE)

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?P1M**

P1M	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING	–	DV	–	PIN LENGTH	–	PICK & PLACE OPTION	–	"X"R

–10, –15, –25, –30
(Per Row)

–01
= Surface Mount

–02
= Through-hole (1.57 mm PCB)

–03
= Through-hole (2.36 mm PCB)

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail

–STL
= 30 µ" (0.76 µm) Gold on contact area, Tin/Lead on tail

(Leave blank for standard)

–H
= Hot Swap

(Leave blank for no pad)

–K
= (8.25 mm) .315" DIA Polyimide Film Pick & Place Pad

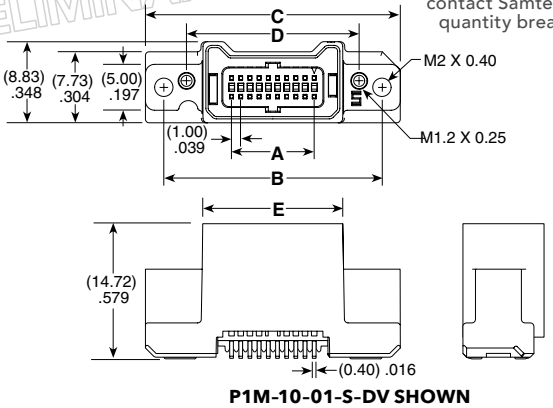
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

PRELIMINARY

P1M
Cable Mates:
B1SD, B1SDT





P1M-10-01-S-DV SHOWN

NO. OF POSITIONS	A	B	C	D	E
–10	(9.00) .354	(23.75) .935	(27.75) 1.093	(18.80) .740	(15.22) .599
–15	(14.00) .551	(28.75) 1.132	(32.75) 1.289	(23.80) .937	(20.22) .796
–25	(24.00) .945	(38.75) 1.526	(42.75) 1.683	(33.80) 1.331	(30.22) 1.190
–30	(29.00) 1.142	(43.75) 1.722	(47.75) 1.880	(38.80) 1.528	(35.22) 1.387

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?P1M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMPM GANGED CABLE ASSEMBLY

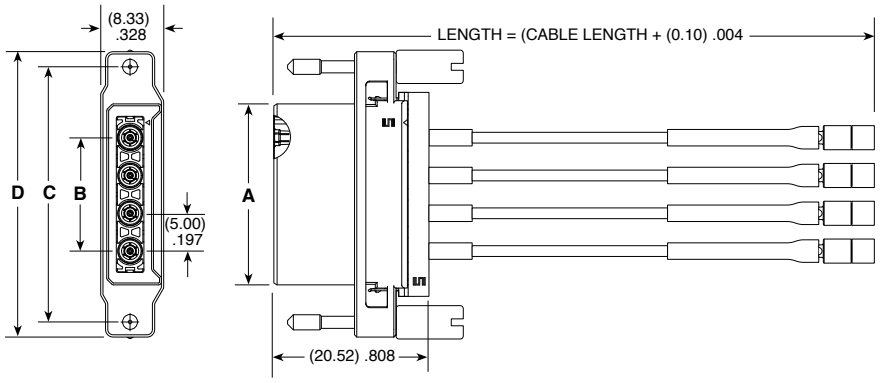
B1SM	–	NO. OF POSITIONS	–	END 2 CONNECTOR	–	CABLE LENGTH
		–02, –04, –06		(Refer to RF047-A)		–"XXXX" = Length in millimeters 0100 mm MIN

B1SM

Cable Mates:
P1SM



NO. OF POSITIONS	A	B	C	D
–02	(13.94) .354	(5.00) .197	(23.75) .935	(27.75) 1.093
–04	(23.94) .943	(15.00) .594	(33.75) 1.330	(37.75) 1.487
–06	(33.94) 1.337	(25.00) .985	(43.75) 1.724	(47.75) 1.881



B1SM-04-XXXX-XXXX SHOWN

Notes:
Cable lengths longer than 1000 milimeter are not supported with S.I. test data.

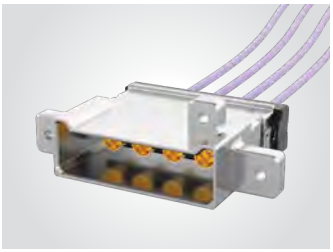
Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?B1SM**

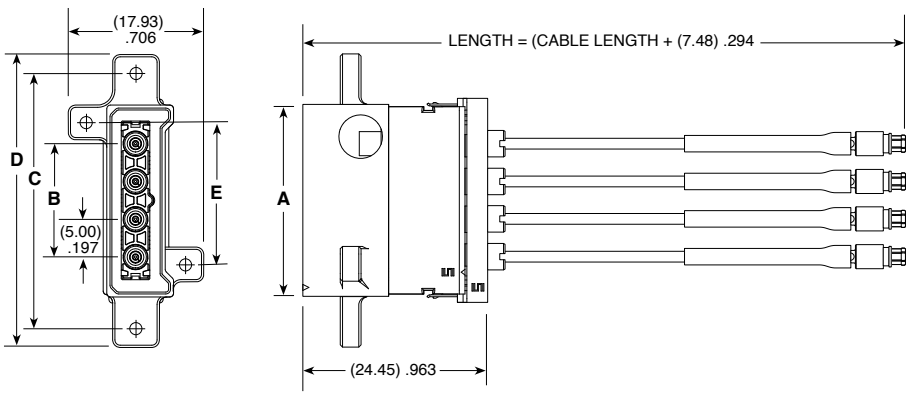
P1SM	–	NO. OF POSITIONS	–	END 2 CONNECTOR	–	CABLE LENGTH
		–02, –04, –06		(Refer to RF047-A)		–"XXXX" = Length in millimeters 0100 mm MIN

P1SM

Cable Mates:
B1SM



NO. OF POSITIONS	A	B	C	D	E
–02	(15.39) .606	(5.00) .197	(23.75) .936	(25.75) 1.015	(8.79) .346
–04	(25.39) 1.000	(15.00) .591	(33.75) 1.330	(35.75) 1.409	(18.79) .740
–06	(35.39) 1.394	(25.00) .985	(43.75) 1.724	(45.75) 1.803	(28.79) 1.134



P1SM-04-XXXX-XXXX SHOWN

Notes:
Cable lengths longer than 1000 milimeter are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?P1SM**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

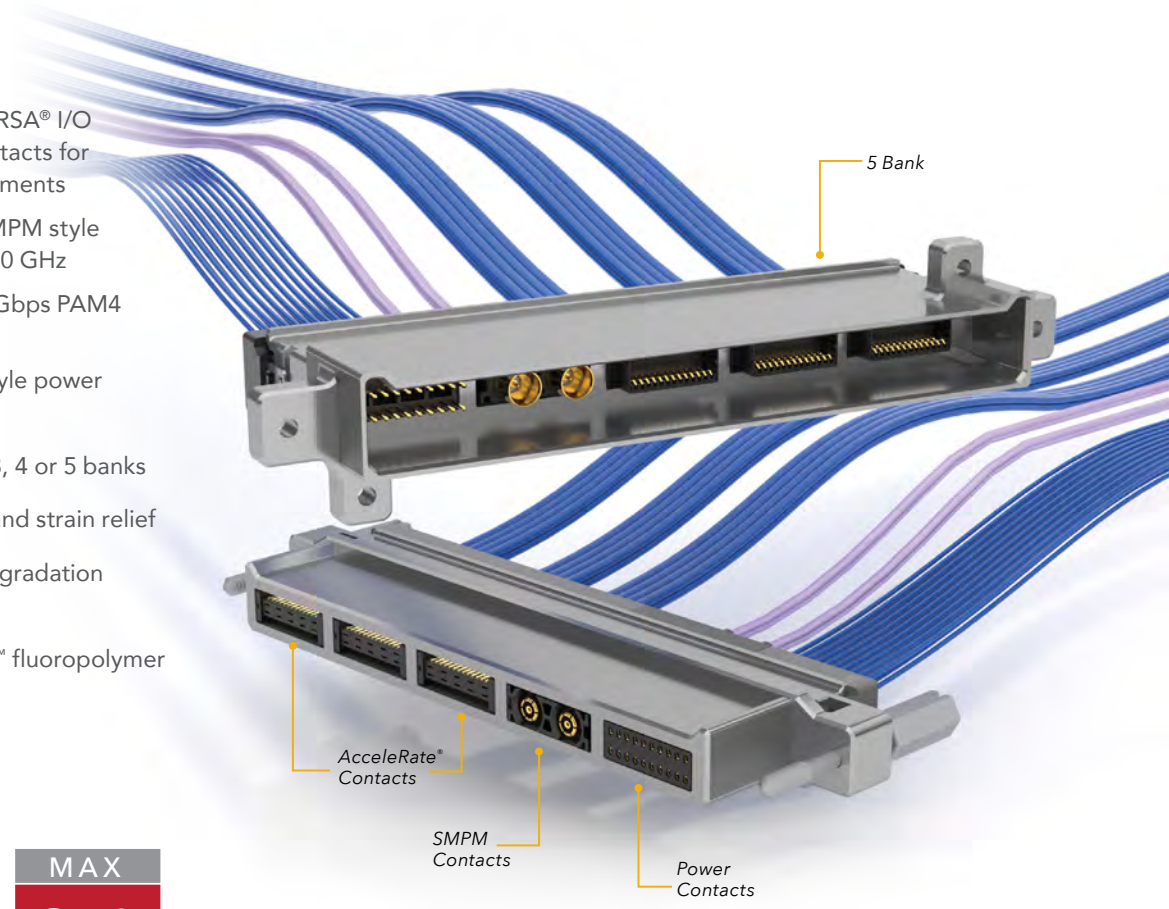
URSA I/O
ULTRA RUGGED CABLE SYSTEM

IN DEVELOPMENT: ULTRA RUGGED I/O COMBINATIONS

POWER, RF AND HIGH-SPEED COMBO ASSEMBLIES

FEATURES & BENEFITS

- The ultra rugged features of URSA® I/O combined with a variety of contacts for high-reliability in harsh environments
  - Micro-miniature, push-on SMPM style contacts with frequency to 40 GHz
  - AcceleRate® contacts to 64 Gbps PAM4 performance
  - Hyper Claw™ hyperboloid-style power contacts to 3.8 A max
- Contact combinations in 1, 2, 3, 4 or 5 banks
- Rugged captive panel screws and strain relief
- EMI shielding to limit signal degradation and optimize performance
- 28 and 30 AWG PVC or Teflon™ fluoropolymer wire; color coded available
- For more information, contact RuggedPower@samtec.com



DC TO	PAM4	MAX
40 GHz	64 Gbps	3.8 Amps

CONTACT FLEXIBILITY

Mix and match contact types with any number of housing banks to create a solution for any application.



*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ACCLIMATE™

RUGGED SEALED I/O SYSTEMS



FEATURES & BENEFITS

- Meets IP68 & IP67 requirements for dust and waterproof sealing
- Ideal for high reliability in harsh environments
- Bayonet circulars in 12 mm, 16 mm and 22 mm shell sizes with choice of pin configuration and gender (ACX)
- Lightweight plastic mini push-pull system in a small form factor for increased panel density (MCP/MCR)
- Threaded sealed circular systems available with USB or Ethernet
- Rectangular systems offer a 25-45% panel area savings
- Rugged dust caps available

KEY SPECIFICATIONS

SERIES	TYPE	INSULATOR MATERIAL	TERMINAL MATERIAL	CONTACT MATERIAL	OPERATING TEMP RANGE
ACP-12/ACR-12	Bayonet Circular	Thermoplastic	Brass	Brass/BeCu	-10 °C to +80 °C
ACP-16/ACR-16					-10 °C to +105 °C
ACP-22/ACR-22					-10 °C to +105 °C
MCP/MCR	Mini Push-Pull	PPS	Phosphor Bronze	Phosphor Bronze	-20 °C to +80 °C
BCU/BPCU/BRU	Threaded Circular	Thermoplastic	--	Copper Alloy	-40 °C to +80 °C
SCRUS/SCRES		PBT	--	Phosphor Bronze	-20 °C to +75 °C (SCRUS) -40 °C to +70 °C (SCRES)
RPBE/RPCE	Rectangular	Black LCP (RPBE) Glass Filled Thermoplastic (RPCE)	--	Phosphor Bronze	-40 °C to +75 °C
RPBU/RPCU		Black LCP	--	Phosphor Bronze	-20 °C to +80 °C

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

IP68 SEALED BAYONET CIRCULAR - 12 mm SHELL



Series	Gender	Current Carrying Capacity	Housing	Web Address
ACP-12	Terminal	MAX 5.0 Amps	Metal or Plastic	samtec.com?acp-12
ACR-12	Socket			samtec.com?acr-12

Kitted components available for field assembly, visit samtec.com/acpk-12 or samtec.com/acrk-12

IP68 SEALED BAYONET CIRCULAR - 16 mm SHELL



Series	Gender	Current Carrying Capacity	Housing	Web Address
ACP-16	Terminal	MAX 11.6 Amps	Metal or Plastic	samtec.com?acp-16
ACR-16	Socket			samtec.com?acr-16

Kitted components available for field assembly, visit samtec.com/acpk-16 or samtec.com/acrk-16

IP68 SEALED BAYONET CIRCULAR - 22 mm SHELL



Series	Gender	Current Carrying Capacity	Housing	Web Address
ACP-22	Terminal	MAX 8.3 Amps	Metal or Plastic	samtec.com?acp-22
ACR-22	Socket			samtec.com?acr-22

Kitted components available for field assembly, visit samtec.com/acpk-22 or samtec.com/acrk-22

IP67 SEALED MINI PUSH-PULL - 8 SERIES



Series	Gender	Current Carrying Capacity	Housing	Web Address
MCP	Terminal	MAX 3.4 Amps	Plastic	samtec.com?mcp
MCR	Socket			samtec.com?mcr

Dust caps: DCA-MCR-8 and DCA-MCP-8

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

IP67 THREADED CIRCULAR SYSTEM - USB TYPE C



Series	Gender	Current Carrying Capacity	Housing	Web Address
BCU	Terminal (Cable)	Supports 100 W power delivery (5 A @ 20 V)	Plastic	samtec.com?bcu
BPCU	Socket (Cable)			samtec.com?bpcu
BRU	Socket (Board Mount)			samtec.com?bru

Dust cap: DCA-BRU-C-01

IP68 SEALED THREADED CIRCULAR SYSTEM - USB TYPE A/B & ETHERNET



Series	Gender	Current Carrying Capacity	Housing	Mates With	Web Address
SCRUS	Socket (USB)	4.3 Amps MAX	Plastic	SCPU	samtec.com?scrus
SCRES	Socket (Ethernet)	3.8 Amps MAX		SCPE	samtec.com?scres

Dust caps: DCA-17-03, DCA-17-01 and SCPPA-17-01 (panel plug)

IP68 SEALED RECTANGULAR SYSTEM - ETHERNET



Series	Gender	Housing	Mates With	Web Address
RPBE	Socket	Plastic	RCE	samtec.com?rpbe
RPCE	Socket		RCE	samtec.com?rpce

Dust caps: DCA-RPBE-01-01-P (no latch) and DCA-RPBE-XX-01-L (latching)

IP68 SEALED RECTANGULAR SYSTEM - USB TYPE A/B



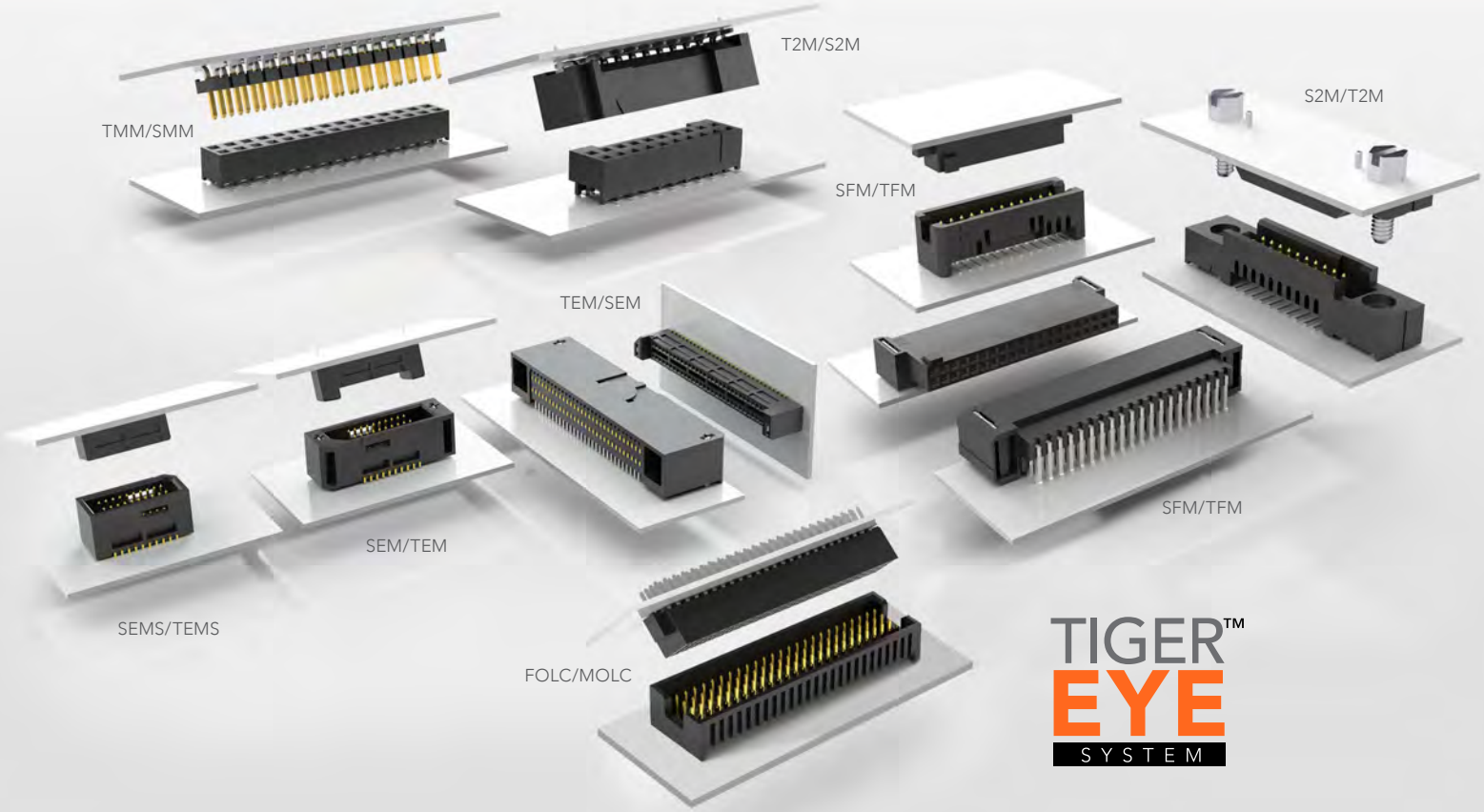
Series	Gender	Current Carrying Capacity	Housing	Mates With	Web Address
RPBU	Socket	4.5 Amps MAX	Plastic	RCU (Single Port Only)	samtec.com?rpbu
RPCU	Socket			RCU	samtec.com?rpcu

Dust caps: DCA-RPBU-XX-01-X

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RUGGED TIGER EYE™ SYSTEMS

HIGH-RELIABILITY • MULTI-FINGER BeCu CONTACT • HIGH MATING CYCLES



236-241 **.050" (1.27 mm) PITCH TIGER EYE™ SYSTEMS**

Standard Pitch Sockets & Terminals (SFM, TFM) 236-238
Cost-Effective Tiger Eye™ Lite Sockets & Terminals (SFC, TFC) 239
Quad Row Strips (MOLC, FOLC) 240
Flexible Pin Count Tiger Eye™ Sockets (SFMC) 241

242-243 **0.80 mm PITCH TIGER EYE™ SYSTEMS**

Micro Pitch Sockets & Terminals (SEM, SEMS, TEM, TEMS) 242-243

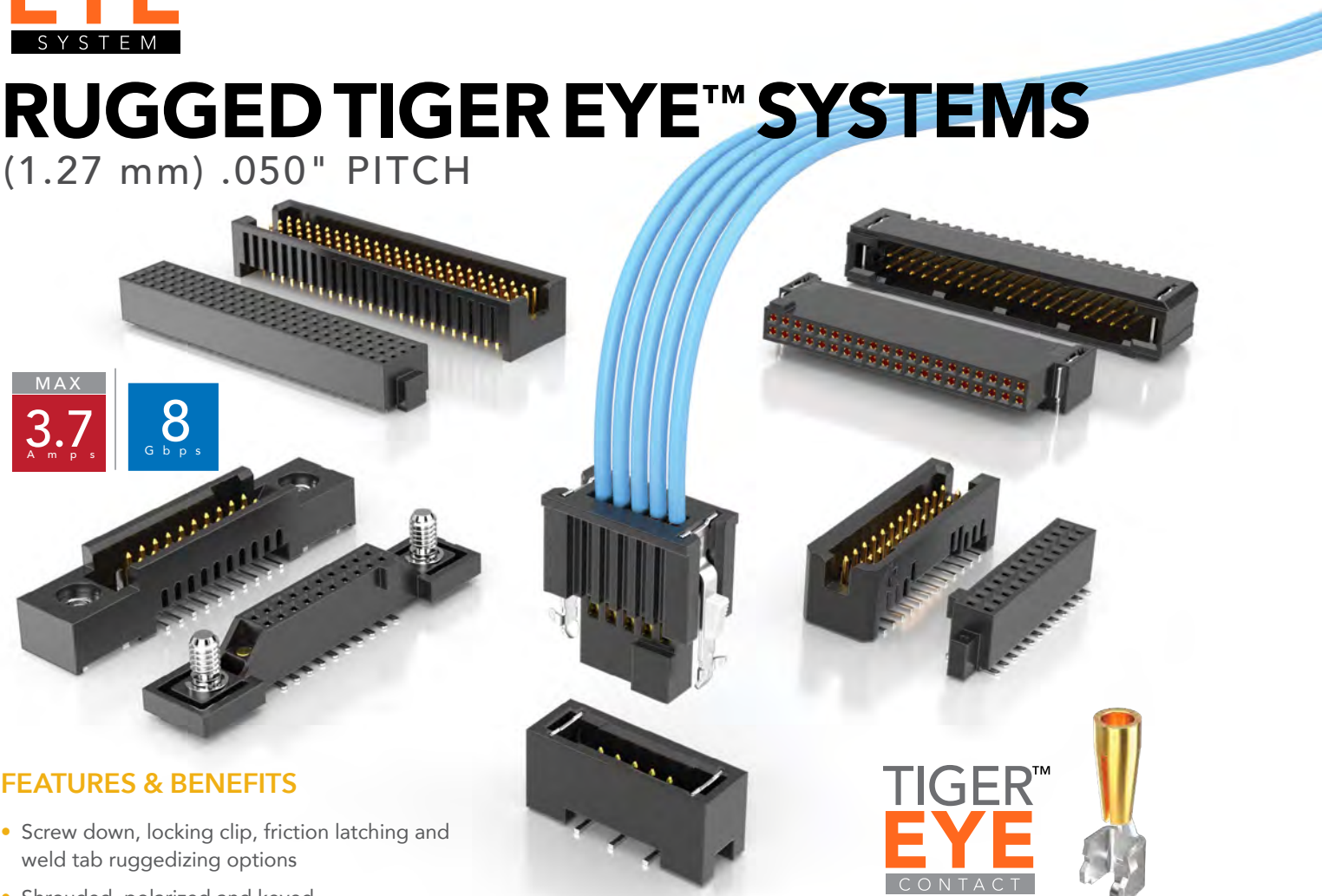
244-246 **2.00 mm PITCH TIGER EYE™ SYSTEMS**

2.00 mm Pitch Sockets & Terminals (S2M, T2M) 244-245
2.00 mm Pitch Flex Stack & IDC Cable Socket (SMM) 246

TIGER™ EYE SYSTEM

RUGGED TIGER EYE™ SYSTEMS

(1.27 mm) .050" PITCH



FEATURES & BENEFITS

- Screw down, locking clip, friction latching and weld tab ruggedizing options
- Shrouded, polarized and keyed
- Surface mount or through-hole tails
- High-density, four row design (FOLC/MOLC Series)
- Wire to board assemblies available in single or double row, 28 and 30 AWG PVC or *Teflon™ Fluoropolymer (See pages 254-255). Contact asp@samtec.com for custom solutions.
- Cable components (ISDF/CC03) and tooling available: samtec.com/tooling
- Severe Environment Testing qualified (SFM/TFM); aligns with MIL-DTL-55302. Visit samtec.com/set

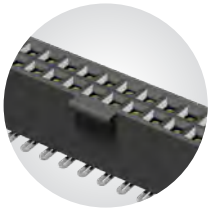
*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

TIGER™ EYE CONTACT





IDC cable assemblies with rugged strain relief (FFSD/FFMD, FFTP/FMTP)



Locking for increased unmating force (SFML/TFML)

KEY SPECIFICATIONS

SERIES	STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MAX. CYCLES	LEAD-FREE SOLDERABLE
SFM/TFM	6 to 12 mm	Black LCP	BeCu (SFM) Phosphor Bronze (TFM)	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	3.7 A per pin (2 pins powered)	250 VAC/ 354 VDC	10,000 with 30 µ" (0.76 µm) Au	Yes
SFC/TFC	6 to 12 mm	Black LCP	Phosphor Bronze	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.9 A per pin (2 pins powered)	275 VAC/ 389 VDC	(Call Samtec for E.L.P.™ plating option)	Yes

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

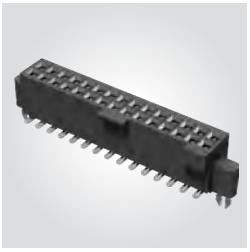
MAX 3.7 Amps | 8 Gbps

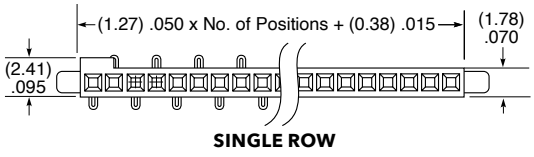
(1.27 mm) .050" PITCH • SMT/THROUGH-HOLE SOCKET

SERIES	1	NO. PINS PER ROW	LEAD STYLE		PLATING OPTION	ROW OPTION	OPTIONS	
			(Surface Mount)	(Through-hole)				
SFM = Standard **SFML** = Locking		**03, 04, 06, 08** (SFM only) **05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50** (Standard sizes)	**–02** = Tiger Eye™ Contact (BeCu) **–L2** = Low Insertion Force Tiger Eye™ Contact (BeCu) **–T2** = Tiger Eye™ LITE Contact (Phosphor Bronze)	**–01, –03** = Tiger Eye™ Contact (BeCu) **–L1, –L3** = Low Insertion Force Tiger Eye™ Contact (BeCu) **–T1** = Tiger Eye™ LITE Contact (Phosphor Bronze)	**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)	**–S** = Single Row (SFM only) **–D** = Double Row **–SH** = Single Horizontal (05 thru 30 positions only) (SFM only) (Lead style –02 only) **–DH** = Double Horizontal (05 thru 30 positions only) (SFM only) (Lead style –02 only)	Specify only –A, –LC or –DS (Not available with –DH, –SH) **–A** = Alignment Pin **–LC** = Locking Clip (Manual placement required) **–DS** = Dual Screw Down for (1.60 mm) .062" PCB (05 thru 40 positions only) (Lead styles –01, –02 & –03 only) (Requires –D row option) (Not available with SFML) (Mates with TFM-DS option) (Not available with –A, –LC, –K, –P, –XR)	Specify only –K or –P (Lead styles –02, –L2, –T2 only) **–K** = Polyimide film Pick & Place Pad (Not available with –DH, –SH) **–P** = Plastic Pick & Place Pad (Not available with –DH, –SH) Specify –TR or –FR last; Required for –DH & –SH. (Lead styles –02, –L2 & –T2 only) **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

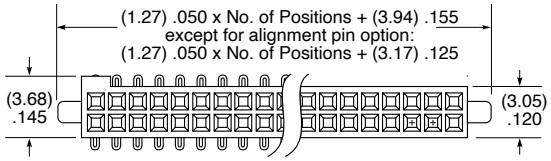
SFM
Board Mates: TFM
Cable Mates: TFSD, TFSS

SFML
Board Mates: TFML
Cable Mates: TFSD



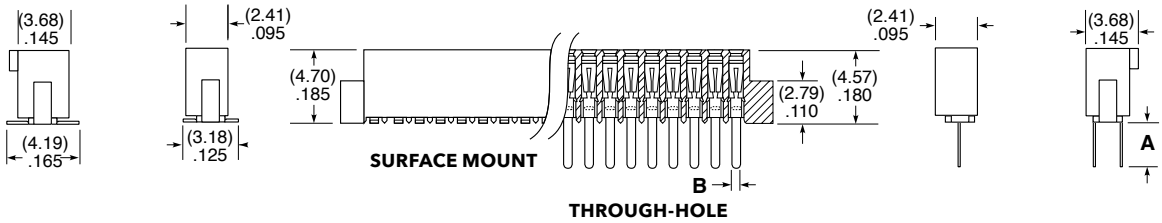


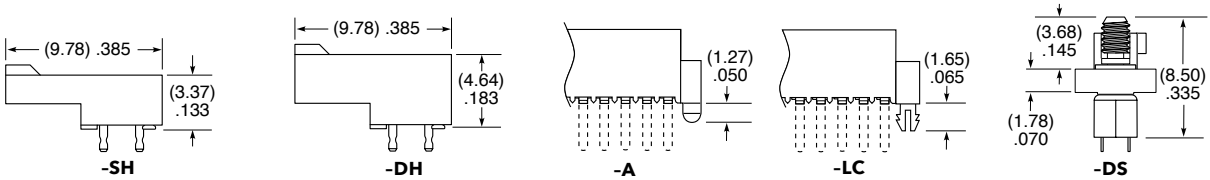
SINGLE ROW



DOUBLE ROW

LEAD STYLE	A	B
–01, –L1, –T1	(3.05) .120	(0.51) .020
–03, –L3	(1.91) .075	(0.41) .016





Notes:
Severe Environment Testing qualified (SFM); aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?SFM** & **samtec.com?SFML**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

MAX 3.7 Amps | 8 Gbps

(1.27 mm) .050" • SMT/THROUGH-HOLE HEADER

SERIES	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTIONS

TFM
= Standard

TFML
= Locking (–01 & –02 lead style only)

03, 04, 06, 08
(TFM –01 & –02 only)

05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

Specify LEAD STYLE from chart

–F
= Gold flash on contact, Matte Tin on tail

–L
= 15 µ" (0.38 µm) Gold on post, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)

–S
= Single Row (TFM only)

–D
= Double Row

–DH*
= Double Horizontal (TFM lead style –02 only) (05 thru 50 positions only) (–TR or –FR option only available)

Specify only –RA, –RE1 or –RE2

–RA
= Right-angle (Lead style –01 only)

–RE1
= Right-angle Elevated for (1.60 mm) .062" PCB (Requires TFM lead style –01, –D row and –WT)

–RE2
= Right-angle Elevated for (2.36 mm) .093" PCB (Requires TFM lead style –01, –D row and –WT)

Specify only –A, –LC, –DS or –WT Not available with –RA, –RE1 and –RE2 unless otherwise noted.

–A
= Alignment Pin

–LC
= Locking Clip (Manual Placement required)

–DS
= Dual Screw Down for (1.60 mm) .062" PCB (05, 07, 10, 15, 20, 25, 30, 35, 40 positions only) (TFM lead styles –01 and –02 only) (Requires –D row option) (Mates with SFM–DS option and SFSD/SFSDT –SS and –DS option only) (Not available with –A, –LC, –WT, –K, –P, –XR)

–WT
= Weld Tab (TFM lead styles –01 and –02 only) (Required callout for –RE1 & –RE2) (Mates to SFSS/SFSD –SR and –DR option only) (05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50 positions only)

SMT lead styles only Specify only –K or –P

–K
= Polyimide Film Pick & Place Pad

–P
= Plastic Pick & Place Pad (5 positions min.) (Not available with 5 position with –WT)

Specify –TR or -FR last (Not available with –DS)

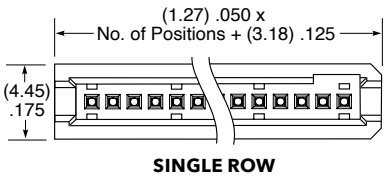
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

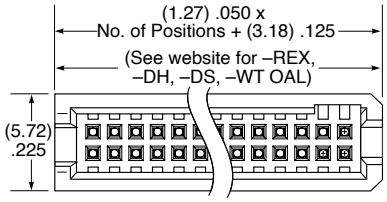
TFM
Board Mates:
SFM, SFMC
Cable Mates:
SFSD, SFSS

TFML
Board Mates:
SFML
Cable Mates:
SFSD,
TFSD (-T end option)





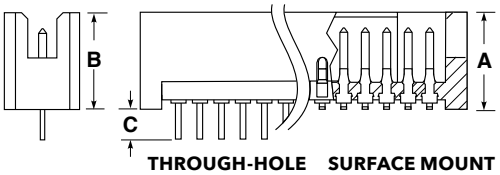
SINGLE ROW



DOUBLE ROW

MATED HEIGHTS*		
LEAD STYLE (SMT)		MATED HEIGHT*
TFM	SFM	
-02	-02	(6.35) .250
-12		(8.13) .320
-22		(9.91) .390
-32		(11.81) .465
LEAD STYLE (T/H)		MATED HEIGHT*
TFM	SFM	
-01	-01	(5.97) .235
-03		(5.97) .235
-11		(7.75) .305
-13		(7.75) .305
-21		(9.53) .375
-23		(9.53) .375
-31		(11.43) .450

*Processing conditions will affect mated height.



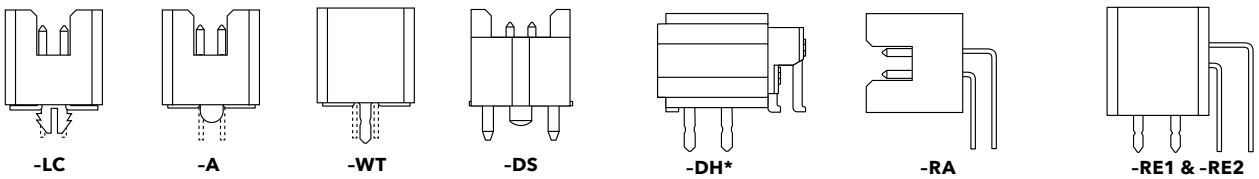
THROUGH-HOLE SURFACE MOUNT

LEAD STYLE (SMT)	A
–02	(5.72) .225
–12*	(7.49) .295
–22*	(9.27) .365
–32*	(11.18) .440

* N/A with 07, -DH or -S row option

LEAD STYLE (T/H)	B	C
–01	(5.59) .220	(1.97) .078
–03*	(5.59) .220	(2.77) .109
–11*	(7.37) .290	(1.97) .078
–13*	(7.37) .290	(2.77) .109
–21*	(9.14) .360	(1.97) .078
–23*	(9.14) .360	(2.77) .109
–31*	(11.05) .435	(1.97) .078

* Not Available with 07 or -S row option



-LC -A -WT -DS -DH* -RA -RE1 & -RE2

Notes:
Severe Environment Testing qualified (TFM); aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?TFM** & **samtec.com?TFML**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

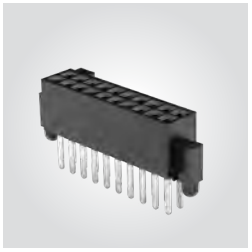
TIGER™ EYE SYSTEM

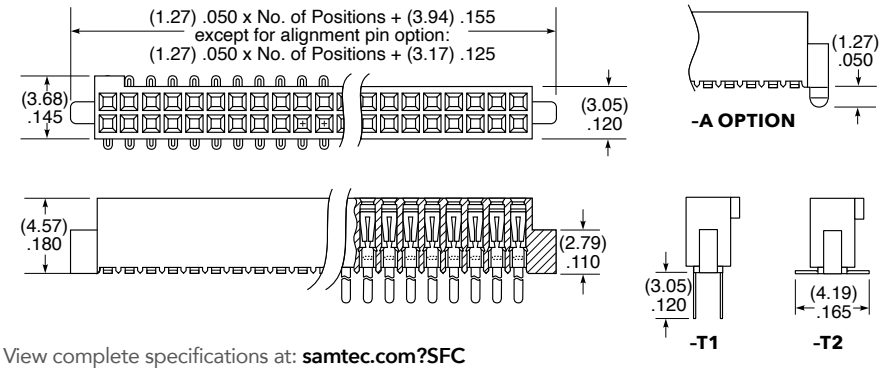
MAX 2.9 Amps | 8 Gbps

(1.27 mm) .050" PITCH • COST-EFFECTIVE HEADER/SOCKET

SFC	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	OPTIONS
		04, 05, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Standard sizes)	**–T1** = Through-hole Tiger Eye™ LITE **–T2** = Surface Mount Tiger Eye™ LITE	**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		**–A** = Alignment Pin **–K** = (4.00 mm) .157" DIA Polyimide film Pick & Place Pad **–TR** = Tape & Reel (–T2 only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-T2 only)

SFC
Board Mates: TFC
Cable Mates: TFSD, TFSDT

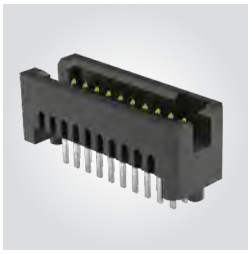


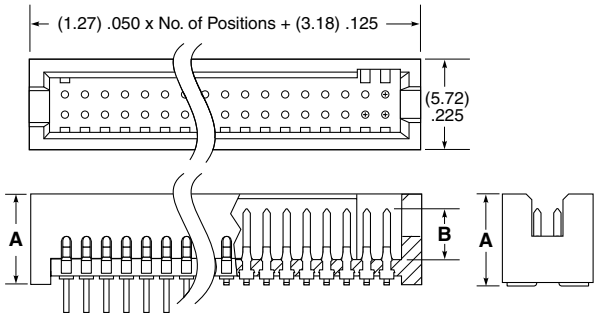


View complete specifications at: **samtec.com?SFC**

TFC	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	OPTIONS
		03, 04, 06, 08 (Lead Style –01 & –02 only) **05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50** (Standard sizes)	**–X1** = Through-hole **–X2** = Surface Mount	**–F** = Gold flash on post, Matte Tin on tail **–L** = 15 µ" (0.38 µm) Gold on post, Matte Tin on tail		**–RA** = Right-angle (–01 only) **–A** = Alignment Pin **–LC** = Locking Clip (Manual Placement required) (not available with –RA) **–K** = (6.75 mm) .266" DIA Polyimide film Pick & Place Pad (not available with –RA) **–P** = Plastic Pick & Place Pad (5 positions min.) (not available with –RA) **–TR** = Tape & Reel (–X2 only) (not available with –RA) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-X2 only) (not available with –RA)

TFC
Board Mates: SFC
Cable Mates: SFSD, SFSDT





SMT LEAD STYLE	A	B
–02	(5.72) .225	(3.38) .133
–12	(7.49) .295	
–22	(9.27) .365	(3.30) .130
–32	(11.18) .440	

TH LEAD STYLE	A	B
–01	(5.59) .220	(3.38) .133
–11	(7.37) .290	
–21	(9.14) .360	(3.30) .130
–31	(11.05) .435	

Note:
Some lengths, styles and options are non-standard, non-returnable.

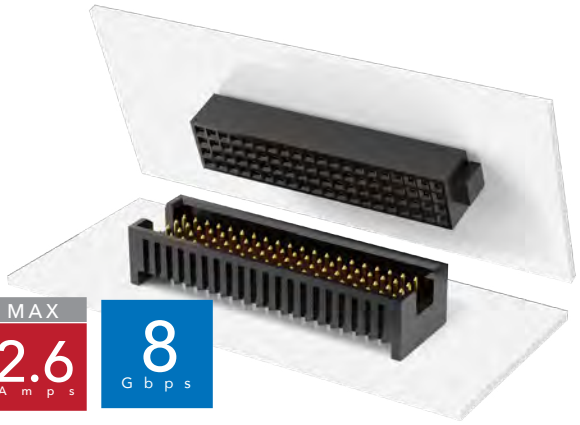
View complete specifications at: **samtec.com?TFC**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

QUAD ROW TERMINAL/ SOCKET

(1.27 mm) .050" PITCH • FOLC/MOLC SERIES



FOLC
Board Mates:
MOLC

MOLC
Board Mates:
FOLC

FOLC	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	Q	-	OPTION	-	PACKAGING

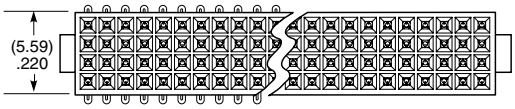
NO. PINS PER ROW
20, 25, 30, 35, 40, 45, 50
(Standard sizes)

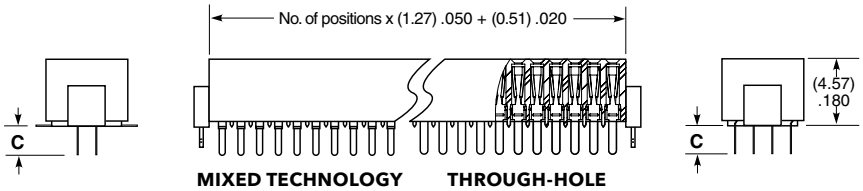
LEAD STYLE
–01 & –04
= Through-hole
–M1 & –M2
= Mixed Technology
–L1 & –L4
= Low Insertion Force Through-hole

PLATING OPTION
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OPTION
–LC
= Locking Clip (Manual placement required)

PACKAGING
Leave blank for tubes
–TR
= Tape & Reel (–MX only)
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–MX only)





LEAD STYLE	C
–01, –M1	(1.91) .075
–04, –M2	(3.04) .120

View complete specifications at: **samtec.com?FOLC**

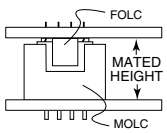
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material (FOLC):
BeCu
Terminal Material (MOLC):
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.6 A per pin
(4 pins powered)
Voltage Rating:
165 VAC/233 VDC
Insertion Depth (FOLC):
(3.30 mm) .130" to
(4.06 mm) .160"
Max Cycles (FOLC):
100

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity (MOLC):
(0.10 mm) .004" max (20-25)
(0.15 mm) .006" max (30-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

APPLICATIONS



LEAD STYLE		MATED HEIGHT*
MOLC	FOLC	
–01	–01	(5.97) .235
–11		(7.75) .305
–31		(11.43) .450

*Processing conditions will affect mated height.

MOLC	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	Q	-	OPTION	-	PACKAGING

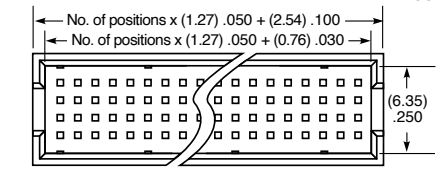
NO. PINS PER ROW
20, 25, 30, 35, 40, 45, 50
(Standard sizes)

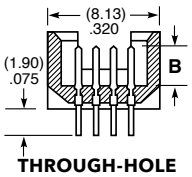
LEAD STYLE
–'X'1
= Through-hole (Specify from chart)
–02
= Surface Mount
–M1
= Mixed Technology

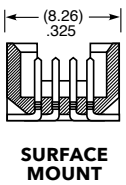
PLATING OPTION
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

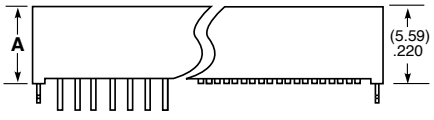
OPTION
–LC
= Locking Clip (Manual placement required)
–P
= Pick & Place Pad (–02 only)

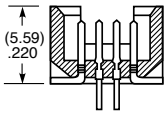
PACKAGING
Leave blank for tubes
–TR
= Tape & Reel (–02 & –M1 only)
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–02 & –M1 only)

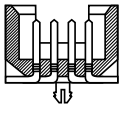












LEAD STYLE	A	B
–01	(5.59) .220	(3.38) .133
–11	(7.34) .289	(3.66) .144
–31	(11.05) .435	

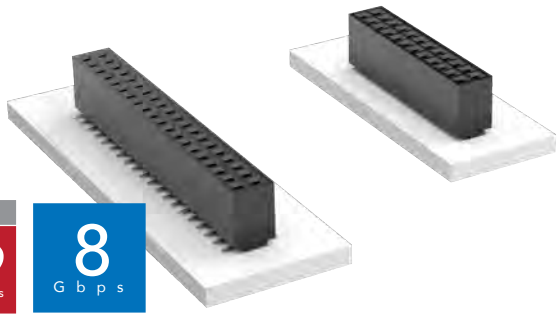
View complete specifications at: **samtec.com?MOLC**

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

FLEXIBLE PIN COUNT TIGER EYE™ SOCKET



MAX 2.9 Amps | 8 Gbps

(1.27 mm) .050" PITCH • SFMC SERIES

SFMC
Board Mates:
TFM
Cable Mates:
FMTP, FFMD*

***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.)

SFMC	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	D	-	OPTIONS

02 thru 50

–01, –03
= Through-hole

–L1, –L3
= Low Insertion Force Through-hole

–02
= Surface Mount

–L2
= Low Insertion Force Surface Mount

–T1
= Through-hole Tiger Eye™ LITE

–T2
= Surface Mount Tiger Eye™ LITE

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (4.00 mm) .157" DIA Polyimide film Pick & Place Pad (4 positions min.)

–P
= Plastic Pick & Place Pad (5 positions min.)

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

SPECIFICATIONS

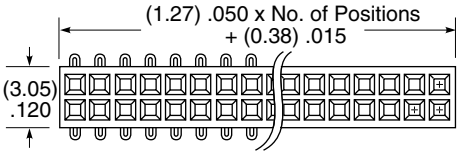
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Tiger Eye™ = BeCu
Tiger Eye™ LITE= Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
219 VAC/310 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au

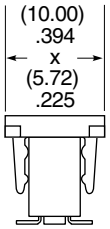
PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

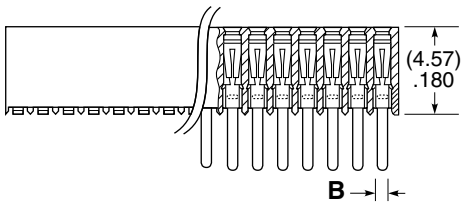
ALSO AVAILABLE
Contact Samtec

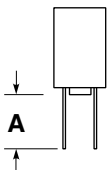
Other plating

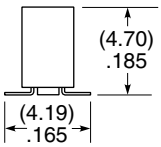




-P OPTION







LEAD STYLE	A	B
–01, –L1, –T1	(3.05) .120	(0.51) .020
–03, –L3	(1.91) .075	(0.41) .016

Note:
Some lengths, styles and options are non-standard, non-returnable.

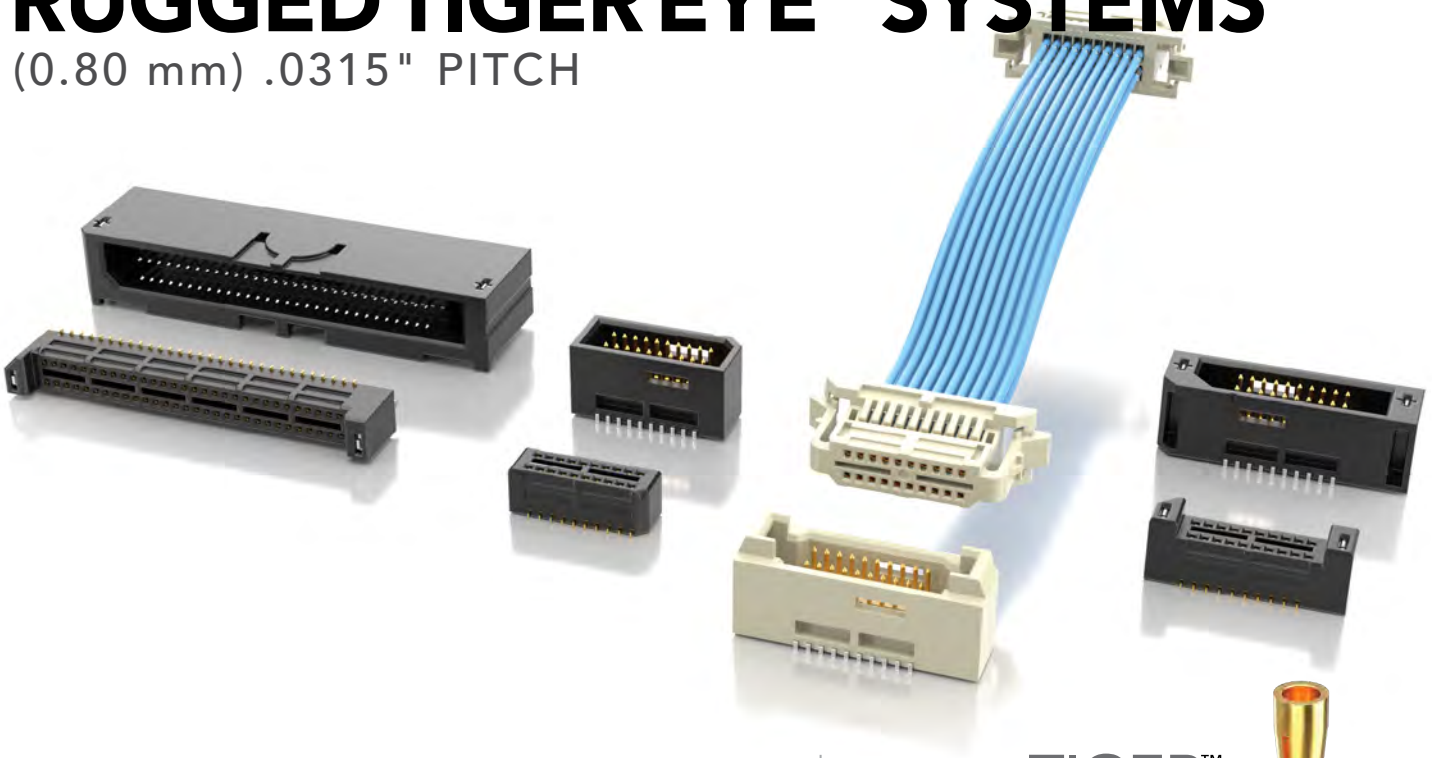
View complete specifications at: **samtec.com?SFMC**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

RUGGED TIGER EYE™ SYSTEMS

(0.80 mm) .0315" PITCH



FEATURES & BENEFITS

MAX 2.9 Amps | 8 Gbps

TIGER™ EYE CONTACT



- High-reliability, multi-finger BeCu contact
- Micro pitch and slim body for space savings
- 6 mm, 7 mm and 10 mm stack heights
- Locking clip, alignment pins and weld tab ruggedizing features
- Rugged latching system for increased withdrawal force
- Vertical and right-angle mating headers
- Wire to board assembly available with 32 AWG *Teflon™ Fluoropolymer (See page 257). Contact asp@samtec.com for custom solutions.
- Extended Life Product™ testing available

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.



Locking for increased unmating force (Visit samtec.com?SEML for more information)



Components (ISDE/CC396) and tooling available: samtec.com/tooling

KEY SPECIFICATIONS (SEM/TEM)

STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MAX. CYCLES	LEAD-FREE SOLDERABLE
6 - 10 mm	Black LCP	BeCu (SEM) Phosphor Bronze (TEM)	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.9 A per pin (2 pins powered)	235 VAC/332 VDC	100 with 10 µ" (0.25 µm) Au	Yes

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

(0.80 mm) .0315" PITCH • MICRO TIGER EYE™ SOCKET AND HEADER

SERIES	–	1	NO. PINS PER ROW	–	02	STACK HEIGHT	–	PLATING OPTION	–	D	–	OPTIONS	–	OTHER OPTIONS

SEM
Socket

SEMS
Slim Socket

TEM
Header

TEMS
Slim Header

05, 10, 15, 20, 25
(SEM, SEMS, TEM, TEMS only)

30, 35, 40, 45, 50
(SEM/TEM only)
(Standard sizes)

–03.0
= 6 mm Stack Height (–03.0 required for SEM/SEMS Series)

–04.0
= 7 mm Stack Height (TEM/TEMS only)

–07.0
= 10 mm Stack Height (TEM/TEMS only)

–FG
= Gold Flash

–G
= 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail

–H
= 30 µ" (0.76 µm) Gold on contact, Gold Flash on tail

Leave blank for SEMS/TEMS

–A
= Alignment Pin (Not available with –LC or –WT)

–LC
= Locking Clip (Not available with –A or –WT) (Manual placement required)

–WT
= Weld Tab (Not available with –A or –LC)

–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (Required for SEMS)

= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (Required for TEMS)

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

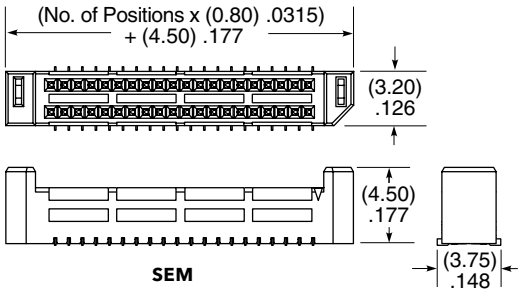
SEM

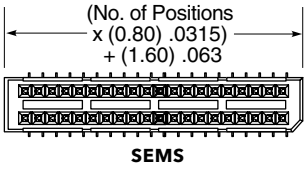
Board Mates: TEM

SEMS

Board Mates: TEMS







View complete specifications at: **samtec.com?SEM** & **samtec.com?SEMS**

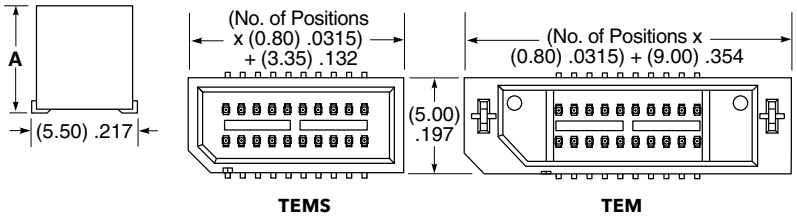
TEM

Board Mates: SEM, SEML

TEMS

Board Mates: SEMS

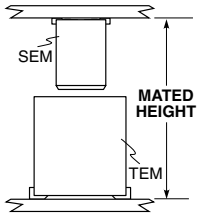




MATED HEIGHTS

STACK HEIGHT	A	MATED HEIGHT*
-03.0	(5.610) .2209	6 mm
-04.0	(6.610) .2602	7 mm
-07.0	(9.610) .3783	10 mm

*Processing conditions will affect mated height.



Note:
Some lengths, styles and options are non-standard, non-returnable.

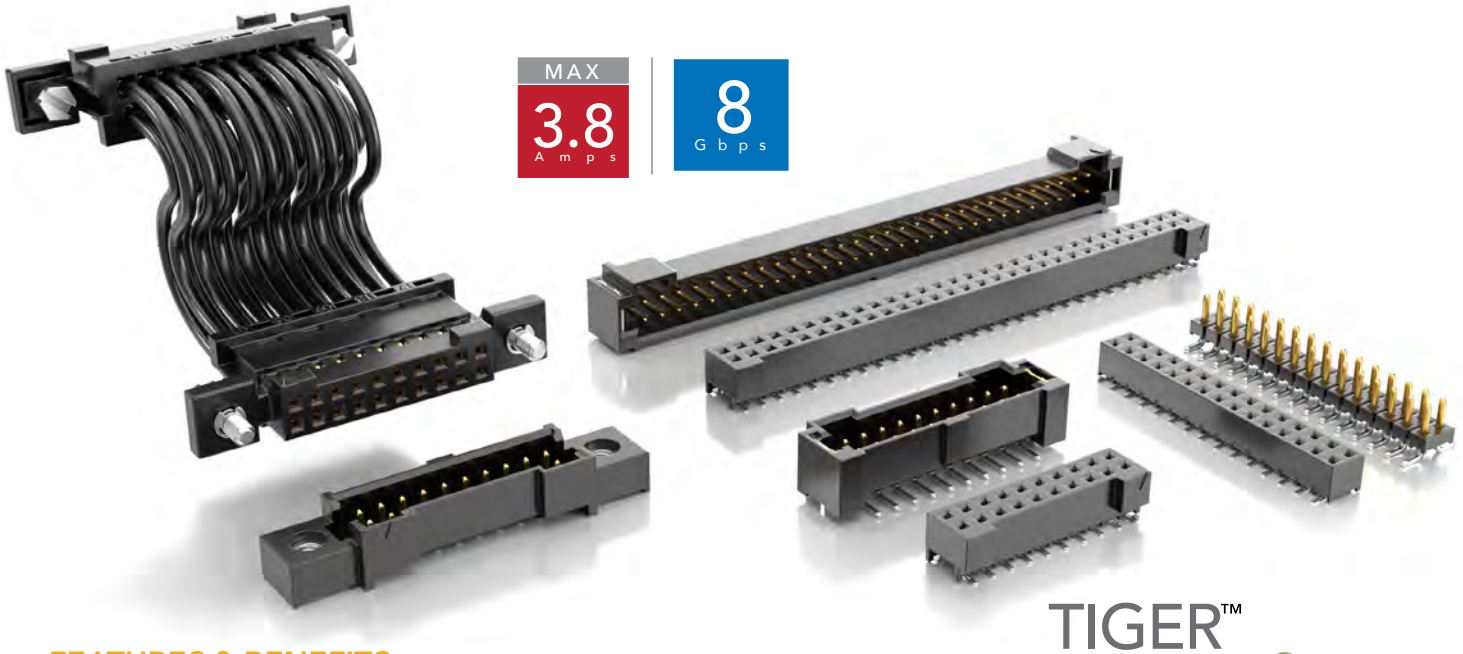
View complete specifications at: **samtec.com?TEM** & **samtec.com?TEMS**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

RUGGED TIGER EYE™ SYSTEMS

(2.00 mm) .0787" PITCH



TIGER™ EYE CONTACT



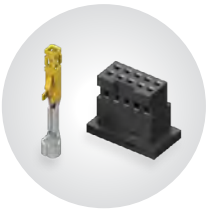
FEATURES & BENEFITS

- Rugged Tiger Eye™ contact system for high reliability
- Wide range of stack heights (SMM/TMM Series)
- Right-angle mating headers available
- Optional metal latching, screw downs, weld tabs and locking clips
- Surface mount or through-hole
- Single or double row
- Wire to board assemblies available in 24-30 AWG PVC or *Teflon™ Fluoropolymer (See page 256). Contact **asp@samtec.com** for custom solutions
- Severe Environment Testing qualified (S2M/T2M); aligns with MIL-DTL-55302. Visit **samtec.com/set**

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.



Optional strain relief and variety of wiring options



Components (ISD2/CC81) & tooling available: samtec.com/tooling

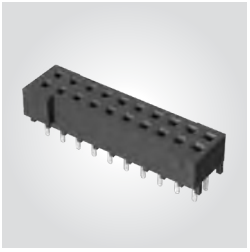
KEY SPECIFICATIONS (S2M/T2M)

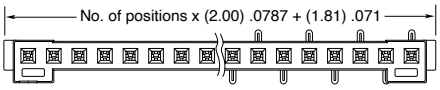
STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MAX. CYCLES	LEAD-FREE SOLDERABLE
6 & 7 mm	Black LCP	BeCu (S2M) Phosphor Bronze (T2M)	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.6 A (2 pins powered)	350 VAC/ 495 VDC	100 with 10 µ" (0.25 µm) Au	Yes

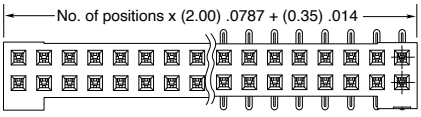
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SERIES	–	1	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTIONS	–	PACKAGING
S2M Socket			(Per Row) **05, 07, 10, 15, 20** **25, 30** (Available with –D row option only)		**–01** = Through-hole **–02** = Surface Mount		**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		**–D** =Double row **–S** = Single row		**–K** = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (–02 only) **–LC** = Locking Clip (Manual placement required) (–02 only) **–DS** = Screw Down (N/A with –LC) (mates with –T2M–DS)		Leave blank for tube packaging **–TR** = Tape & Reel (–02 only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–02 only)

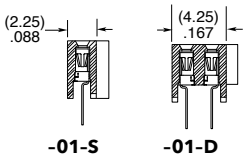
S2M
Board Mates:
T2M
Cable Mates:
T2SD, T2SDT



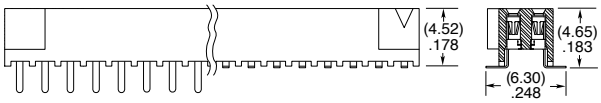




–S–DS PRELIMINARY



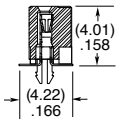
-01-S -01-D



-02-D



-02-D-LC



-02-S-LC

View complete specifications at: **samtec.com?S2M**

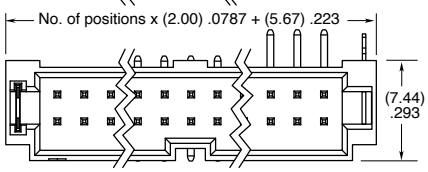
SERIES	–	1	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	ROW OPTION	–	TAIL OPTION	–	OTHER OPTIONS	–	PACKAGING
T2M Header			(Per Row) **05, 07, 10, 15, 20** **25, 30** (Available with –D row option only)				**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		**–D** =Double row **–S** = Single row		**–TH** = Through-hole **–RA** = Right-angle **–SM** = Surface Mount		**–WT** = Weld Tab (S2SD & S2SDT, –SR/–DR required mate) **–DS** = Screw Down (N/A with –RA) (mates with –S2M–DS, S2SX/S2SXT –SS/–DS option) **–K** = (7.50 mm) .295" DIA Polyimide film Pick & Place Pad (–SM only)		Leave blank for tube packaging **–TR** = Tape & Reel (–SM only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–SM only)

–S–RA & S–DS PRELIMINARY

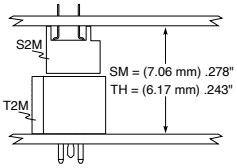
T2M
Board Mates:
S2M
Cable Mates:
S2SD, S2SDT, S2SS, S2SST

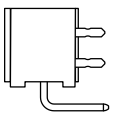




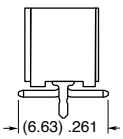


MATED HEIGHT

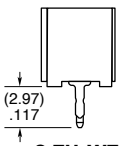




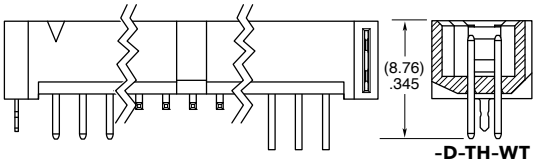
-S-RA-WT



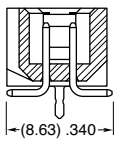
-S-SM-WT



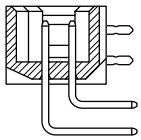
-S-TH-WT



-D-TH-WT



-D-SM-WT



-D-RA-WT

Note:
Some lengths, styles and options are non-standard, non-returnable.

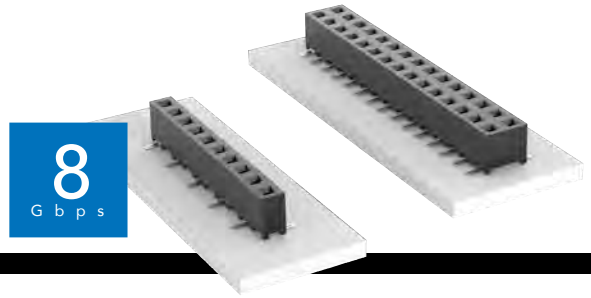
View complete specifications at: **samtec.com?T2M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

(2.00 mm) .0787" PITCH • TIGER EYE™ SOCKET

8 Gbps



SMM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTIONS

02 thru 40

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= Single Row

–D
= Double Row

–"XX"
= Polarized Position

–K
= (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (2 positions minimum, –02 thru –05 requires –TR)

–P
= Plastic Pick & Place Pad (–02 thru –05 requires –TR)

–TR
= Tape & Reel Packaging (27 positions maximum)

–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (27 positions maximum)

SMM

Board Mates:
TMM, TMMH, MTMM, MMT, LTMM, TW, PTT, ZLTMM

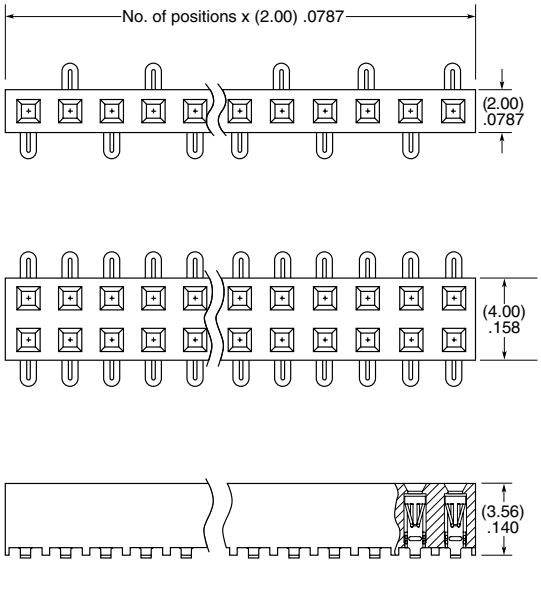
Cable Mates:
TCMD

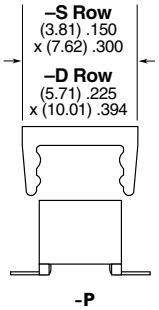
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMM/SMM):
3.3 A per pin (2 pins powered)
Voltage Rating:
375 VAC/530 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to (3.25 mm) .128"
Max Cycles:
100 with 10 µ" (0.25 µm) Au

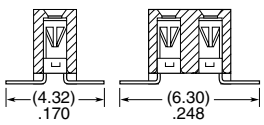
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max





-P



ALSO AVAILABLE
Contact Samtec

Locking Clip (Manual placement required)
Other platings

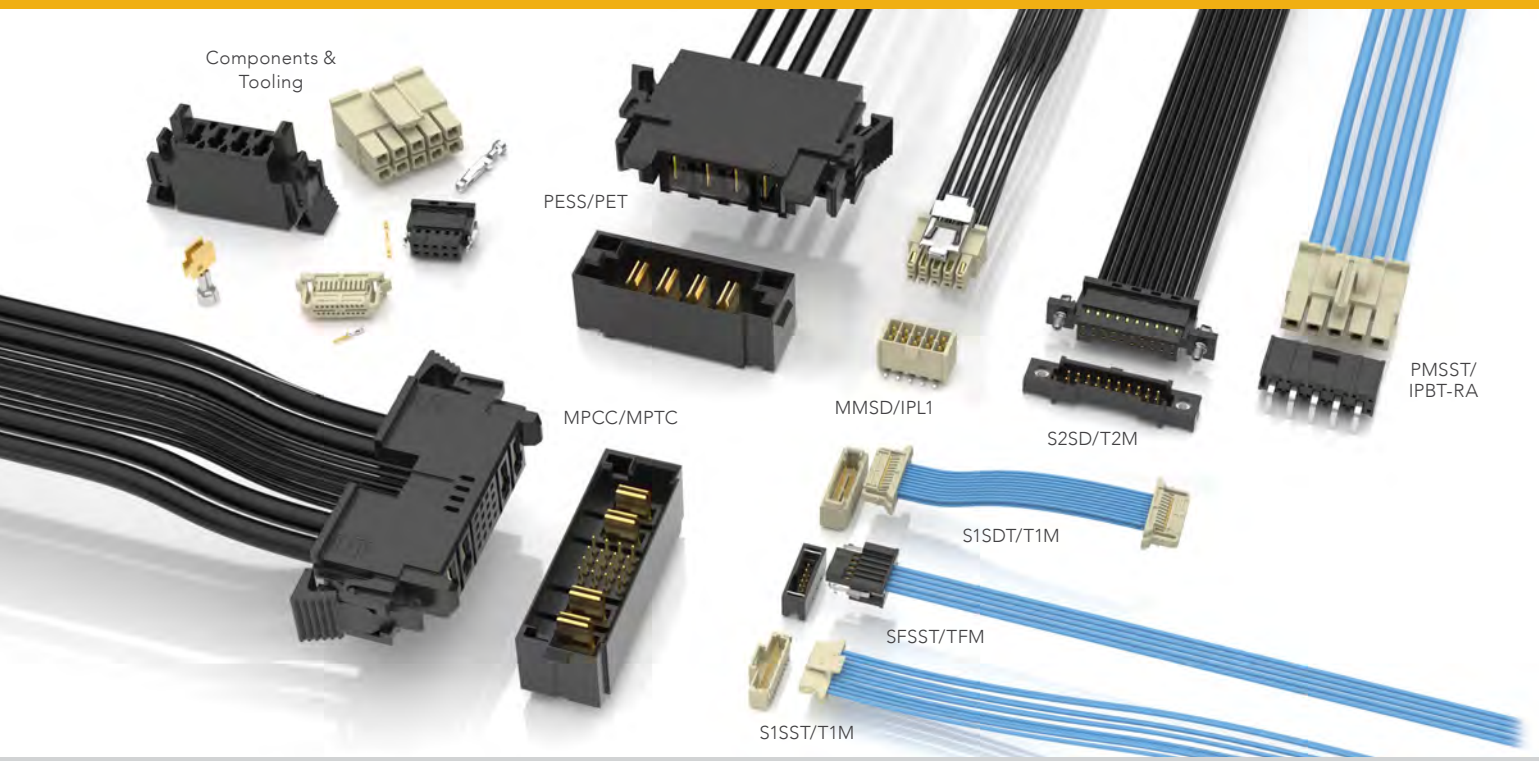
Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?SMM**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

WIRE TO BOARD SYSTEMS

MICRO PITCH • HIGH-CYCLE CONTACTS • ISOLATED POWER • COMPONENTS & TOOLING



248-253 **1.00 mm PITCH MICRO MATE™ SYSTEMS**

Socket Wire To Board Assemblies/Components (T1M, S1SS(T), S1SD(T), ISS1, ISD1, CC09) 248-251
Single Row Terminal Wire To Board Assemblies/Components (T1SS(T), T1PS(T), IST1, ISP1, TC37) 252
Double Row Terminal Wire To Board Assemblies/Components (T1SD(T), T1PD(T), IDT1, IDP1, TC37) 253

254-258 **TIGER EYE™ SYSTEMS**

1.27 mm Pitch Socket Wire To Board Assembly/Components (SFSS(T), SFSD(T), ISDF, CC03) 254-255
2.00 mm Pitch Socket Wire To Board Assembly/Components (S2SD(T), S2SS(T), ISD2, CC81) 256
0.80 mm Pitch Socket Wire To Board Assembly/Components (SESDT, ISDE, CC396, TEM) 257-258

259-261 **RUGGED POWER SYSTEMS**

Power Mate® Wire To Board Assemblies & Components (PMSS(T), PMSD(T), IPBD, CC69) 259
Mini Mate® Wire To Board System (MMSD(T) MMSS(T), IPD1, CC79, IPL1) 260-261

262-264 **FLEX POWER SYSTEMS**

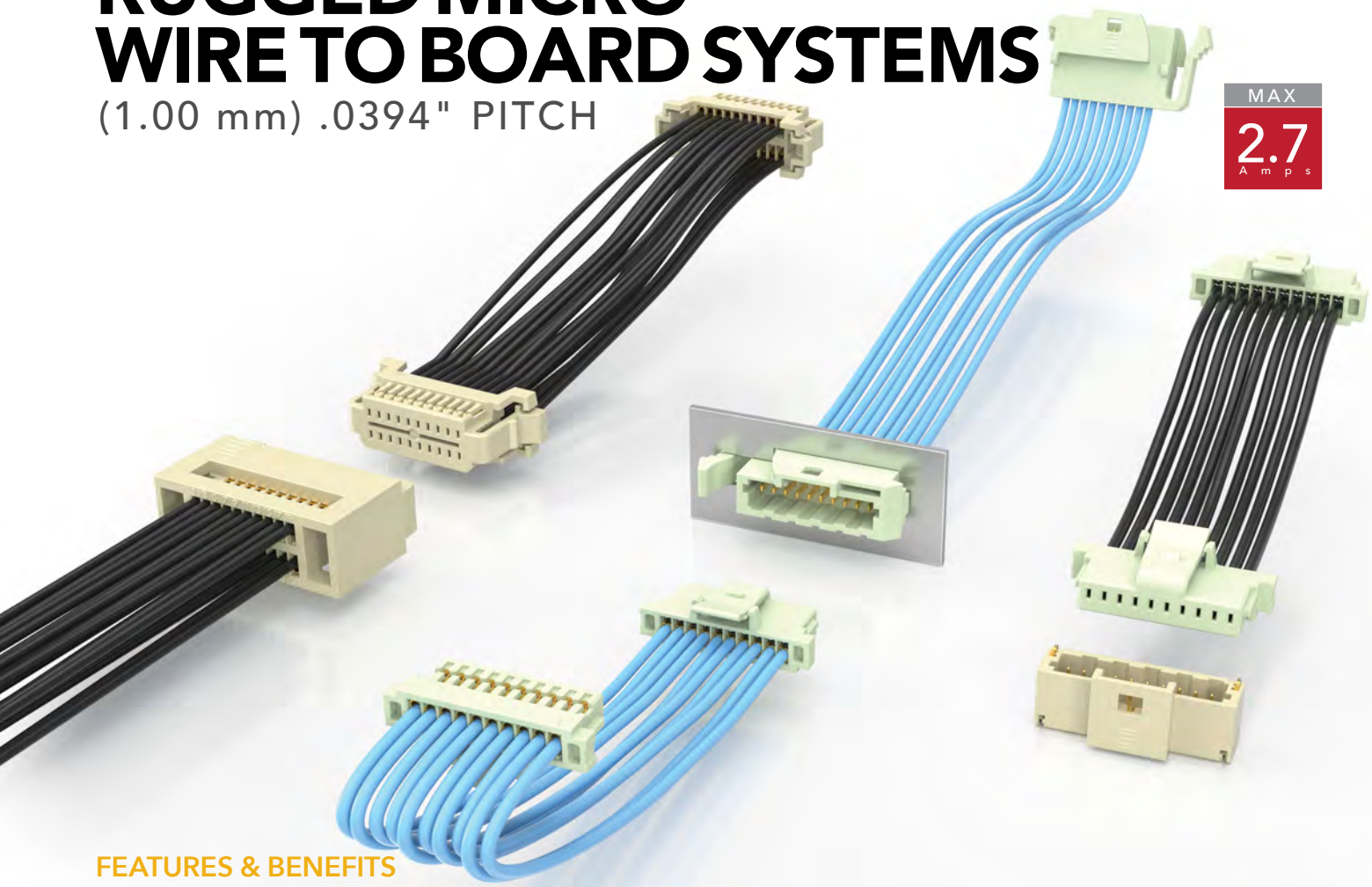
PowerStrip™/30 Wire To Board Assembly & Components (MPSS, IMS5, CC46) 262
PowerStrip™/30 Signal/Power Combo Wire To Board Assembly & Components (MPCC, IMSC5, CC46, CC81) 263
PowerStrip™/40 Wire To Board Assembly & Components (PESS, IPS6, CC10) 264

MICROMATE™

RUGGED MICRO WIRE TO BOARD SYSTEMS

(1.00 mm) .0394" PITCH

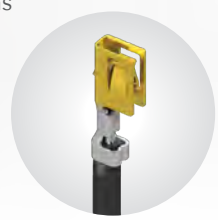
MAX 2.7 Amps



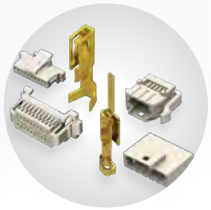
FEATURES & BENEFITS

- Cable-to-cable, panel-to-board and cable-to-board applications
- Extremely small form factors
- 28 and 30 AWG wire options in PVC or Teflon™ Fluoropolymer
- Rugged positive latching for increased retention
- Socket or terminal, single or double row assemblies
- Vertical and right-angle mating headers

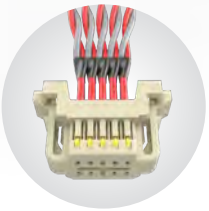
Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.



Dual leaf contact system for a reliable connection



Components and tooling available: samtec.com/tooling



Custom solutions available contact: asp@samtec.com

KEY SPECIFICATIONS (S1SX(T)/T1M, T1SX(T) & T1PX(T))

PITCH	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE
1.00 mm	Black Nylon (S1SS(T) without latch) Natural LCP (T1M) Natural Nylon (S1SD(T), T1XD(T)) Nylon, Light Green (S1SS(T) with latch & T1XS(T))	Phosphor Bronze	Au or Sn over 50 µ" (1.27 µm) Ni	-10 °C to +85 °C (PVC) -40 °C to +125 °C (Teflon ™ Fluoropolymer)

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

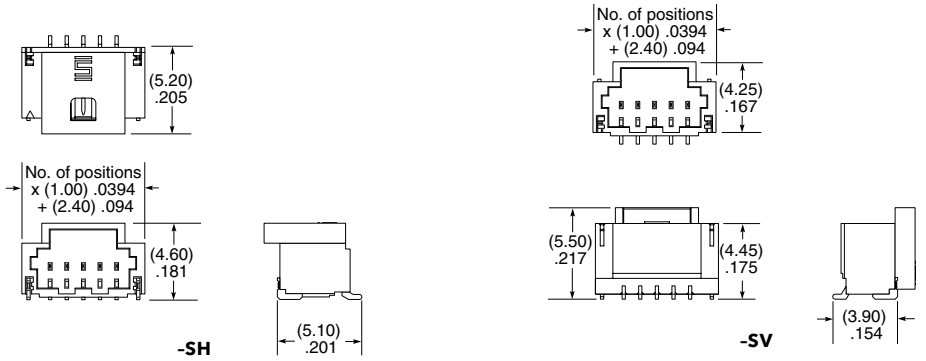
(1.00 mm) .0394" PITCH • WIRE TO BOARD TERMINAL

SERIES	NO. OF POSITIONS	PLATING OPTION	ROW OPTION	LATCH	OPTIONS	"X"R
T1M	–02, –03, –05, –07, –10, –15, –20	–F = 3 µ" (0.07 µm) Gold on contact, Matte Tin on tail	–SH = Single Row Horizontal –SV = Single Row Vertical	(Required in callout) –L = Positive Latch	–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (–SH only) –P = Pick & Place Pad (–SV only)	(Leave blank for Tape & Reel) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

T1M-SH/SV

Cable Mates:
S1SS(T)





SPECIFICATIONS

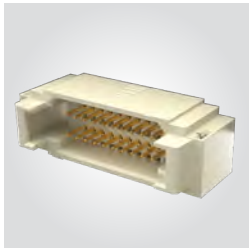
Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Plating: Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
(Component only)
Current Rating (T1M/S1SST):
2.2 A per pin
(3 adjacent pins powered)
Voltage Rating:
250 VAC/354 VDC

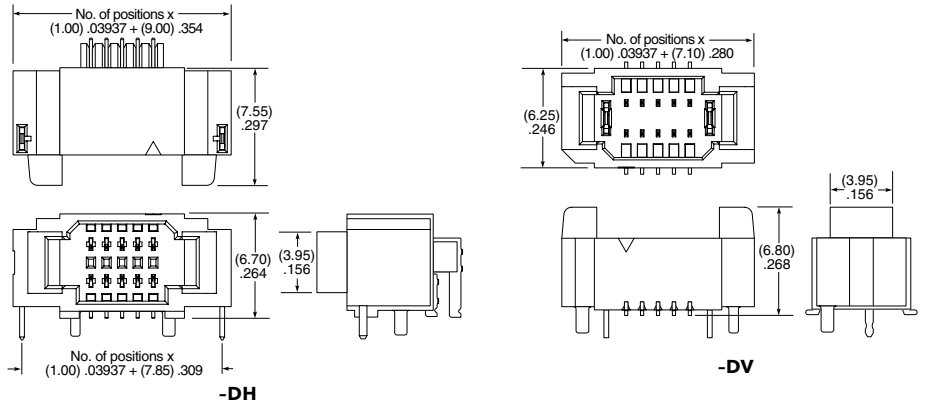
View complete specifications at: **samtec.com?T1M**

SERIES	NO. OF POSITIONS	PLATING OPTION	ROW OPTION	OPTION	"X"R
T1M	–02, –03, –04, –05, –10, –15, –20 (Per Row)	–GF = 3 µ" (0.07 µm) Gold contact and tail	–DH = Double Row Horizontal –DV = Double Row Vertical	–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (–DV only)	(Leave blank for Tape & Reel) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

T1M-DH/DV

Cable Mates:
S1SD(T)





SPECIFICATIONS

Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Plating: Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
(Component only)
Current Rating (T1M/S1SD):
2.5 A per pin
(2 pins powered)
Voltage Rating: 250 VAC/354 VDC

View complete specifications at: **samtec.com?T1M**

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MICROMATE™

(1.00 mm) .0394" PITCH • SINGLE ROW WIRE TO BOARD SOCKET



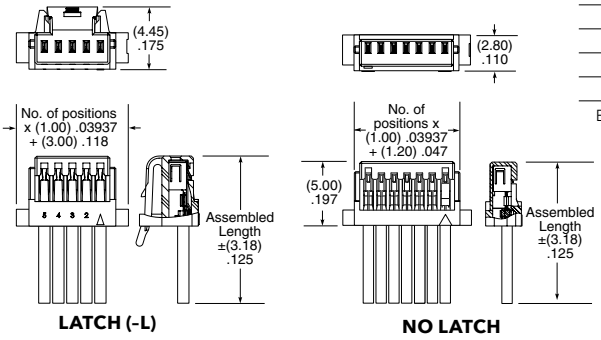
SERIES	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	OPTION
S1SS = Single Row PVC Cable **S1SST** = Single Row Blue *Teflon™ Fluoropolymer Cable (28 AWG only)	**–02, –03, –05, –07, –10 –15, –20** (Standard sizes)	**–28** = 28 AWG **–28C** = 28 AWG Color Coded Cable (S1SS only) **–30** = 30 AWG **–30C** = 30 AWG Color Coded Cable (S1SS only)	**–GF** = 3 µ" (0.07 µm) Gold on contact and tail	**–"XX.XX"** = Assembled Length in Inches (45.72 mm) 01.80" min.	(Required Callout) **–L** = Single Ended With Latch **–L1** = Double Ended Latch down, straight (Pin 1 to Pin 1) **–L3** = Double Ended Latch up, straight (Pin 1 to Pin N) **–S** = Single Ended No Latch **–D–NUS** = Double Ended No Latch, "N" up, straight **–D–NDS** = Double Ended No Latch, "N" down, straight

S1SS(T)
Board Mates:
T1M
Cable Mates:
T1SS(T), T1PS(T)

S1SS CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

SPECIFICATIONS

Insulator Material:
Nylon, Light Green (with latch)
Nylon, Black (without latch)
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range (S1SS(T)/T1M):
-10 °C to +85 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating (S1SST/T1M)::
2.2 A per pin
(3 adjacent pins powered)
Voltage Rating:
250 VAC/354 VDC
Wire:
28 or 30 AWG



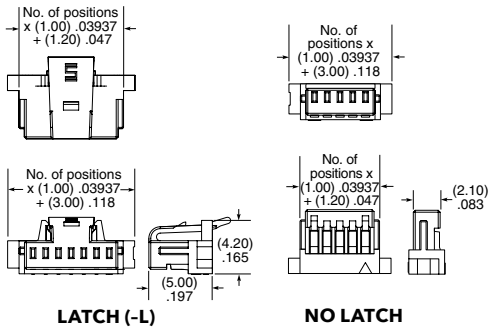
View complete specifications at: **samtec.com?S1SS** & **samtec.com?S1SST**

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Note:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

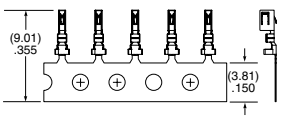
SERIES	NO. OF POSITIONS	LATCH
ISS1 = Single Row Body	**–02, –03, –05, –07, –10, –15, –20**	(Leave blank for no latch) **–L** = Positive Latch





SERIES	01	PLATING
CC09R = Contact, Full Reel (25,000 Parts per Reel) **CC09M** = Contact, Mini Reel (5,000 Parts per Reel)		**–GF** = 3 µ" (0.07 µm) Gold contact and tail





TOOLING

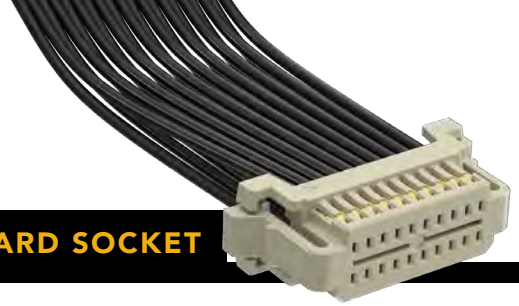
Hand Tool: CAT-HT-309-2830-12	Mini Applicator: CAT-MC-309-2830-XX-01
Clamp for mounting hand tool: CAT-HT-MNT-01	

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ISS1**, **samtec.com?CC09R** & **samtec.com?CC09M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

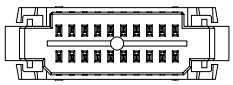
MICROMATE™

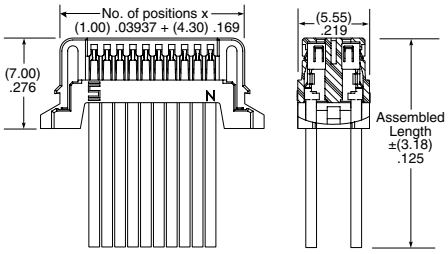


(1.00 mm) .0394" PITCH • DOUBLE ROW WIRE TO BOARD SOCKET

SERIES	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	WIRING OPTION
S1SD = Double Row PVC Cable **S1SDT** = Double Row Blue *Teflon™ Fluoropolymer Cable	**–02, –03 –04, –05, –10, –15, –20** (Standard sizes)	**–28** = 28 AWG **–30** = 30 AWG	**–GF** = 3 µ" (0.07 µm) Gold on contact and tail	**–"XX.XX"** = Assembled Length in Inches (45.72 mm) 01.80" min.	**Double Ended Assemblies** **–L1** = Pin 1 to Pin 1 **–L2** = Pin 1 to Pin 2 **–L3** = Pin 1 to Pin N **–L4** = Pin 1 to Pin N-1 **Single Ended Assembly** **–L** = Latching

S1SD(T)
Board Mates:
T1M
Cable Mates:
T1SD(T), T1PD(T)





SPECIFICATIONS

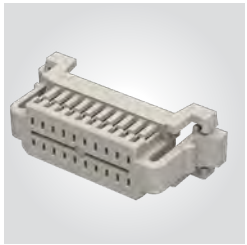
Insulator Material:
White Nylon
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range (S1SD(T)/T1M):
-10 °C to +85 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating (S1SD/T1M)::
2.5 A per pin
(2 pins powered)
Voltage Rating:
250 VAC/354 VDC
Wire:
28 or 30 AWG

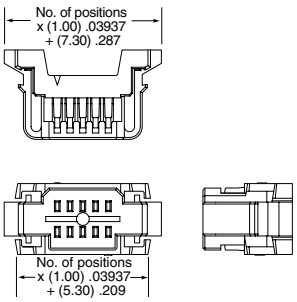
View complete specifications at: **samtec.com?S1SD** & **samtec.com?S1SDT**

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Note:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

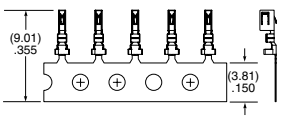
SERIES	NO. OF POSITIONS
ISD1 = Double Row Body	**–02, –03, –04, –05, –10, –15, –20** (Per Row)





SERIES	01	PLATING
CC09R = Contact, Full Reel (25,000 Parts per Reel) **CC09M** = Contact, Mini Reel (5,000 Parts per Reel)		**–GF** = 3 µ" (0.07 µm) Gold contact and tail





TOOLING

Hand Tool: CAT-HT-309-2830-12	Mini Applicator: CAT-MC-309-2830-XX-01
Clamp for mounting hand tool: CAT-HT-MNT-01	

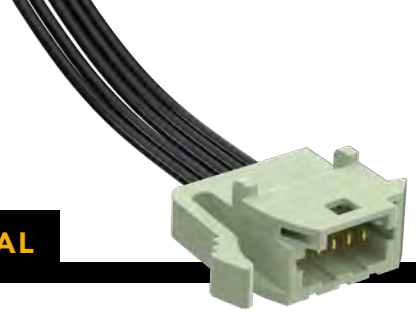
Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ISD1**, **samtec.com?CC09R** & **samtec.com?CC09M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

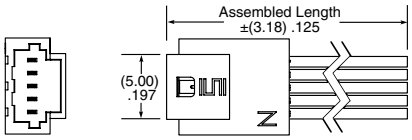
MICROMATE™

(1.00 mm) .0394" • SINGLE ROW WIRE TO BOARD TERMINAL

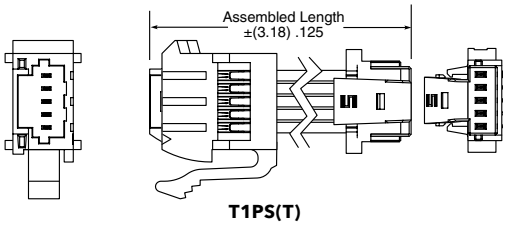


SERIES	NO. OF POSITIONS	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	PANEL OPTION	PINOUT
T1SS = Single Row Non-Panel Mount PVC Cable **T1PS** = Single Row Panel Mount PVC Cable **T1SST** = Single Row Non-Panel Mount Blue *Teflon™ Fluoropolymer Cable **T1PST** = Double Row Panel Mount Blue *Teflon™ Fluoropolymer Cable	–02 postions not available with T1PS or T1PST) **–02 thru –10** (Per Row)	**–28** = 28 AWG **–28C** = 28 AWG Color Coded Cable (T1SS & T1PS only) **–30** = 30 AWG **–30C** = 30 AWG Color Coded Cable (T1SS & T1PS only)	**–GF** = 3 µ" (0.07 µm) Gold on contact and tail	**–"XX.X"** = Assembled Length in Inches (45.7 mm) 01.8" min.	(Leave blank for non-panel mount) **–A** = Fits .033" (0.84 mm), .062" (1.57 mm) and .090" (2.29 mm) Thick Panels	(Leave blank for single ended assembly) **–D1** = Double Ended down (Not available with T1PS or T1PST) **–D3** = Double Ended up (Not available with T1PS or T1PST) **–T1** = Transfer to socket down **–T3** = Transfer to socket up

T1SS(T), T1PS(T)
Cable Mates:
S1SS, S1SST



T1SS(T)



T1PS(T)

–28C, –30C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

SPECIFICATIONS

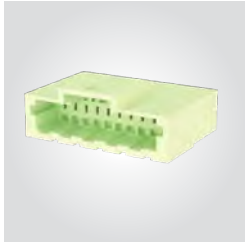
Insulator Material:
Nylon, Light Green
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating (T1XS/S1SS):
2.7 A per pin
Voltage Rating:
225 VAC/318 VDC
Wire:
28 or 30 AWG

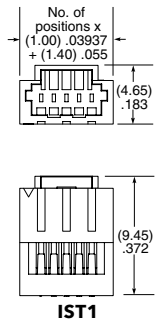
*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Note:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

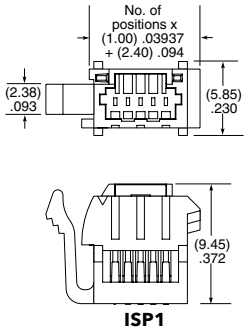
View complete specifications at: **samtec.com?T1SS**, **samtec.com?T1SST**, **samtec.com?T1PS** & **samtec.com?T1PST**

SERIES	NO. OF POSITIONS	PANEL THICKNESS
IST1 = Single Row Body **ISP1** = Single Row Panel Mount Body	**–02 thru –10** (IST1 Body) **–03 thru –10** (ISP1 Body)	(Leave blank for IST1) **–A** = Fits 0.84 mm, 1.57 mm & 2.29 mm Thick Panels





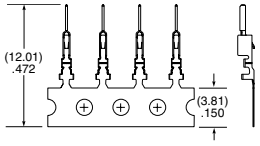
IST1



ISP1

SERIES	01	PLATING
TC37R = Contact, Full Reel (25,000 Parts per Reel) **TC37M** = Contact, Mini Reel (1,000 - 5,000 Parts per Reel)		**–GF** = 3 µ" (0.07 µm) Gold contact and tail





TOOLING

Hand Tool: CAT-HT-1137-2830-12	Mini Applicator: CAT-MC-309-2830-XX-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IST1**, **samtec.com?ISP1**, **samtec.com?TC37R** & **samtec.com?TC37M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MICROMATE™



(1.00 mm) .0394" PITCH • DOUBLE ROW WIRE TO BOARD TERMINAL

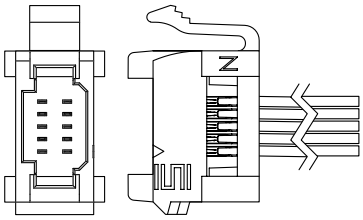
SERIES	NO. OF POSITIONS	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	PANEL OPTION	PINOUT
T1SD = Double RowNon-Panel Mount PVC Cable **T1PD** = Double Row Panel Mount PVC Cable **T1SDT** = Double Row Non-Panel Mount Blue *Teflon™ Fluoropolymer Cable **T1PDT** = Double Row Panel Mount Blue *Teflon™ Fluoropolymer Cable	**–02 thru –10** (Per Row)	**–28** = 28 AWG **–28C** = 28 AWG Color Coded Cable (T1SD & T1PD only) **–30** = 30 AWG **–30C** = 30 AWG Color Coded Cable (T1SD & T1PD only)	**–GF** = 3 µ" (0.07 µm) Gold on contact and tail	**–"XX.X"** = Assembled Length in Inches (45.7 mm) 01.8" min.	(Leave blank for non-panel mount) **–A** = Fits .033" (0.84 mm), .062" (1.57 mm) and .090" (2.29 mm) Thick Panels	(Leave blank for single ended assembly) **–D1** = Double Ended down (Not available with T1PD or T1PDT) **–D3** = Double Ended up (Not available with T1PD or T1PDT) **–T1** = Transfer to socket down **–T3** = Transfer to socket up

T1SD(T), T1PD(T)
Cable Mates:
S1SD, S1SDT

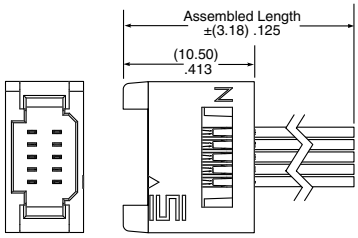
–28C, –30C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

SPECIFICATIONS

Insulator Material:
Nylon, White
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating (T1XD/S1SD):
2.7 A per pin (1 pin powered)
Voltage Rating:
225 VAC/318 VDC
Wire:
28 or 30 AWG



T1PD(T)



T1SD(T)

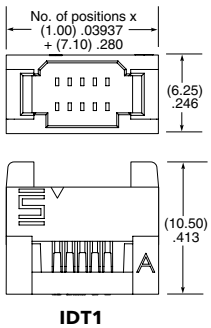
*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Note:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

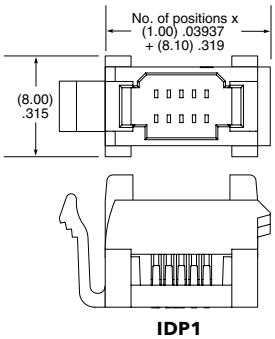
View complete specifications at: **samtec.com?T1SD**, **samtec.com?T1SDT**, **samtec.com?T1PD** & **samtec.com?T1PDT**

SERIES	NO. OF POSITIONS	PANEL THICKNESS
IDT1 = Double Row Body **IDP1** = Double Row Panel Mount Body	**–02 thru –10** (per row)	(Leave blank for IDT1) **–A** = Fits 0.84 mm, 1.57 mm & 2.29 mm Thick Panels



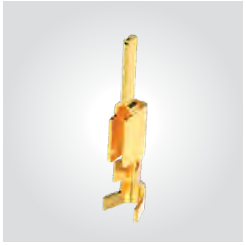


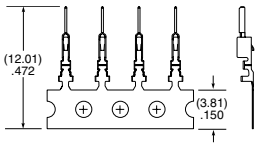
IDT1



IDP1

SERIES	01	PLATING
TC37R = Contact, Full Reel (25,000 Parts per Reel) **TC37M** = Contact, Mini Reel (1,000 - 5,000 Parts per Reel)		**–GF** = 3 µ" (0.07 µm) Gold contact and tail





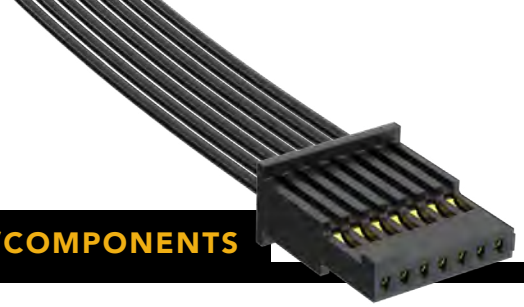
TOOLING

Hand Tool: CAT-HT-1137-2830-12	Mini Applicator: CAT-MC-309-2830-XX-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IDT1**, **samtec.com?IDP1**, **samtec.com?TC37R** & **samtec.com?TC37M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



(1.27 mm) .050" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

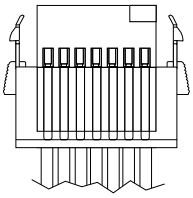
SERIES	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
SFSS = Single Row PVC Cable **SFSST** = Single Row Blue *Teflon™ Fluoropolymer Cable	**–03, –04, –05, –07, –10, –15, –20, –25, –40, –50** (Standard sizes)	**–28** = 28 AWG **–28C** = Color Coded Cable (SFSS only) **–30** = 30 AWG	**–F** = Gold flash on contact and tail **–G** = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail	**–"XX.XX"** = Assembled Length in Inches (76.20 mm) 03.00" min. for –S end option (82.60 mm) 03.25" min. for –D end option	**–S** = Single Ended **–D** = Double Ended **–SR** = Single Ended Retention Latch (TFM-WT option required for mating) **–DR** = Double Ended Retention Latch (TFM-WT option required for mating)	Requires –D or –DR (End 1 Notch Up) **–NUS** = Notch up, straight (Pin 1 to Pin N) **–NDS** = Notch down, straight (Pin 1 to Pin 1)

SFSS(T)
Board Mates:
TFM, TFC
(–SR & –DR requires –WT option)

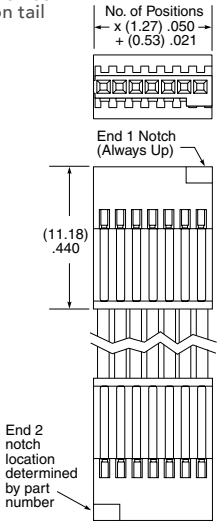
–28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

SPECIFICATIONS

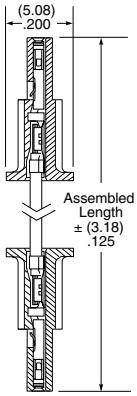
Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating:
2.9 A per pin (2 pins powered)
Voltage Rating:
275 VAC/389 VDC
Wire:
28 or 30 AWG



-SR



-D-NUS



SFSS OR SFSST

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Notes:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

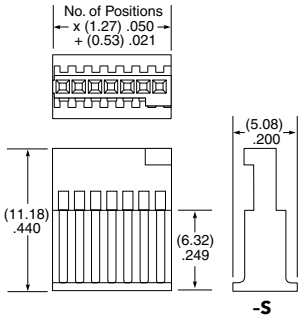
For wiring option information refer to drawings on web.

View complete specifications at: **samtec.com?SFSS** & **samtec.com?SFSST**

ISDF	POSITIONS PER ROW	ROW OPTION	OPTION
	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	**–S** = Single Row	**–M** = Metal Retention Latch

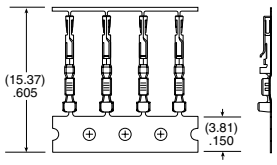
SERIES	WIRE GAUGE	01	PLATING
CC03R = Contact, Full Reel (35,000 Parts per Reel) **CC03M** = Contact, Mini Reel (1,000 - 5,000 Parts per Reel)	**–2830** = 28 to 30 AWG		**–GF** = Gold flash contact **–G** = 10 µ" (0.25 µm) Gold on contact





-S -M





TOOLING

Hand Tool: CAT-HT-203-2830-12	Mini Applicator: CAT-MC-203-2830-XX-01
Clamp for mounting hand tool: CAT-HT-MNT-01	Extraction Tool: CAT-EX-169-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ISDF**, **samtec.com?CC03R** & **samtec.com?CC03M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

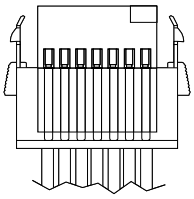


(1.27 mm) .050" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

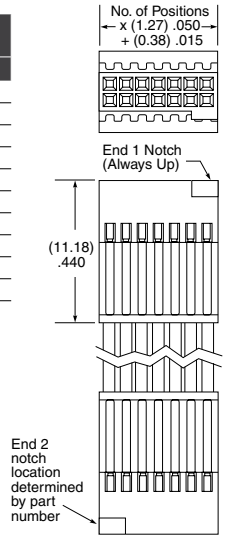
SERIES	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
SFSD = Double Row PVC Cable **SFSDT** = Double Row Blue *Teflon™ Fluoropolymer Cable	**–03, –04, –05, –07, –10, –15, –20, –25, –40, –50** (Standard sizes)	**–28** = 28 AWG **–28C** = Color Coded Cable (SFSD only) **–30** = 30 AWG	**–F** = Gold flash on contact and on tail **–G** = 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail	**–"XX.XX"** = Assembled Length in Inches (76.20 mm) 03.00" min. for –S end option (82.60 mm) 03.25" min. for –D end option	**–S** = Single Ended **–D** = Double Ended For –(X) specify "S" for single ended and "D" for double ended. **–(X)R** = Retention Latch (TFM-WT option required for mating) **–(X)S** = Screw Down (Not available in -03, -04 & -50 positions) (Mates with TFM-DS option)	Requires –D, –DS, –DR (End 1 Notch Up) **–NUS** = Notch up, straight (Pin 1 to Pin N-1) **–NDS** = Notch down, straight (Pin 1 to Pin 2) **–NUX** = Notch up, crossed (Pin 1 to Pin N) **–NDX** = Notch down, crossed (Pin 1 to Pin 1)

SFSD(T)
Board Mates:
TFM, TFML, TFC (–SR & –DR requires –WT option)

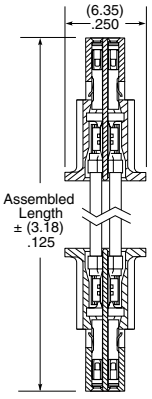
–28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT



-SR



-D-NUS



SFSD OR SFSDT

View complete specifications at: **samtec.com?SFSD** & **samtec.com?SFSDT**

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
275 VAC/389 VDC
Wire:
28 or 30 AWG

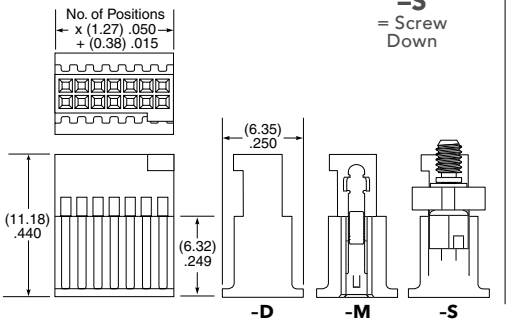
*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Notes:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

For wiring option information refer to drawings on web.

ISDF	POSITIONS PER ROW	ROW OPTION	OPTION
	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	**–D** = Double Row	**–M** = Metal Retention Latch **–S** = Screw Down

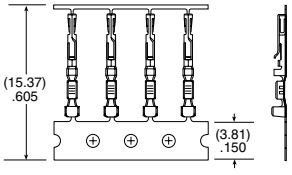




-D -M -S

SERIES	WIRE GAUGE	01	PLATING
CC03R = Contact, Full Reel (35,000 Parts per Reel) **CC03M** = Contact, Mini Reel (1,000 - 5,000 Parts per Reel)	**–2830** = 28 to 30 AWG		**–GF** = Gold flash contact **–G** = 10 µ" (0.25 µm) Gold on contact





TOOLING

Hand Tool: CAT-HT-203-2830-12	Mini Applicator: CAT-MC-203-2830-XX-01
Clamp for mounting hand tool: CAT-HT-MNT-01	Extraction Tool: CAT-EX-169-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ISDF**, **samtec.com?CC03R** & **samtec.com?CC03M**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM

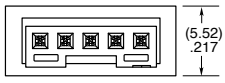


(2.00 mm) .0787" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

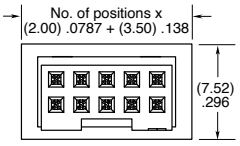
SERIES	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTIONS	END 2 OPTIONS
S2SD = Double Row PVC Cable **S2SDT** = Double Row Blue *Teflon™ Fluoropolymer Cable (24, 28, 30 AWG only) **S2SS** = Single Row PVC Cable **S2SST** = Single Row Blue *Teflon™ Fluoropolymer Cable (24, 28, 30 AWG only)	**–05, –07, –10, –15, –20** (Standard sizes) **–25, –30** (Available with S2SD & S2SDT only)	**–24** **–24C** = Color Coded Cable (S2SD & S2SS only) **–26** **–28** **–30**	**–L** = 10 µ" (0.25 µm) Gold on contact	**–"XX.XX"** = Wire Length in Inches (69.85 mm) 02.75" min.	**–S** = Single End **–D** = Double End Specify "S" for single ended and "D" for double ended. **–(X)R** = Retention Latch (–SR mates with T2M-WT) **–(X)S** = Screw Down (10 positions minimum) (mates with T2M-DS)	(Only available with –D, –DR & –DS) **–NUS** = Notch up, straight (Pin 1 to Pin N-1) **–NDS** = Notch down, straight (Pin 1 to Pin 2) **–NUX** = Notch up, crossed (Pin 1 to Pin N) (S2SD(T) only) **–NDX** = Notch down, crossed (Pin 1 to Pin 1) (S2SD(T) only)

S2SD(T)/S2SS(T)
Board Mates:
T2M

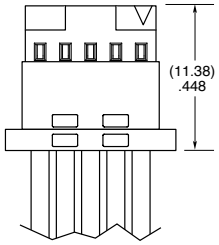
–24C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

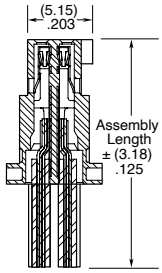


SINGLE ROW

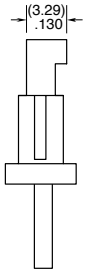


DOUBLE ROW





DOUBLE ROW



SINGLE ROW

SPECIFICATIONS

Insulator Material: Black LCP
Contact Material: BeCu
Plating: Au over 50 µ" (1.27 µm) Ni
Wire: 24, 26, 28 or 30 AWG
Operating Temp Range:
-10 °C to +105 °C (PVC)
-40 °C to +125 °C
(*Teflon™ Fluoropolymer)
Current Rating (S2SD-24/T2M):
3.8 A per pin (2 pins powered)
Voltage Rating: 250 VAC/354 VDC

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Notes:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

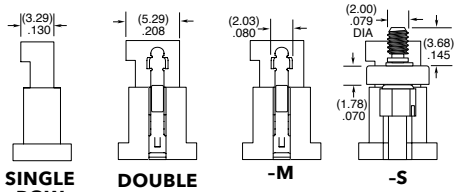
For wiring option information refer to drawings on web.

View complete specifications at: **samtec.com?S2SD**, **samtec.com?S2SDT**, **samtec.com?S2SS** & **samtec.com?S2SST**

ISD2	POSITIONS PER ROW	ROW OPTION	LATCH OPTION
	–05, –07, –10, –15, –20 (Standard sizes) **–25, –30** (Available with –D option only)	**–S** = Single Row **–D** = Double Row	**–M** = Metal Retention Latch **–S** = Screw Down

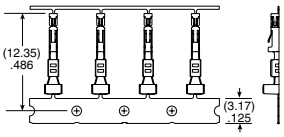
SERIES	WIRE GAUGE	01	PLATING OPTION
CC81L = Contact, Loose **CC81R** = Contact, Full Reel (17,000 Parts per Reel)	**–2426** = 24 to 26 AWG **–2830** = 28 to 30 AWG		**–L** = 10 µ" (0.25 µm) Gold on contact





SINGLE ROW
DOUBLE ROW
-M
-S





TOOLING

Hand Tool: CAT-HT-281-2430-13	Mini Applicator: CAT-MC-281-2426-XX-01 (24-26 AWG)
Extraction Tool: CAT-EX-169-01	Mini Applicator: CAT-MC-281-2830-XX-01 (28-30 AWG)

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?ISD2**, **samtec.com?CC81R** & **samtec.com?CC81L**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM



(0.80 mm) .0315" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

SESDT	–	POSITIONS PER ROW	–	32	–	PLATING OPTION	–	ASSEMBLED LENGTH	–	OPTIONS
= Double Row Blue *Teflon™ Fluoropolymer Cable (32 AWG)		**–05, –10, –15, –20** (Standard sizes)				**–G** = 10 µ" (0.25 µm) Gold on contact area, 3 µ" (0.08 µm) Gold on tail		**–"XX.X"** = Assembled Length in Inches (76.2 mm) 03.0" min.		**Double Ended Assemblies** **–L1** = Pin 1 to Pin 1 **–L2** = Pin 1 to Pin 2 **–L3** = Pin 1 to Pin N-1 **–L4** = Pin 1 to Pin N **Single Ended Assembly** **–L** = Latching

SESDT

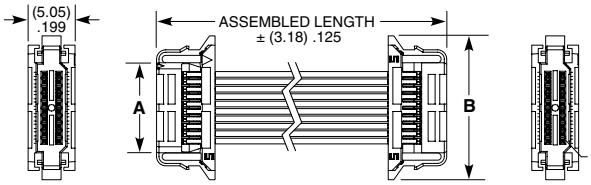
Board Mates:
TEM-L1

SPECIFICATIONS

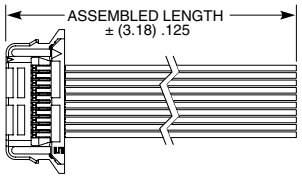
Insulator Material:
Natural Nylon
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Wire:
Tinned Copper
Wire Insulation:
FEP
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.9 A per pin
(2 pins powered)
Voltage Rating:
200 VAC/283 VDC

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

Note:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.



DOUBLE ENDED



SINGLE ENDED

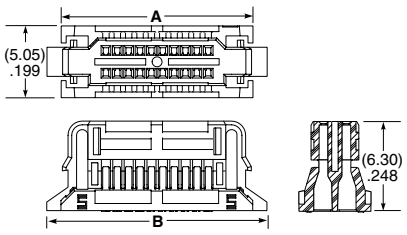
NO. OF POSITIONS	A	B
–05	(5.70) .224	(11.50) .453
–10	(9.70) .382	(15.50) .610
–15	(13.70) .539	(19.50) .768
–20	(17.70) .697	(23.50) .925

View complete specifications at: **samtec.com?SESDT**

ISDE	–	POSITIONS PER ROW	–	D	–	L
		–05, –10, –15, –20 (Standard sizes)		**–D** = Dual Row		**–L** = Latch

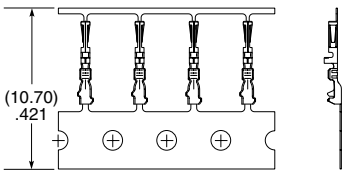
POSITIONS PER ROW	A	B
–05	(9.50) .374	(11.50) .453
–10	(13.50) .531	(15.50) .610
–15	(17.50) .689	(19.50) .768
–20	(21.50) .846	(23.50) .925





SERIES	–	WIRE GAUGE	–	PLATING	–	REEL OPTIONS
CC396 = Contact		**–3234** = 32 to 34 AWG		**–G** = 10 µ" (0.25 µm) Gold on contact area, 3 µ" (0.08 µm) Gold on tail		**–U** = Micro Reel (4K Contacts) **–M** = Mini Reel (15K Contacts) **–R** = Reel (50K Contacts)





TOOLING

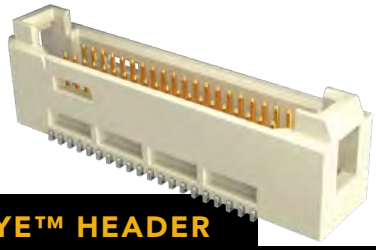
Hand Tool: CAT-HT-396-3232-12	Mini Applicator: CAT-MC-396-3232-XX-03

Note:
Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?ISDE** & **samtec.com?CC396**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE SYSTEM





(0.80 mm) .0315" PITCH • MICRO TIGER EYE™ HEADER

TEM	-	1	NO. OF POSITIONS	-	02	-	DH1	-	PLATING OPTION	-	D	-	OPTION
			10, 15, 20, 25, 30, 35, 40, 45, 50 (Per Row) (Standard sizes)						–F = Gold Flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–A = Alignment Pin

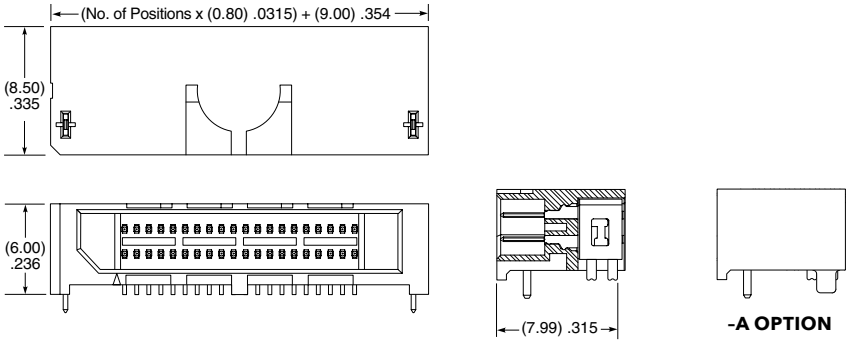
TEM-DH
Board Mates:
SEM, SEML

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
235 VAC/332 VDC
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max.



View complete specifications at: **samtec.com?TEM**

TEM	-	1	POSITIONS PER ROW	-	02	-	03.0	-	PLATING OPTION	-	D	-	L1	-	OPTIONS
			05, 10, 15, 20 (Standard sizes)						–G = 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail				–L1 = Latching		–K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

TEM-L1
Cable Mates:
SESDT

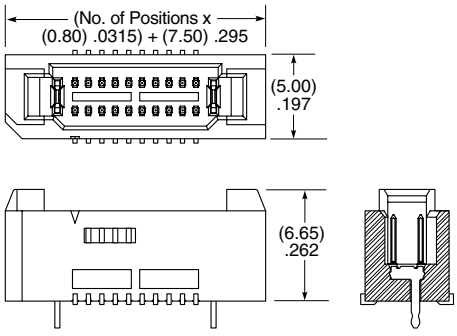
SPECIFICATIONS

Insulator Material:
Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
1.9 A per pin (2 pins powered)
Voltage Rating:
200 VAC/283 VDC
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max.

Note:
Some lengths, styles and options are non-standard, non-returnable



View complete specifications at: **samtec.com?TEM**

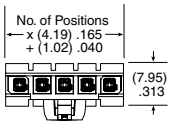
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



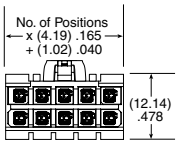
(4.19 mm) .165" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

SERIES	PINS PER ROW	WIRE GAUGE	K	ASSEMBLED LENGTH	END OPTION	LATCH OPTION
PMSD = Double Row PVC Cable **PMSDT** = Double Row Blue *Teflon™ Fluoropolymer Cable (24 AWG only) **PMSS** = Single Row PVC Cable **PMSST** = Single Row Blue *Teflon™ Fluoropolymer Cable (24 AWG)	**–02, –03, –04, –05, –08, –10, –15*** (Standard sizes) *Only available for double row	**–16** **–18** **–206** (20 AWG/ 600 volts) **–22** **–24**	**–K** = Keyed Polarization	**–"XX.XX"** = Wire length in inches (88.90 mm) 03.50" min.	**–S** = Single Ended **–D** = Double Ended (Latch Required)	**–LUS** = Plastic Latch up, straight **–LDS** = Plastic Latch down, straight **–LUX*** = Plastic Latch up, crossed **–LDX*** = Plastic Latch down, crossed *(PMSD/PMSDT only)

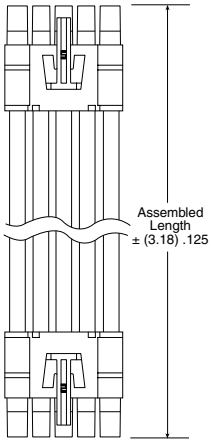
PMSD, PMSDT, PMSS, PMSST
Board Mates:
IPBT



PMSS/PMSST



PMSD/PMSDT



PMSD/IPBT		
WIRE GAUGE	CURRENT RATING (PER PIN)	VOLTAGE RATING
16 AWG	*10.4 A	300 VAC/424 VDC (PVC)
18 AWG	*8.8 A	
22 AWG	*5.7 A	
24 AWG	*5.2 A	

*2 PINS POWERED

SPECIFICATIONS

Insulator Material:
Valox 457
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +105 °C (PVC)
-40 °C to +105 °C
(Teflon™ Fluoropolymer)

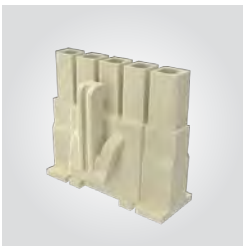
*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

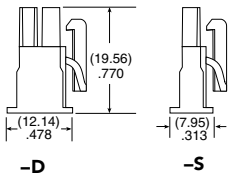
Notes:
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.

For wiring option information refer to drawing on web.

View complete specifications at: **samtec.com?PMSD**, **samtec.com?PMSDT**, **samtec.com?PMSS** & **samtec.com?PMSST**

IPBD	POSITIONS PER ROW	ROW OPTION	K
	–02, –03, –04, –05, –08, –10, –15 (Standard sizes)	**–S** = Single Row **–D** = Double Row	**–K** = Keyed Polarization

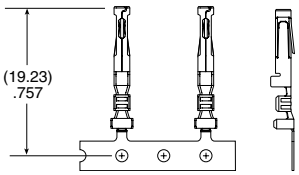




–D –S

SERIES	WIRE GAUGE	01	T	SP
CC69L = Contact, Loose **CC69R** = Contact, Full Reel (4,000 Parts per Reel)	**–2024** = 20 to 24 AWG **–1620** = 16 to 20 AWG		**–T** = Tin	





TOOLING

Hand Tool: CAT-HT-169-1620-13 (16-20 AWG) Hand Tool: CAT-HT-169-2024-13 (20-24 AWG)	Mini Applicator: CAT-MC-169-1620-XX-02 (16-20 AWG) Mini Applicator: CAT-MC-169-2024 XX-01 (20-24 AWG) Extraction Tool: CAT-EX-169-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IPBD**, **samtec.com?CC69L** & **samtec.com?CC69R**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

miniMATE®



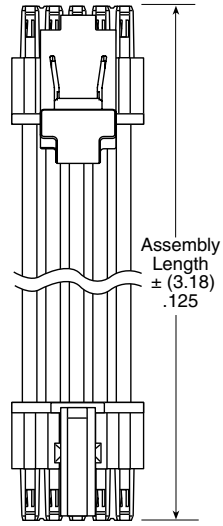
(2.54 mm) .100" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

SERIES	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLY LENGTH	END OPTION	K	LATCH OPTION
MMSD = Double Row PVC Cable **MMSDT** = Double Row Blue *Teflon™ Fluoropolymer Cable (20, 24, 28, 30 AWG only) **MMSS** = Single Row PVC Cable **MMSST** = Single Row Blue *Teflon™ Fluoropolymer Cable (20, 24, 28, 30 AWG)	**–02, –03, –04, –05, –06, –08, –10, –12, –15, –16, –20, –25** (Standard sizes)	**–20** **–20C** = Color Coded Cable (MMSD & MMSS only) **–22, –24** **–24C** = Color Coded Cable (MMSD & MMSS only) **–26, –28** **–28C** = Color Coded Cable (MMSD & MMSS only) **–30**	**–F** = Gold flash on contact, Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Tin on tail	**–"XX.XX"** = Assembly Length in Inches (82.55 mm) 03.25" min.	**–S** = Single Ended **–D** = Double Ended (Latch Required)	**–K** = Keyed Polarization	(Metal latches for more rugged environments; –02, –05 & –10 positions only) **–M** = Single Ended, Metal Latches (Leave blank for plastic) Double Ended (–D) Crossed requires MMSD/MMSDT **–LUS** = Plastic Latch up, straight **–LDS** = Plastic Latch down, straight **–LUX** = Plastic Latch up, crossed **–LDX** = Plastic Latch down, crossed **–MUS** = Metal Latch up, straight **–MDS** = Metal Latch down, straight **–MUX** = Metal Latch up, crossed **–MDX** = Metal Latch down, crossed

MMSD, MMSDT, MMSS, MMSST
Board Mates:
IPL1
(Does not mate with IPT1)
Cable Mates:
MMTD(T), MMTS(T)

–20C, –24C, –28C CABLE COLOR CODING

PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

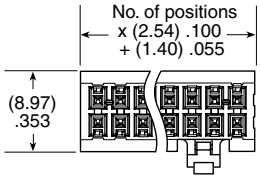


SPECIFICATIONS

Insulator Material:
Nylon 66
Contact Material:
Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (*Teflon™)
Current Rating:
4.8 A (2 pins powered)
Voltage Rating:
275 VAC/389 VDC

*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

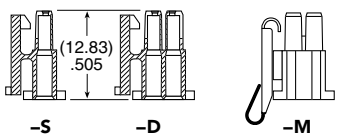
Teflon™ Fluoropolymer cable is intended for crimp only. Contact Samtec for solderable cable applications.



View complete specifications at: **samtec.com?MMSD**, **samtec.com?MMSDT**, **samtec.com?MMSS** & **samtec.com?MMSST**

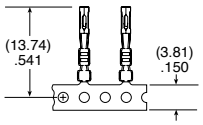
IPD1	POSITIONS PER ROW	ROW OPTION	K	LATCH OPTION
	–02, –03, –04, –05, –06, –08, –10, –12, –15, –16, –20, –25 (Standard sizes)	**–S** = Single Row **–D** = Double Row	**–K** = Keyed Polarization	**–M** = Metal Latch (Metal for more rugged environments) (–02, –05 & –10 positions only) (Leave blank for plastic latch)





SERIES	WIRE GAUGE	01	PLATING OPTION
CC79L = Contact, Loose **CC79R** = Contact, Full Reel (12,000 Parts per Reel)	**–2630** = 26 to 30 AWG **–2024** = 20 to 24 AWG		**–F** = Gold flash on contact, Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Tin on tail





TOOLING

Hand Tool: CAT-HT-179-2030-13 (20-30 AWG)	Mini Applicator: CAT-MC-179-2024-XX-01 (20-24 AWG) Mini Applicator: CAT-MC-179-2630 XX-01 (26-30 AWG) Extraction Tool: CAT-EX-179-01

Note:
Some lengths, styles and options are non-standard, non-returnable.

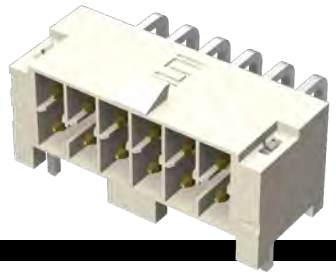
View complete specifications at: **samtec.com?IPD1**, **samtec.com?CC79L** & **samtec.com?CC79R**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

miniMATE®

(2.54 mm) .100" PITCH • WIRE TO BOARD TERMINAL

MAX 4.8 Amps



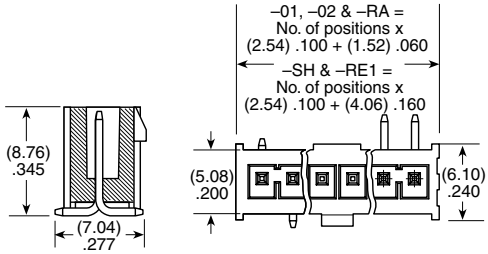
IPL1	1	PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	TAIL OPTION	K	OPTION
		02, 03, 04, 05, 06, 08, 10, 12, 15, 16, 20, 25 (Standard sizes)	–01 = Through-hole –02 = Surface Mount	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–S = Single Row –SH = Single Row Horizontal (–02 lead style only) –D = Double Row	–RA =Right-angle (–01 lead style only) –RE1 =Right-angle Elevated (–01 lead style only) (–K is a required callout)	–K =Keyed Polarization	–TR = Tape & Reel (–02 lead style only) Comes with Polyimide Pick & Place Pad –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-02 lead style only) Comes with Polyimide Pick & Place Pad

IPL1

Cable Mates:
MMSD, MMSS,
MMSDT, MMST

SPECIFICATIONS

Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
4.8 A per pin
(2 pins powered)
Voltage Rating:
275 VAC/389 VDC



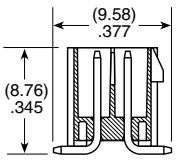
–02–S

MMSD/IPL1	
WIRE GAUGE	CURRENT RATING (PER PIN)
20	4.8 A
22	4.3 A
24	3.9 A
26	3.5 A
28	2.6 A
30	2.1 A

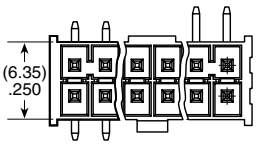
2 PINS POWERED

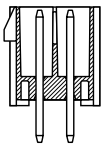
PROCESSING

Lead–Free Solderable:
Yes
–S & –D (–02 Lead Style)
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-05)
(0.13 mm) .005" max (06-10)*
(0.15 mm) .006" max (11-25)*
*(.004" stencil solution
may be available; contact
IPG@samtec.com)
–SH SMT Lead Coplanarity:
(0.15 mm) .006" max (02-25)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

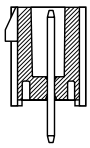


–02–D

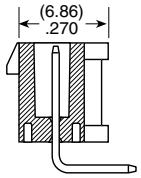




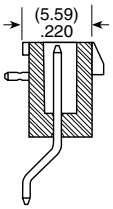
–01–D



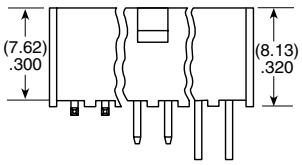
–01–S



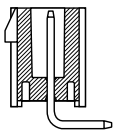
–01–S–RE1



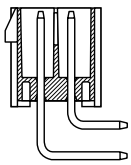
–02–SH



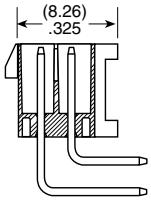
–02 –01 –RA



–01–S-RA



–01–D–RA



–01–D–RE1

ALSO AVAILABLE
Contact Samtec

Other sizes
With or without plug polarization
Guide post holes
Other platings
Weld tab

Note:
Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: **samtec.com?IPL1**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER STRIP 30



(5.00 mm) .1969" PITCH • WIRE TO BOARD ASSEMBLY/COMPONENTS

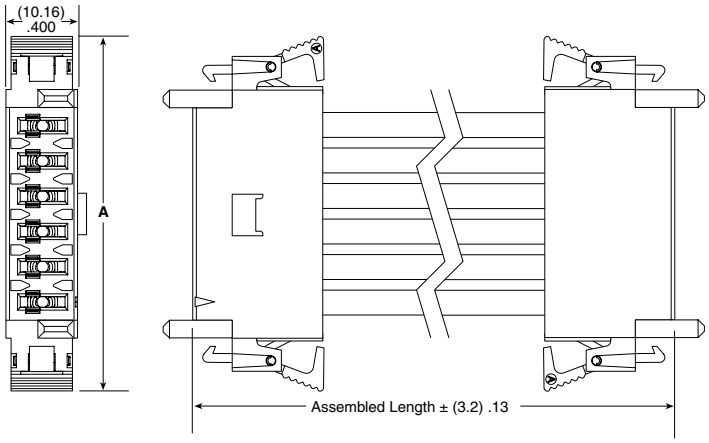
MPSS	NO. OF POSITIONS	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END 1 OPTION	END 2 OPTION
	–02, –03, –04, –06, –08	–14 –16	**–L** = 10 µ" (0.25 µm) Gold on contact **–T** = Matte Tin	**–"XX.XX"** = Wire length in inches (83.00 mm) 03.25" min.	**–SR** = Single End **–DR** = Double End	(Available with –DR only) **–NUS** = Notch up, straight **–NDS** = Notch down, straight

MPSS

Board Mates:
MPT

SPECIFICATIONS

Insulator Material:
Nylon 6/6
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27µm) Ni
Latch:
Nylon 6/6
Operating Temp Range:
-30 °C to +105 °C
Voltage Rating:
350 VAC/495 VDC
Wire:
14 or 16 AWG



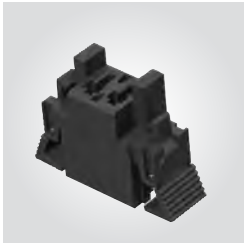
NO. OF POSITIONS	A
–02	(30.07) 1.184
–03	(35.07) 1.381
–04	(40.08) 1.578
–06	(50.09) 1.972
–08	(60.10) 2.366

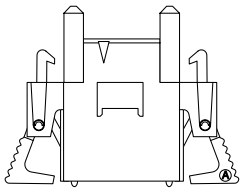
MPSS/MPT-V	
WIRE GAUGE	CURRENT RATING (PER PIN)
14 AWG	19.7 A
16 AWG	15.9 A

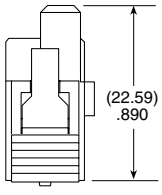
1 PIN POWERED

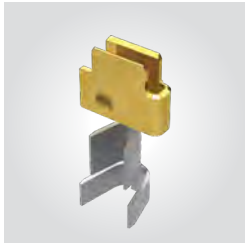
View complete specifications at: **samtec.com?MPSS**

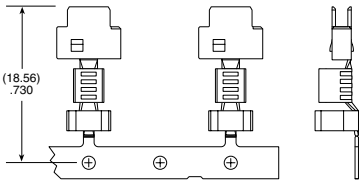
IMS5	POSITIONS PER ROW	02	SERIES	WIRE GAUGE	01	PLATING OPTION
	–02, –03, –04, –06, –08		**CC46L** = Contact, Loose **CC46R** = Contact, Full Reel	**–1416** = 14 to 16 AWG		**–L** = 10 µ" (0.25 µm) Gold on contact **–T** = Matte Tin











TOOLING

Hand Tool: CAT-HT-246-1416-14 (14-16 AWG)	Mini Applicator: CAT-MC-246-1416-XX-02 (14-16 AWG)
Extraction Tool: CAT-EX-MPSS-01	

Note:
Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?IMS5, samtec.com?CC46L** & **samtec.com?CC46R**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

POWER STRIP 30



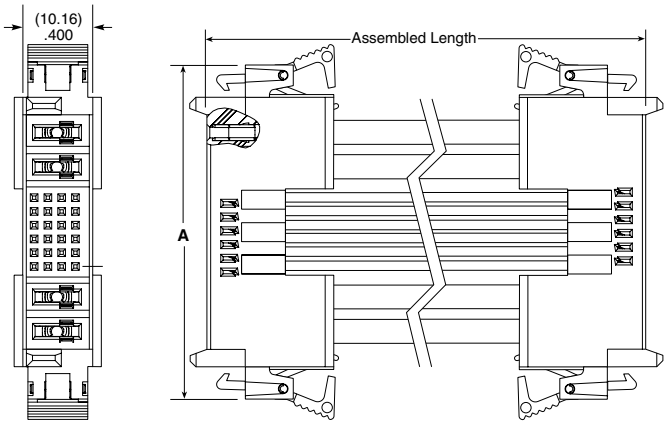
30 SIGNAL/POWER COMBO WIRE TO BOARD ASSEMBLY/COMPONENTS

MPCC	–	2	–	SIGNAL PINS	–	2	–	PLATING OPTION	–	LEAD STYLE	–	LENGTH	–	END 1 OPTION	–	END 2 OPTION
				–16 = Total Signal Pins **–24** = Total Signal Pins				**–L** = 10 µ" (0.25 µm) Gold on contact, Tin on tail (Power & Signal) **–T** = Tin on contact and tail (Power), Gold on contact, Tin on tail (Signal)		**Specify LEAD STYLE from chart**		**–"XX.XX"** = Assembled Length in Inches (101.60 mm) 04.00" min.		**–S** = Single End **–D** = Double End		(Available with –D only) **–NUS** = Notch up, straight (Pin A1 to Pin AX)

MPCC
Board Mates:
MPTC

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Signal: BeCu
Power: Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating:
Signal Pin (24 AWG):
3.4 A per pin
(4 adjacent pins powered)
Power Pin (14 AWG):
23.2 A per pin
(1 pin powered)
Operating Temp Range:
-10 °C to +105 °C
Voltage Rating:
250 VAC/354 VDC



SIGNAL PINS	A
16	(44.55) 1.754
24	(48.55) 1.911

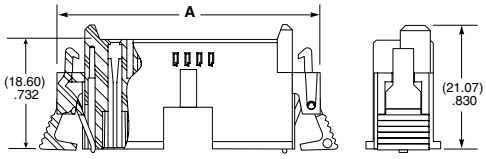
LEAD STYLE	PWR/SIG	AWG
–44	PWR	14
	SIG	24
–46	PWR	14
	SIG	26
–48	PWR	14
	SIG	28
–40	PWR	14
	SIG	30
–64	PWR	16
	SIG	24
–66	PWR	16
	SIG	26
–68	PWR	16
	SIG	28
–60	PWR	16
	SIG	30

View complete specifications at: **samtec.com?MPCC**

IMSC5	–	POWER PINS	–	SIGNAL PINS	–	POWER PINS	–	L
		–02 = Power Pins Per End		**–16** = Total Signal Pins **–24** = Total Signal Pins		**–02** = Power Pins Per End		**–L** = Latch

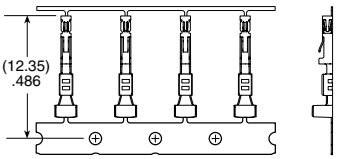
SERIES	–	WIRE GAUGE	–	01	–	PLATING OPTION
CC81L = Contact, Loose **CC81R** = Contact, Full Reel (17,000 Parts per Reel)		**–2426** = 24 to 26 AWG **–2830** = 28 to 30 AWG				**–L** = 10 µ" (0.25 µm) Gold on contact





SIGNAL PINS	A
–16	(44.55) 1.754
–24	(48.55) 1.911





Note: Power contact (CC46 Series) information on page 262.

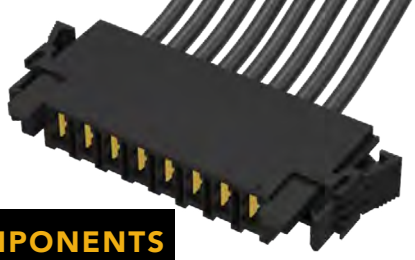
TOOLING

Hand Tool: CAT-HT-281-2430-13 (Signal: 24-30 AWG) CAT-HT-246-1416-13 (Power: 14-16 AWG)	Extraction Tool: CAT-EX-169-01 (Signal) CAT-EX-MPSS-01 (Power)
Mini Applicator: CAT-MC-246-1416-XX-01 (Power 14-16 AWG) CAT-MC-281-2426-XX-01 (Signal: 24-26 AWG) CAT-MC-281-2830-XX-01 (Signal: 28-30 AWG)	

Note: Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?IMSC5**, **samtec.com?CC81R** & **samtec.com?CC81L**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



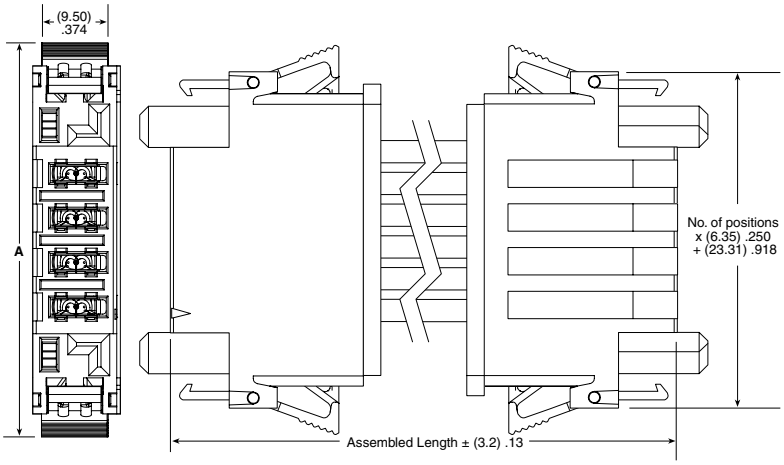
PESS	– NO. OF POSITIONS	– WIRE GAUGE	– PLATING OPTION	– ASSEMBLED LENGTH	– END 1 OPTION	– END 2 OPTION
	–02, –04, –06, –08	–10 –12	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin on tail	–"XX.XX" = Wire length in inches (152.4 mm) 06.00" min.	–SR = Single End –DR = Double End	(Available with -DR only) –NUS = Notch up, straight (Available with -DR only) –NDS = Notch down, straight

PESS

Board Mates:
PET

SPECIFICATIONS

Insulator Material:
Nylon Black
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-30 °C to +105 °C
Voltage Rating:
450 VAC/636 VDC
Wire:
10 or 12 AWG



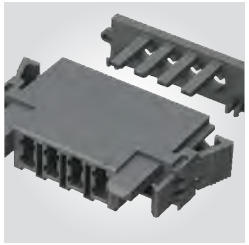
NO. OF POSITIONS	A
–02	(43.9) 1.73
–04	(56.6) 2.23
–06	(69.3) 2.73
–08	(82.0) 3.23

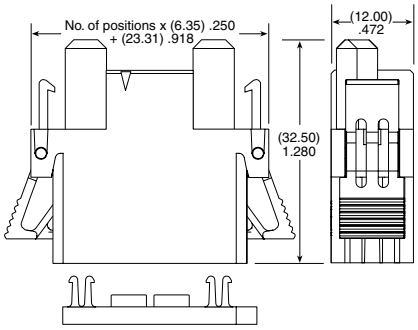
PESS/PET	
WIRE GAUGE	CURRENT RATING (PER PIN)
10 AWG	34.5 A
12 AWG	29.7 A

1 PIN POWERED

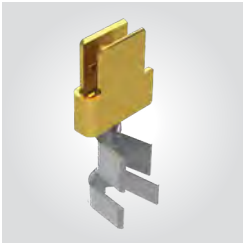
View complete specifications at: **samtec.com?PESS**

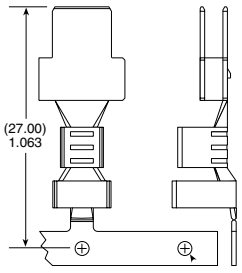
IPS6	– POSITIONS PER ROW	– 01	– LATCH
	–02, –04, –06, –08		–L = Latch





SERIES	– WIRE GAUGE	– PLATING OPTION
CC10R = Contact, Full Reel CC10L = Contact, Loose	–1012 = 10 to 12 AWG	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin on tail





TOOLING

Hand Tool: CAT-HT-310-1012-14
Mini Applicator: CAT-MC-310-1012-XX-02

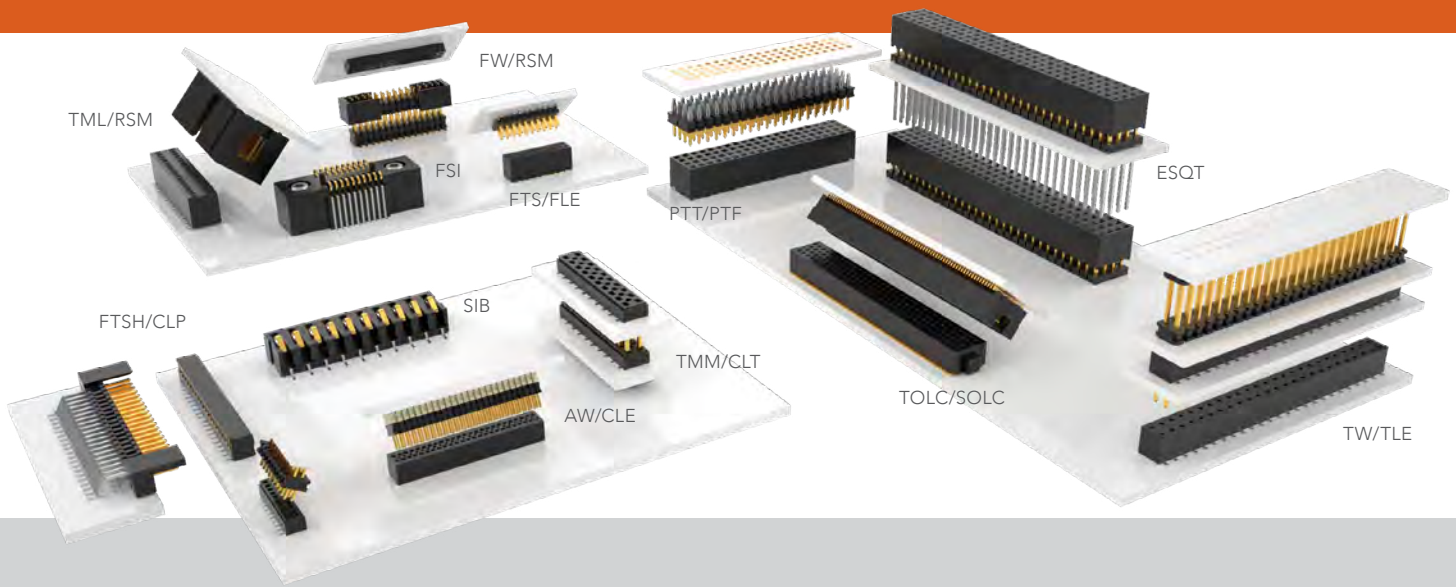
Note:
Some lengths, styles and options are non-standard, non-returnable

View complete specifications at: **samtec.com?IPS6**, **samtec.com?CC10L** & **samtec.com?CC10R**

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEXIBLE STACKING

VARIETY OF PITCHES, CONTACT SYSTEMS & ORIENTATIONS • HIGHLY CUSTOMIZABLE



270-271 ONE-PIECE INTERFACES

1.00 mm (.0394") Pitch (FSI) 270
1.00" (2.54 mm) Pitch (SIB, SIR1) 271

272-277 MICRO BLADE & BEAM

0.50 mm (.0197") Pitch Low Profile Systems (LTH, LSH) 272
Floating Contact Systems (FT5, FS5) 273
Basic Blade & Beam Systems (BXH, BXS, BXE) 274-277

278-294 MICRO PIN & SOCKET

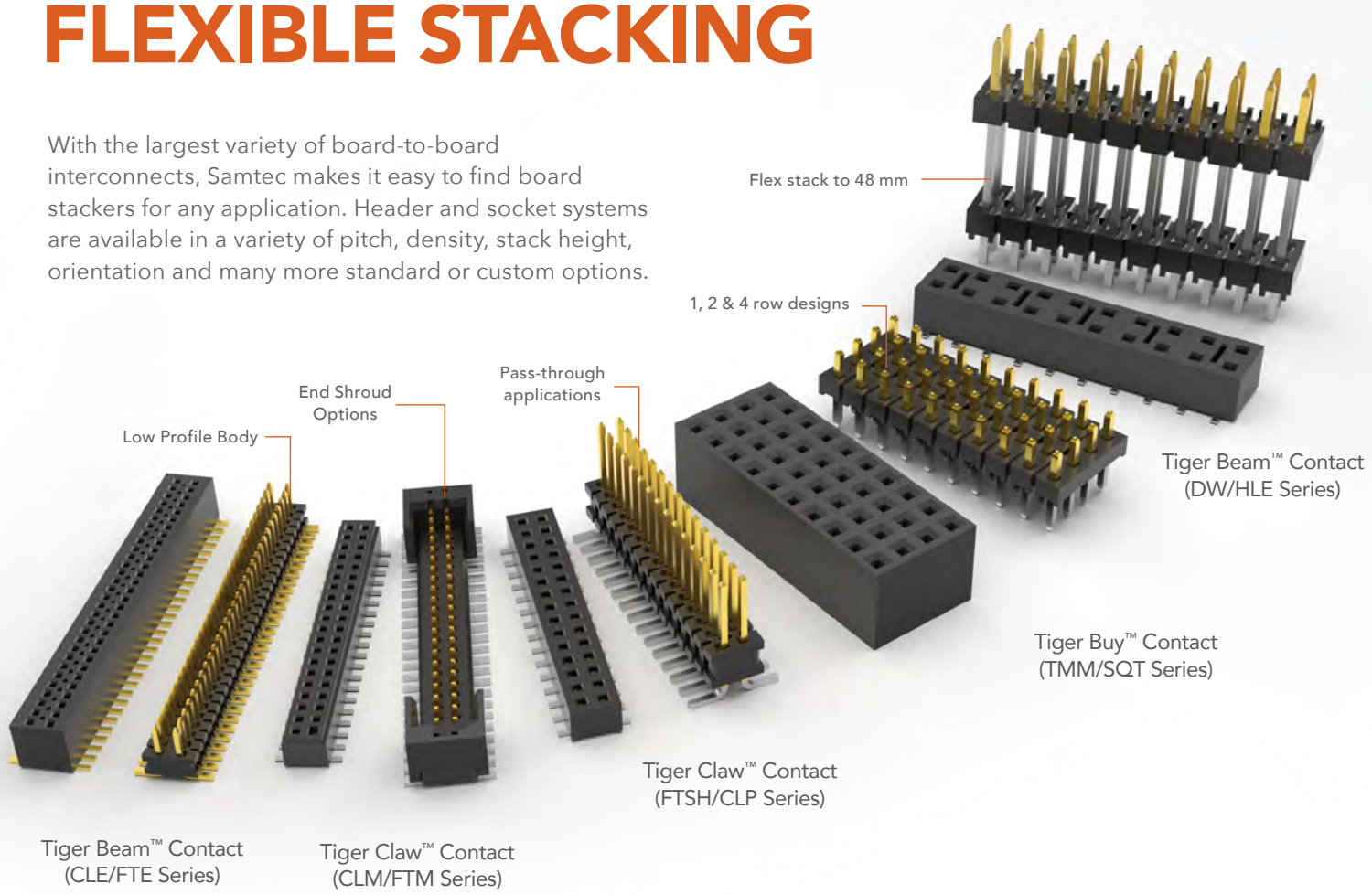
0.80 mm (.0315") Pitch Headers & Sockets (FTE, CLE, AW) 278-279
1.00 mm (.0394") Pitch Headers, Stackers & Sockets (FTMH, FTM, MW, CLM, MLE) 280-282
Quad Row Headers & Sockets (SOLC, TOLC) 283
.050" (1.27 mm) Pitch Headers, Stackers & Sockets (FTSH, FTS, FW, CLP, FLE) 284-289
.050" (1.27 mm) x 100" (2.54 mm) Pitch Headers, Stackers & Sockets
(TMS, HTMS, TML, ZML, DWM, FTR, RSM, SLM, SMS) 290-294

295-328 BOARD-TO-BOARD

2.00 mm (.0787") Pitch Headers & Stackers
(TMM, MMT, MTMM, TMMH, LTMM, ZLTMM, TMMS, TSH, TW) 295-302
2.00 mm (.0787") Pitch Press-Fit Headers & Sockets (PTT, PTF, PTHF, ESQT-368) 303-304
2.00 mm (.0787") Pitch Sockets (SQW, SQT, MMS, TLE, CLT) 305-307
2.00 mm (.0787") Pitch Self Mating Hermaphroditic Strips (LS2) 308
.100" (2.54) Pitch Square Post Headers & Stackers
(PHT, PHF, TSW, HTSW, TSM, MTSW, HMTSW, TLW, MTLW, HW, DW, EW, ZW, TSS, HTSS, ZSS) 309-319
.100" (2.54 mm) Pitch Square Post Sockets
(SSW, SSQ, SSM, ESW, ESQ, HLE, BCS, BSW, SLW, CES) 320-327
Shunts & Jumpers (SNT, MNT, 2SN, SNM, JL) 328

FLEXIBLE STACKING

With the largest variety of board-to-board interconnects, Samtec makes it easy to find board stackers for any application. Header and socket systems are available in a variety of pitch, density, stack height, orientation and many more standard or custom options.



INCREDIBLE FLEXIBILITY

- Post height: Adjustable in .005" (0.13 mm) increments
- Body positions: Adjustable in .005" (0.13 mm) increments
- Board stacking distance: 1.65 mm (.065") – 48.51 mm (1.910")
- Number of pins: 2-300
- Number of rows: 1-6

CUSTOMIZABLE

- Mix-and-match headers and sockets to find the right solution
- Quick and easy custom parts are available. Contact asp@samtec.com

VARIETY OF PITCHES

- 0.80 mm (.0315")
- 1.00 mm (.0394")
- .050" (1.27 mm)
- .050" x .050" (1.27 x 1.27 mm)
- .050" x .100" (1.27 x 2.54 mm)
- 2.00 mm (.0787")
- .100" (2.54 mm)
- .156" (3.96 mm)
- .200" (5.08 mm)

BUILD IT YOURSELF

Check out Solutionator® to quickly build a mated set for your specific application. Visit samtec.com/solutionator

Solutionator® GET A MATED SET IN SECONDS® FLEX STACKING

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

VARIETY OF CONTACTS

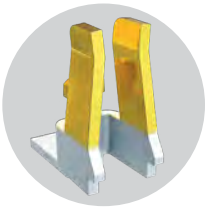
TIGER™ EYE CONTACT

- High-reliability
- High mating cycles
- Multi-finger contact



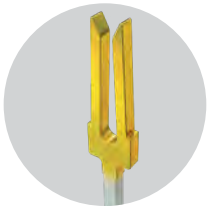
TIGER™ CLAW CONTACT

- Pass-through
- Ultra-low profile
- Dual wipe contact



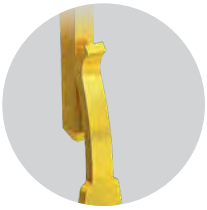
TIGER™ BUY CONTACT

- High-retention
- Cost-effective
- Tuning fork contact

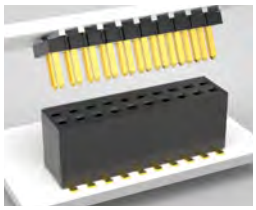


TIGER™ BEAM CONTACT

- Best cost
- Reliable performance
- Post & beam contact

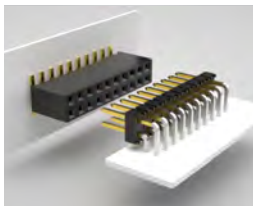


VARIETY OF ORIENTATIONS/APPLICATIONS



Standard

- Choice of contact system
- Single, double and triple row designs
- Largest variety



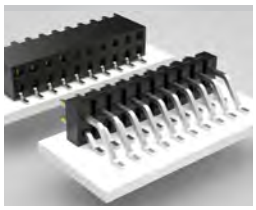
Right-Angle

- Design flexibility
- Tiger Claw™ & Tiger Buy™ contacts
- Through-hole, surface mount



Low Profile

- Down to 1.65 mm (.065") stack height
- Tiger Claw™ contacts
- Space saving



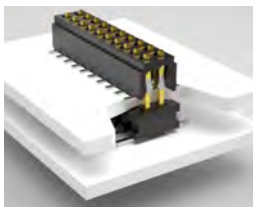
Coplanar

- 1-4 row designs
- Surface mount, through-hole or mixed technology
- Tiger Claw™ & Tiger Beam™ contacts



Elevated

- Up to 48.51 mm (1.910") stack height
- Design flexibility
- Clearance, air flow



Bottom Entry

- Tiger Claw™ contacts
- Access to components when mated
- Space savings



Pass-Through

- Connect three or more boards
- Tiger Claw™ & Tiger Beam™ contact systems
- Surface mount or offset through-hole



Self-Nesting

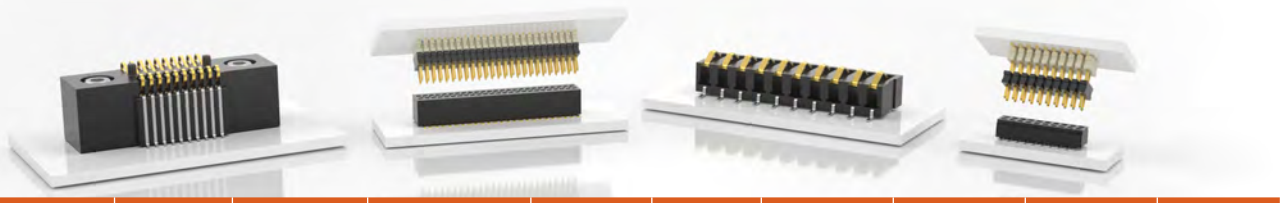
- Tiger Buy™ contacts
- Press-fit or through-hole tails
- PC/104-*Plus*™ embedded applications

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BOARD STACKING REFERENCE

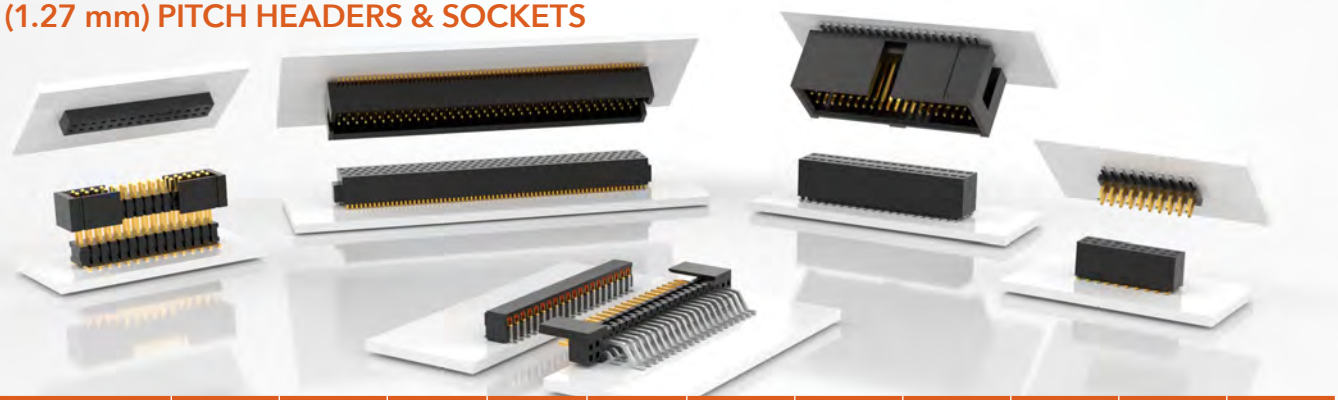
Focused/most popular series in charts. For all flexible stacking solutions, visit samtec.com/connectors

ONE-PIECE, 0.80 mm (.0315") & 1.00 mm (.0394") PITCH



SERIES		FSI	SEI	SIB	CLE	FTE	CLM	FTMH/FTM	MLE	MW
PITCH		1.00 mm (.0394")		.100" (2.54 mm)	0.80 mm (.0315")		1.00 mm (.0394")			
ORIENTATION		V				V & RA	V	V & RA	V	
BOARD STACKING (MM)	MIN	3	1.65	3.8	5	5	3.48		4.57	4.62
	MAX	10			9.14		8.43	5.11	9.27	
CONTACT SYSTEM					Tiger Beam™		Tiger Claw™		Tiger Beam™	
MATES		One-Piece			FTE, AW	CLE	FTM, FTMH, MW	CLM, MLE	FTM, FTMH, MW	CLM, MLE
PAGE		270	See Website	271	278	278	282	280	282	281

.050" (1.27 mm) PITCH HEADERS & SOCKETS



SERIES		CLP	FLE	FTS	FTSH	FW	SOLC	TOLC	DWM/ HDWM	FTR	RSM	SLM
PITCH		.050" x .050" (1.27 mm x 1.27 mm)							.050" x .100" (1.27 mm x 2.54 mm)			
ORIENTATION		V & RA	V		V & RA	V						
BOARD STACKING (MM)	MIN	3.53	5.82	3.53	5.18	7.72	6.35		9.65	9.78		7.11
	MAX	17.75	19.15	5.82	7.49	19.15	12.00		22.99	14.73	19.69	19.43
CONTACT SYSTEM		Tiger Claw™	Tiger Beam™				Tiger Buy™					Tiger Buy™
MATES		FTSH, FTS, FW		CLP, FLE			TOLC	SOLC	SMS, SLM, RSM		FTR, HTMS, HDWM, DWM, TML, ZML, TMS	HTMS, TMS, MTMS, DWM, HDWM, FTR, HMTMS
PAGE		288	289	286	284-285	287	283	283	292	293	293	294

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

2.00 mm (.0787") PITCH HEADERS & SOCKETS



SERIES		MMT	TMM/ MTMM	TMMH	TW	ZLTMM	CLT	ESQT/ -368	MMS	SMM	SQT	SQW	TLE
ORIENTATION		RA	V & RA			V			V & RA	V	V & RA	V	
TERMINATION		SMT & MT	T/H & SMT			T/H	T/H & SMT	T/H	T/H & SMT	SMT	T/H	T/H & SMT	SMT
BOARD STACKING (MM)	MIN	2	3.63	4.14	7.49	7.62	3.63	9.37	5.94	6.07	7.85		6.99
	MAX	4	18.87	22.07	43.31	13.34	4.98	43.31	19.81	17.78	29.59		17.53
CONTACT SYSTEM							Tiger Claw™	Tiger Buy™	Tiger Claw™	Tiger Eye™	Tiger Buy™		Tiger Beam™
MATES		CLT, SQT, SQW, ESQT, TLE, SMM, MMS				SQT, SQW, ESQT, SMM	TMM, TMMH, MTMM, MMT, TW, TSH	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH, TMMS, PTHF	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH	TMM, TMMH, MTMM, MMT, LTMM, TW, PTT, ZLTMM	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, PTT, ESQT, TSH	TMMH, TMM, MTMM, MMT, TW, TSH, LTMM, PTT	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH
PAGE		297	295-297	298-299	302	300	307	304	306	246	305	305	307

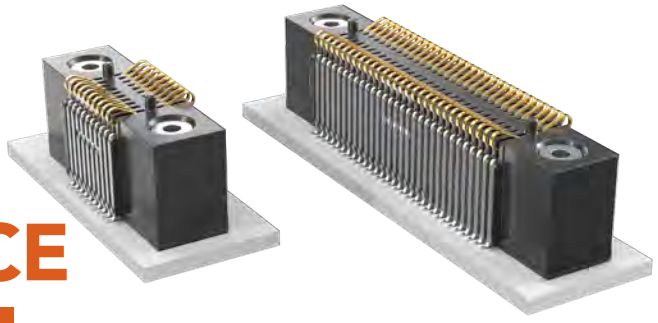
.100" (2.54 mm) PITCH HEADERS & SOCKETS



SERIES		DW, EW, ZW	HW	MTSW/ HMTSW	TLW/ MTLW	TSM	TSW/ HTSW	BCS	ESW, ESQ	HLE	SSM	SSQ	SSW
ORIENTATION		V		V & RA				V & RA	V		V & RA		
TERMINATION		T/H	T/H & SMT	T/H		SMT & MT	T/H			T/H & SMT	SMT	T/H	T/H & SMT
BOARD STACKING (MM)	MIN	13.59	10.03	7.24	6.1	7.47	7.87	9.02	13.59	7.47	11.18	10.03	
	MAX	48.51	30.73	46.36	20.96	14.48	35.69	18.92	48.51	26.16	30.1	38.35	
CONTACT SYSTEM								Tiger Claw™	Tiger Buy™	Tiger Beam™	Tiger Claw™	Tiger Buy™	
MATES		SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF		SSW, SSQ, ESW, ESQ, BCS, BSW, CES, SLW, HLE, SSM	BSW, CES, SLW, HLE	SSW, SSQ, SSM, BSW, ESW, ESQ, BCS, SLW, CES, HLE	SSW, SSQ, SSM, ESW, ESQ, BCS, BSW, CES, SLW	TSW, MTSW, HTSW, HMTSW, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, PHT	TSW, MTSW, EW, MTLW, TSS, ZSS, TSM, DW, ZW, HW, TSSH, HTSS	TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, HW	TSW, MTSW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM, HMTSW, HTSW, TSSH, BST, HTSS, TLW, MTLW	TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, HTSS	TSW, MTSW, HTSW, HMTSW, MTLW, EW, ZW, TSS, HTSS, ZSS, TSM, TSSH, DW, HW
PAGE		318	317	314-315	316	312-313	310-311	325	323	324	322	320-321	

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

LOW PROFILE AND ELEVATED ONE-PIECE



(1.00 mm) .0394" PITCH • FSI SERIES

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
2.8 A per pin
(2 pins powered)
Voltage Rating:
220 VAC/311 VDC
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
Compression Board:
Gold Pads required

OTHER SOLUTIONS

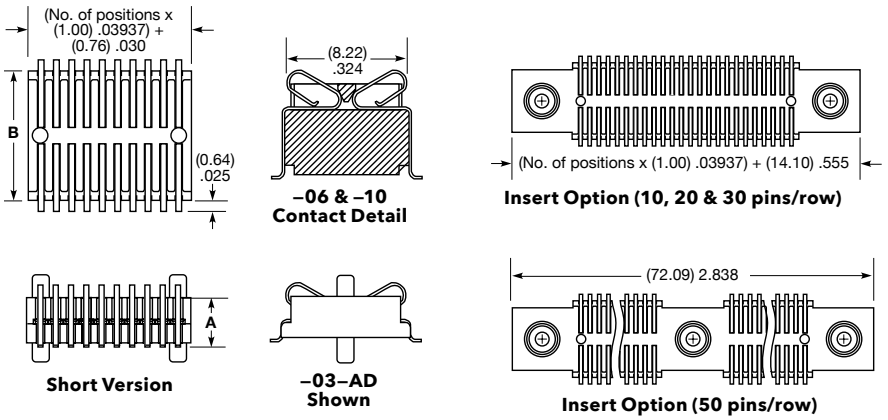


Low Profile
See www.samtec.com?SEI



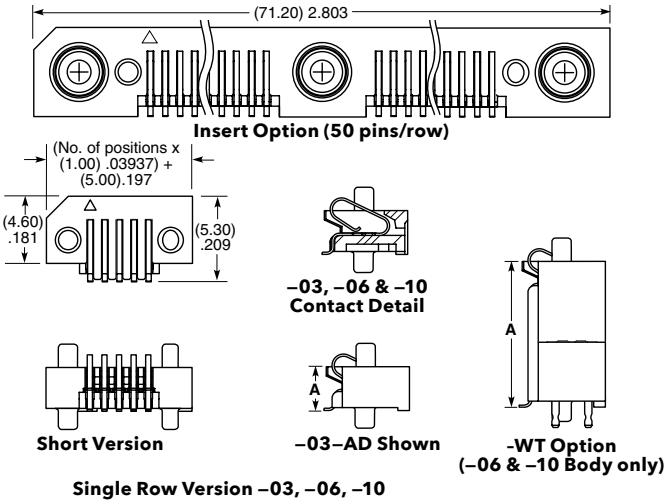
.050" (1.27 mm) Pitch
See www.samtec.com?SIBF

FSI	1	PINS PER ROW	BODY HEIGHT	PLATING OPTION	ROW OPTION	INSERT OPTION	ALIGNMENT OPTION	OTHER OPTION
		10, 20, 30, 50 (Insert/Screw Option) **05, 10, 20, 30, 50** (Short Version)	**–03** = 3 mm **–06** = 6 mm **–10** = 10 mm	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Not available with –03 body height) **–G** = 10 µ" (0.25 µm) Gold (–03 only)	**–S** = Single Row (Available with 5, 10 & 20 pins with –AD alignment pin) **–D** = Double Row	Leave blank for Short Version (No screw down inserts or holes) **–E** = #2-56 x 1/16" screw thread **–M** = 2.00 mm x 0.40 mm screw thread	Leave blank for no Alignment Pin **–AD** = Alignment Pin Top & Bottom	**–WT** = Weld Tab (Available with –S row option & –06 & –10 body height only) **–K** = Polyimide Film Pick & Place Pad (50 position with threaded insert option only) **–P** = Plastic Pick & Place Pad (5.08 mm) .200" x (12.45 mm) .490" (50 not available with –E) (Not available with –S row option or –03 body height) **–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

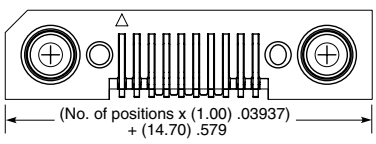


ALSO AVAILABLE
Contact Samtec

No alignment pin
Top side alignment pin
Bottom side alignment pin
Other platings



BODY HEIGHT	A	B
–03	(3.00) .118	(8.76) .345
–06	(6.00) .236	(9.02) .355
–10	(10.00) .394	(9.02) .355



Notes:
Applications requiring 40-50 positions without threaded inserts, please contact Samtec Interconnect Processing Group.

Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

ONE-PIECE INTERFACES



(2.54 mm) .100" PITCH • SIB/SIR1 SERIES

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.6 A per pin
(1 pin powered)
Voltage Rating:
280 VAC/396 VDC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-19)
(0.15 mm) .005" max (20-30)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

Notes:
The SIB Series
is intended for vertical
mating only.

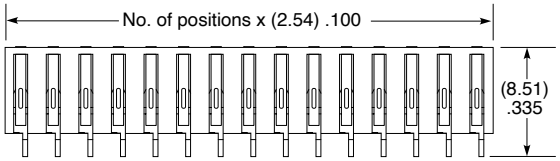
Some lengths, styles and
options are non-standard,
non-returnable.

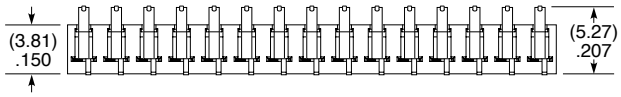
SIB	-	1	NO. OF POSITIONS	-	02	-	PLATING OPTION	-	S	-	OPTION

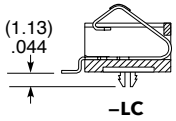
02 thru 30
(Per Row)

–F
= Gold flash
on contact,
Matte Tin on tail

–LC
= Locking
Clip
(Manual
placement
required)







SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.8 A per pin
(1 pin powered)
Voltage Rating:
375 VAC/530 VDC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

Note:
Some lengths, styles and
options are non-standard,
non-returnable.

SIR1	-	NO. OF POSITIONS	-	PLATING OPTION	-	S	-	OPTION

–03, –05, –10, –15
(Per Row)

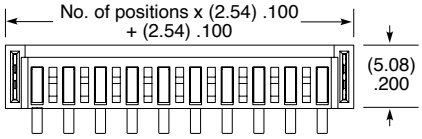
–L
= 10 µ" (0.25 µm)
Gold on contact,
Matte Tin on tail

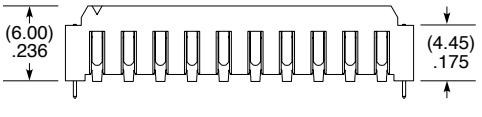
–A
= Alignment Pin

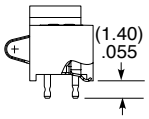
–K
= (4.00 mm) .157"
DIA Polyimide
Film Pick &
Place Pad

–TR
= Tape & Reel

–FR
= Full Reel
Tape & Reel
(must order max.
quantity per reel;
contact Samtec for
quantity breaks)







Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

LOW PROFILE BLADE AND BEAM

(0.50 mm) .0197" PITCH • LTH/LSH SERIES

14 Gbps



LTH
Mates:
LSH

LSH
Mates:
LTH

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(2 pins powered)
Voltage Rating:
188 VAC/266 VDC
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
-01	(2.31 mm) .091"

*Processing conditions will affect mated height.

LTH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

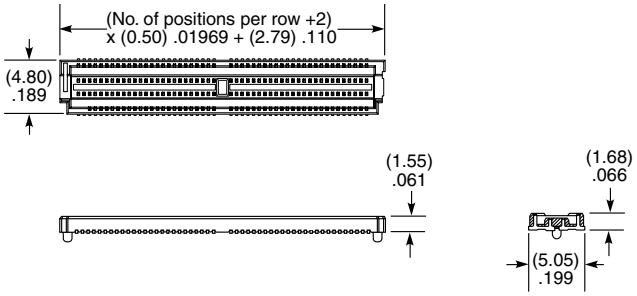
–010, –020, –030, –040, –050

–G
= 10 µ" (0.25 µm) Gold

–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



LSH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

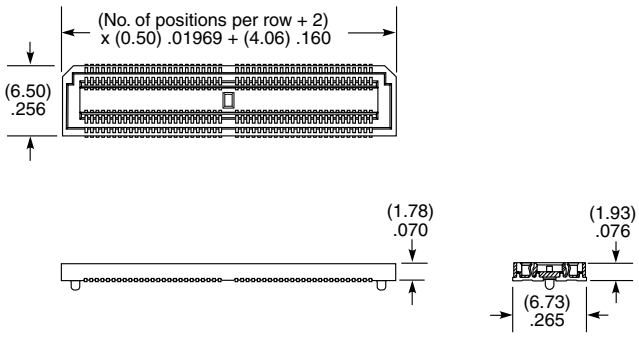
–010, –020, –030, –040, –050

–G
= 10 µ" (0.25 µm) Gold

–K
= (7.50 mm) .295" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HIGH-SPEED FLOATING CONTACT SYSTEM



(0.50 mm) .0197" PITCH • FT5/FS5 SERIES

FT5
Mates:
FS5

FS5
Mates:
FT5

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze (FT5)
BeCu (FS5)
Weld Tab:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.8 A per pin
(2 pins powered)
Voltage Rating:
180 VAC/255 VDC
Operating Temp Range:
-55 °C to +125 °C
Lead-Free Solderable:
Yes

MATED HEIGHT *

FS5 LEAD STYLE	FT5 LEAD STYLE	
	-01.0	-03.0
-04.0	(5.00 mm) .197"	(7.00 mm) .276"

*Processing conditions will affect mated height.

FT5	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	TH	–	OPTION

–15, –30
(Per Row)

–01.0
= 1 mm Body Height

–03.0
= 3 mm Body Height

–01
= Right-angle

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–DV
= Vertical

–RA
= Right-angle

Leave blank for –RA

–TH
= Through-hole weld tab

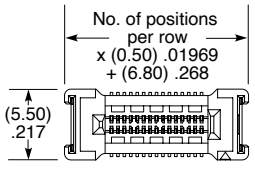
Required callouts

–P
= Pick & Place Pad (–DV only)

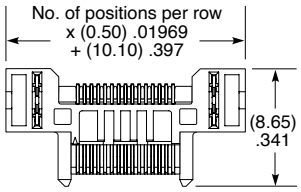
–K
= (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (–RA only)

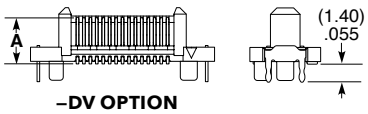
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

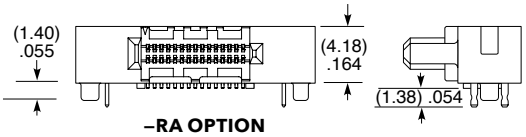


LEAD STYLE	A
–01.0	(3.72) .146
–03.0	(5.72) .225





–DV OPTION



–RA OPTION

FS5	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	DV	–	TH	–	K	–	XR

–15, –30
(Per Row)

–04.0
= 4 mm Body Height

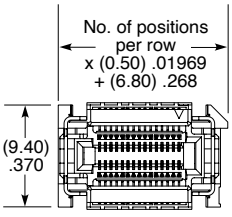
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

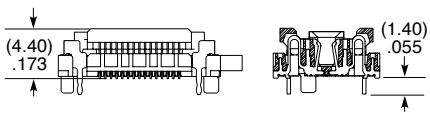
–TH
= Through-hole weld tab

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



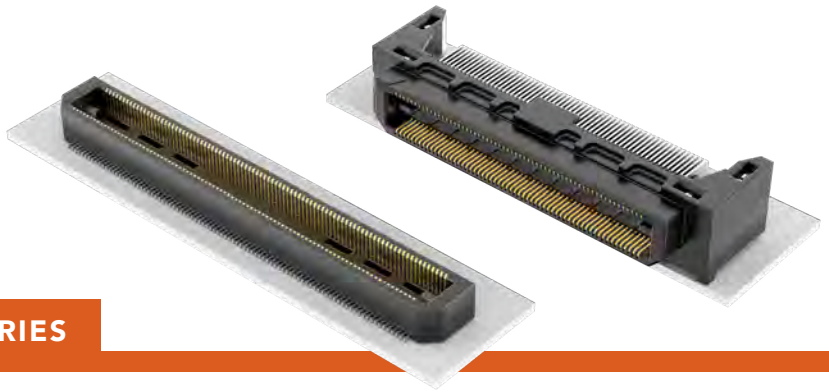


Notes:
Contact system provides float in X (0.50 mm) and Y (0.20 mm) directions.

Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BASIC BLADE & BEAM HEADER



(0.50 mm) .0197" PITCH • BTH SERIES

BTH
Mates:
BSH

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.0 A per pin
(2 pins powered)
Voltage Rating:
175 VAC/247 VDC
Max Cycles:
100

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
Vertical=
(0.10 mm) .004" max (030-090),
(0.15 mm) .006" max (120-150)*
Right-angle=
(0.15 mm) .006" max (030-090)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board or 90 positions or higher, contact ipg@samtec.com

ALSO AVAILABLE
Contact Samtec

30 µ" (0.76 µm) Gold
Edge Mount Capability
8 mm, 11 mm, 16 mm, 19 mm and 22 mm Stack Height (Caution: Some automatic placement/ inspection machines may have component height restrictions. Please consult machinery specifications.) (11 mm, 16 mm, 19 mm and 22 mm not available with 50 positions)

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

BTH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–030, –050, –060, –090, –120, –150

–F
= Gold Flash on contact, Matte Tin on tail

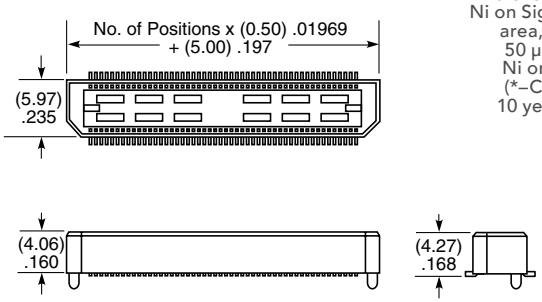
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails (*–C Plating passes 10 year MFG testing)

–K
= (7.00 mm) .276" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (120 positions maximum)

–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (120 positions maximum)



MATED HEIGHT	
LEAD STYLE	MATED HEIGHT*
-01	(5.00 mm) .197"

*Processing conditions will affect mated height.

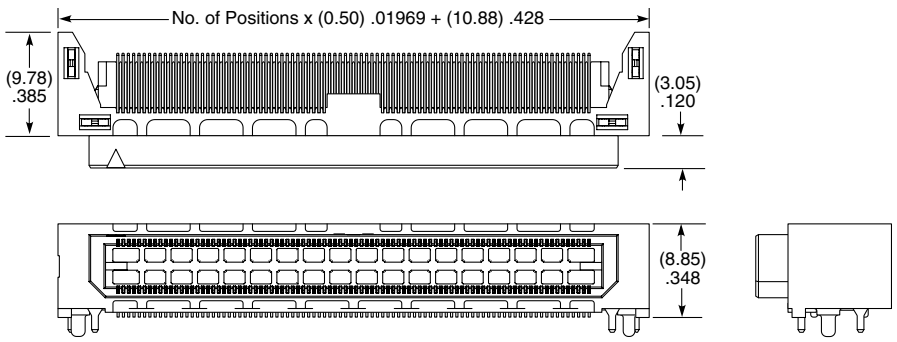
BTH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	WT	–	OTHER OPTION

–030, –060,–090

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (7.00 mm) .276" DIA Polyimide Film Pick & Place Pad



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BASIC BLADE & BEAM SOCKET

(0.50 mm) .0197" PITCH • BSH SERIES



BSH
Mates:
BTH

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2 A per pin
(2 pins powered)
Voltage Rating:
175 VAC/247 VDC
Max Cycles:
100

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (030-090)
(0.15 mm) .006" max (120-150)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board or 90 positions or higher, contact ipg@samtec.com

ALSO AVAILABLE
Contact Samtec

30 µ" (0.76 µm) Gold

Edge Mount Capability

8 mm, 11 mm, 16 mm, 19 mm and 22 mm Stack Height (Caution: Some automatic placement/inspection machines may have component height restrictions. Please consult machinery specifications.) (11 mm, 16 mm, 19 mm and 22 mm not available with 50 positions)

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

BSH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–030, –050, –060, –090, –120, –150

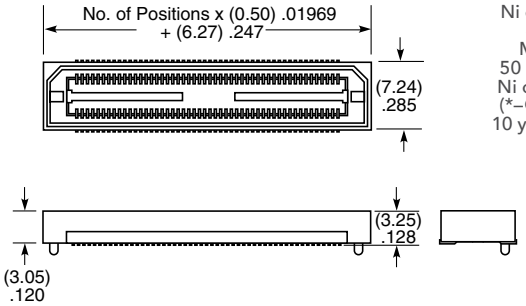
–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails (*–C Plating passes 10 year MFG testing)

–TR
= Tape & Reel (120 positions maximum)

–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (120 positions maximum)



MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
-01	(5.00 mm) .197"

*Processing conditions will affect mated height.

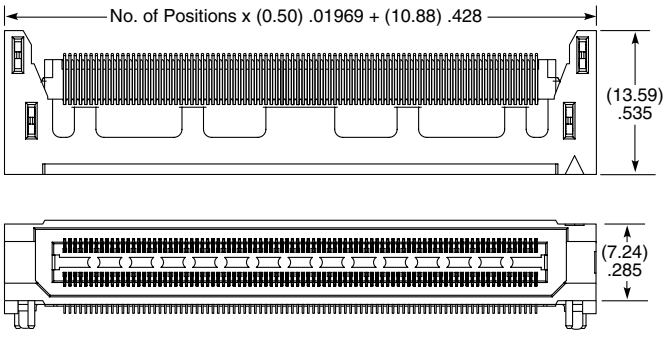
BSH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	WT	–	OTHER OPTION

–030, –060, –090

–F
= Gold Flash on contact, Matte Tin on tail

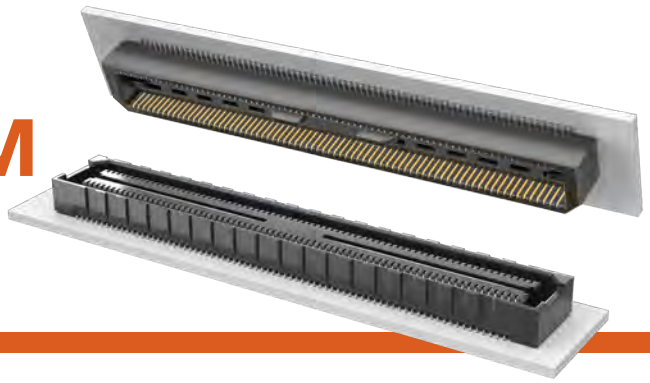
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–GP
= Guide Post



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BASIC BLADE & BEAM HEADER & SOCKET



(0.635 mm) .025" PITCH • BTS/BSS SERIES

BTS
Mates:
BSS

BSS
Mates:
BTS

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.8 A per pin
(2 pins powered)

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring more than two connectors per board or 100 positions or higher, contact ipg@samtec.com

ALSO AVAILABLE
Contact Samtec

30 µ" (0.76 µm) Gold
Other platings
Other positions

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
-01	(5.00 mm) .197"

*Processing conditions will affect mated height.

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

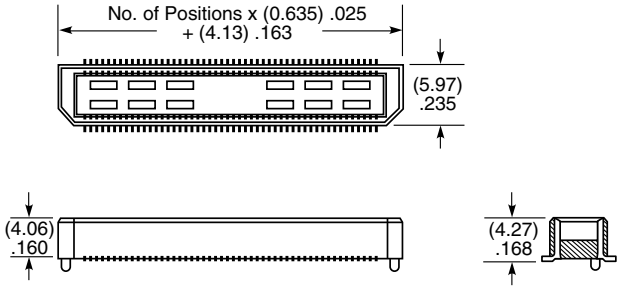
Note:
Some lengths, styles and options are non-standard, non-returnable.

BTS - NO. OF POSITIONS PER ROW - 01 - PLATING OPTION - D - A - OTHER OPTION

NO. OF POSITIONS PER ROW: –025, –050, –075, –100

PLATING OPTION:
–F = Gold Flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OTHER OPTION:
–K = (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad
–TR = Tape & Reel (–100 positions max.)
–FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–100 positions max.)

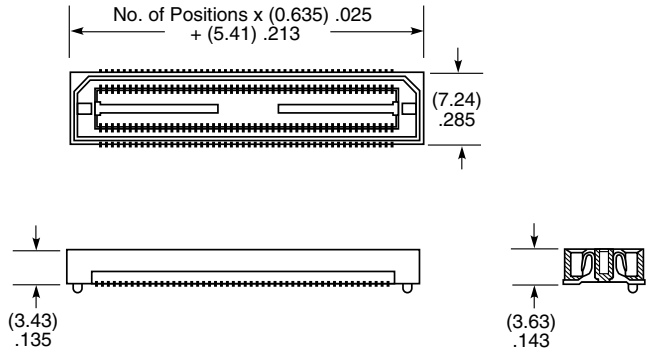


BSS - NO. OF POSITIONS PER ROW - 01 - PLATING OPTION - D - A - OTHER OPTION

NO. OF POSITIONS PER ROW: –025, –050, –075, –100

PLATING OPTION:
–F = Gold Flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OTHER OPTION:
–TR = Tape & Reel (–100 positions maximum)
–FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (–100 positions maximum)



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

BASIC BLADE & BEAM HEADER & SOCKET

(0.80 mm) .0315" PITCH • BTE/BSE SERIES



BTE
Mates:
BSE

BSE
Mates:
BTE

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2 A per pin
(2 pins powered)
Voltage Rating:
225 VAC/318 VDC
Max Cycles:
100

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-080)
(0.15 mm) .006" max (100-120)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board or 80 positions or higher, contact ipg@samtec.com

ALSO AVAILABLE
Contact Samtec

30 µ" (0.76 µm) Gold
Edge Mount Capability
Friction Lock option
11 mm, 14 mm, 16.10 mm, 19.10 mm, 22 mm, 25 mm and 30 mm Stack Height (Caution: Some automatic placement/ inspection machines may have component height restrictions. Please consult machinery specifications.)

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

BTE	–	NO. OF POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–020, –040,–060, –080, –100, –120

Specify LEAD STYLE from chart

–F
= Gold Flash on contact, Matte Tin on tail

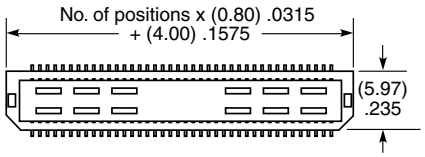
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails (*–C Plating passes 10 year MFG testing)

–K
= (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (80 positions maximum)

–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (80 positions maximum)



LEAD STYLE	A
–01	(4.27) .168
–02	(7.21) .284

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00 mm) .197"
–02	(8.00 mm) .315"

*Processing conditions will affect mated height.

BSE	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–020, –040, –060, –080, –100, –120

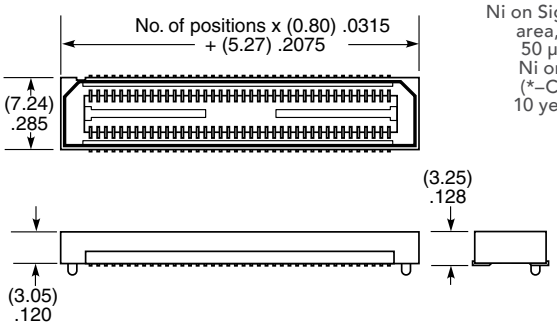
–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails (*–C Plating passes 10 year MFG testing)

–TR
= Tape & Reel (80 positions maximum)

–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks) (80 positions maximum)

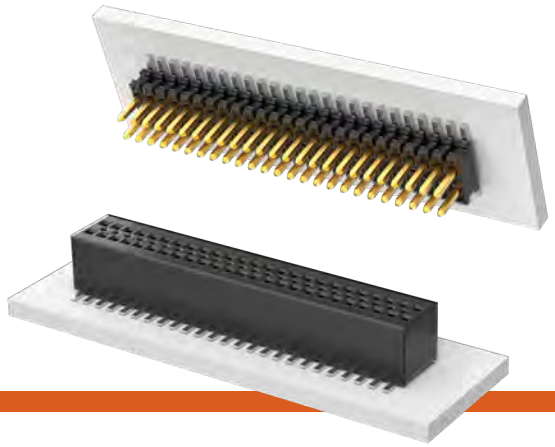


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ BEAM CONTACT

SMT MICRO HEADER & SOCKET

(0.80 mm) .0315" PITCH • FTE/CLE SERIES



FTE
Mates:
CLE

CLE
Mates:
FTE, AW

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (FTE/CLE):
2.2 A per pin
(2 pins powered)
Voltage Rating:
213 VAC/301 VDC
Insertion Depth (CLE):
Top Entry =
(1.73 mm) .068" to (3.18 mm) .125" with (0.38 mm) .015" wipe, or pass-through
Bottom Entry =
(3.23 mm) .127" minimum plus board thickness
Max Cycles (CLE):
100 with 10 µ" (0.25 µm) Au

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity (FTE):
-DV: (0.10 mm) .004" max
-DH: (0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)
SMT Lead Coplanarity (CLE):
(0.10 mm) .004" max (04-65)
(0.15 mm) .006" max (66-90)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

Note:
Some lengths, styles and options are non-standard, non-returnable.

FTE

FTE – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – TAIL OPTION – FLEX SHROUD OPTIONS – OTHER OPTION

NO. PINS PER ROW: 05 thru 90

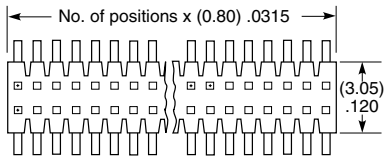
LEAD STYLE: Specify LEAD STYLE from chart

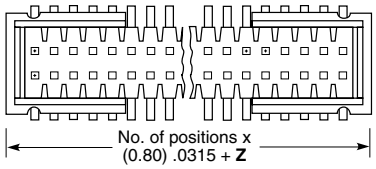
PLATING OPTION:
–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on balance

TAIL OPTION:
–DV
= Dual Vertical
–DH
= Dual Horizontal (50 positions maximum)

FLEX SHROUD OPTIONS:
Style –01 –DV only (11 pins/row minimum)
–ES
= End Shroud
–EC
= End Shroud with Locking Clips (Manual placement required)
–EP
= End Shroud with Guide Posts

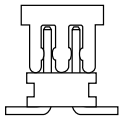
OTHER OPTION:
–A
= Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion (–DV only)
–K
= (2.50 mm) .098" DIA Polyimide Film Pick & Place Pad (–DH only)
–P
= Plastic Pick & Place Pad (8 positions minimum) –DV only
–TR
= Tape & Reel
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

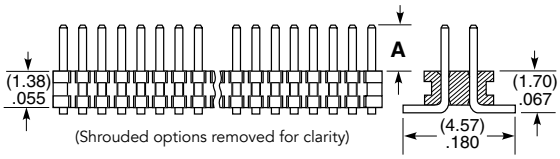




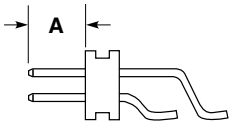
OPTION	Z
–ES	(1.57) .062
–EC	(4.11) .162
–EP	(5.51) .217

LEAD STYLE	A
–01	(1.90) .075
–02	(4.45) .175
–03	(3.05) .120

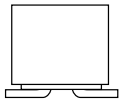

-P OPTION



(Shrouded options removed for clarity)



-DH OPTION


-ES OPTION

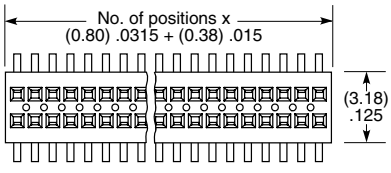
CLE

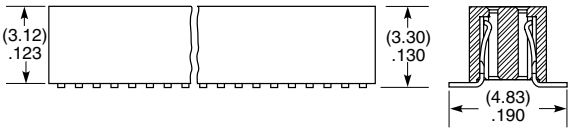
CLE – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – DV – OPTIONS

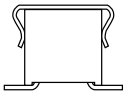
NO. PINS PER ROW: 04 thru 90

PLATING OPTION:
–F
= Gold flash on contact and tail
–G
= 10 µ" (0.25 µm) Gold on contact and tail

OPTIONS:
–A
= Alignment Pin (4 positions minimum) Metal or plastic at Samtec discretion.
–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (8 positions minimum)
–P
= Metal Pick & Place Pad (8 positions minimum)
–TR
= Tape & Reel
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



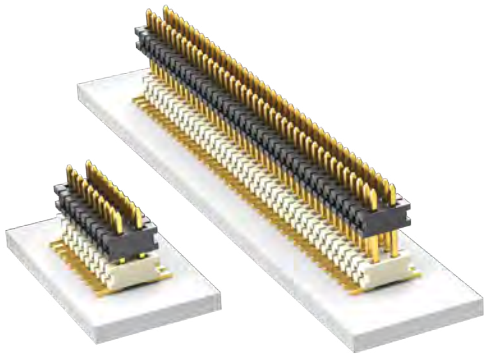



-P OPTION

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

SMT MICRO BOARD STACKER



(0.80 mm) .0315" PITCH • AW SERIES

AW
Mates:
CLE

AW	–	NO. PINS PER ROW	–	03	–	PLATING OPTION	–	D	–	STACKER HEIGHT	–	POST HEIGHT	–	OTHER OPTION

05 thru 90

–G
= 10 µ" (0.25 µm) Gold

–"XXX"
= Stacker Height (in inches) (3.09 mm) .122" to (5.84 mm) .230"

Example:
–175
= (4.45 mm) .175"

–"XXX"
= Post Height (in inches) (1.91 mm) .075" minimum

Example:
–075
= (1.91 mm) .075"

–ES
= End Shroud 11 pins/row min. (–075 Post Height only)

–EP
= End Shroud with Guide Post (–075 Post Height only) 11 pins/row min.

–A
= Alignment Pin (4 positions min.) (Available for board stacks between (4.06 mm) .160" to (5.84 mm) .230") (Metal or plastic at Samtec discretion.)

–P
= Pick & Place Pad (8 positions min.)

–TR
= Tape & Reel (84 positions max.)

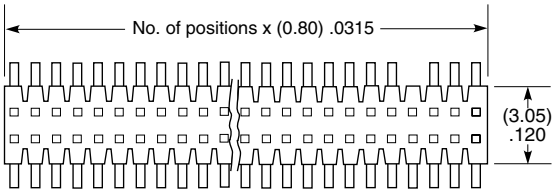
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (84 positions max.)

SPECIFICATIONS

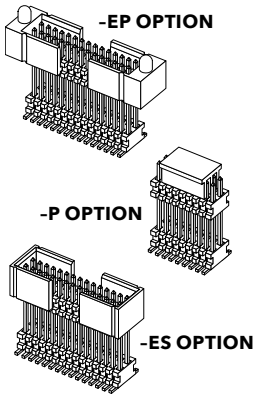
Insulator Material:
Top: Black LCP
Bottom: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

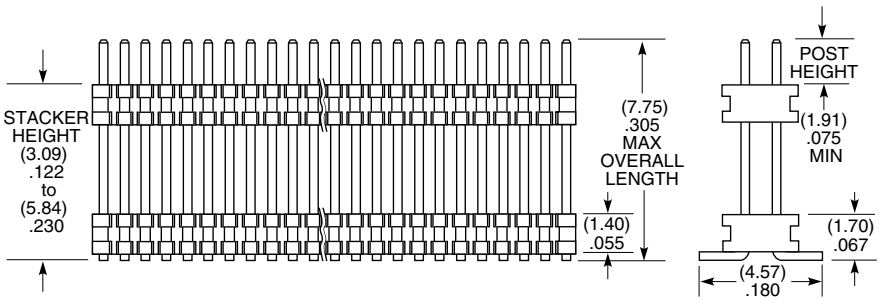
PROCESSING

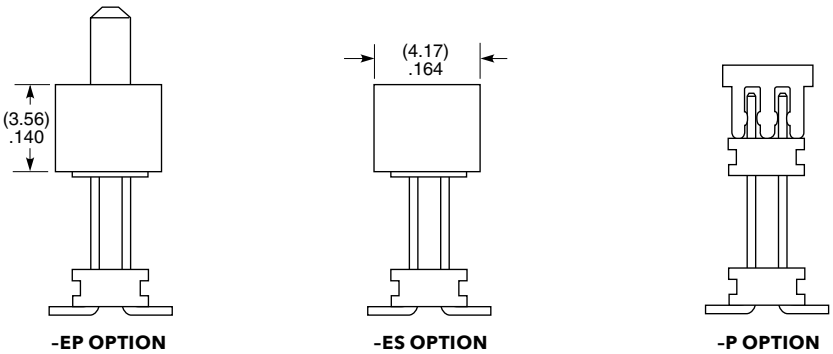
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-40)
(0.15 mm) .006" max (41-90)*
*(.004" stencil solution may be available; contact ipg@samtec.com)



OPTIONS







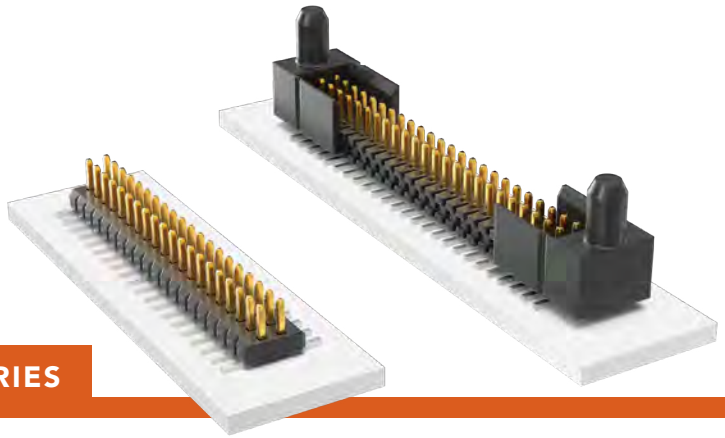
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMT MICRO TERMINAL STRIPS

(1.00 mm) .0394" PITCH • FTMH/FTM SERIES



FTMH
Mates:
CLM, MLE

FTM
Mates:
CLM, MLE

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (FTMH/CLM):
3.1 A per pin (2 pins powered)
Voltage Rating:
FTMH: 270 VAC /382 VDC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
-DV: (0.10 mm) .004" max
-DH: (0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

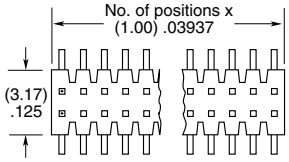
End shrouds with board locks
Molded end shrouds for 05 through 08 positions
Other platings

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

FTMH - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - ROW OPTION - FLEX SHROUD OPTION - OTHER OPTION

NO. PINS PER ROW
02 thru 50



LEAD STYLE
–02
= (1.91 mm) .075" Post (Mates with MLE)

–03
= (1.65 mm) .065" Post (Mates with CLM)

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

ROW OPTION
–DV
= Dual Vertical

–DH
= Dual Horizontal (5 positions min.)

FLEX SHROUD OPTION
(-DV only with 9 pins/row minimum)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip (Manual placement required)

–EP
= End Shroud with Guide Post (Use only when mating with CLM)

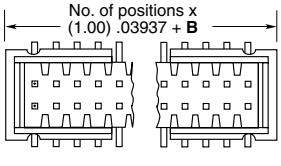
OTHER OPTION
–A
= Alignment Pin (3 positions min.) Metal or plastic at Samtec discretion (–DV only)

–K
= (2.50 mm) .098" DIA Polyimide Film Pick & Place Pad (–DH only)

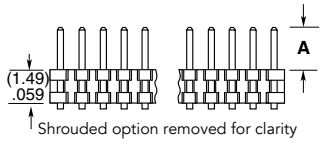
–P
= Plastic Pick & Place Pad (6 positions min.) (–DV only)

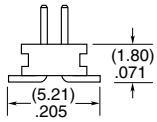
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

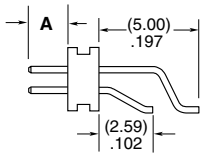


OPTION	B
–ES	(1.57) .062
–EC	(4.06) .160
–EP	(5.49) .216





-DV OPTION



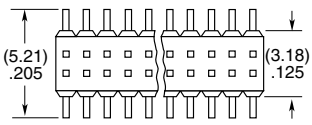
-DH OPTION

LEAD STYLE	A
–02	(1.91) .075
–03	(1.65) .065

FTM - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - DV - FLEX SHROUD OPTION - OTHER OPTION

NO. PINS PER ROW
02 thru 50
= Unshrouded

05 thru 46
= Shrouded



LEAD STYLE
–02
= (1.91 mm) .075" Post (Mates with MLE)

–03
= (1.65 mm) .065" Post (Mates with CLM)

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

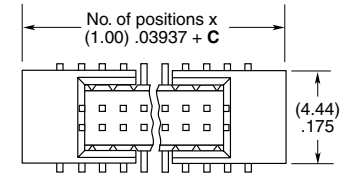
FLEX SHROUD OPTION
–S
= End Shroud (05 positions minimum). Molded or press-fit shroud at Samtec's discretion

–SA
= End Shroud with Alignment Pins (05 through 46 positions)

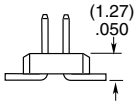
OTHER OPTION
–P
= Plastic Pick & Place Pad (7 positions min.)

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



OPTION	C
–S	(4.00) .157
–SA	(7.00) .276



LEAD STYLE	D
–02	(1.91) .075
–03	(1.65) .065

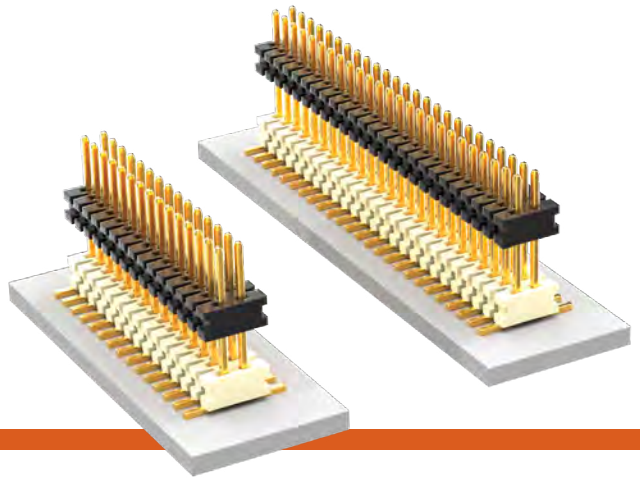
Shrouded options removed for clarity

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

SMT MICRO BOARD HEADER

(1.00 mm) .0394" PITCH • MW SERIES



MW
Mates:
CLM, MLE

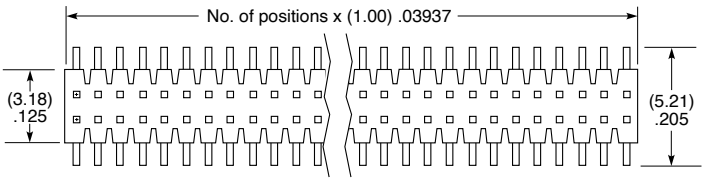
MW	-	NO. PINS PER ROW	-	03	-	PLATING OPTION	-	D	-	STACKER HEIGHT	-	POST HEIGHT	-	OPTION
		02 thru 50				–F = Gold flash on contact, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail				–"XXX" = Stacker Height (in inches) (2.41 mm) .095" to (6.22 mm) .245" Example: –245 = (6.22 mm) .245"		–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"		–A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec's discretion –P = Pick & Place Pad (7 positions minimum) –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

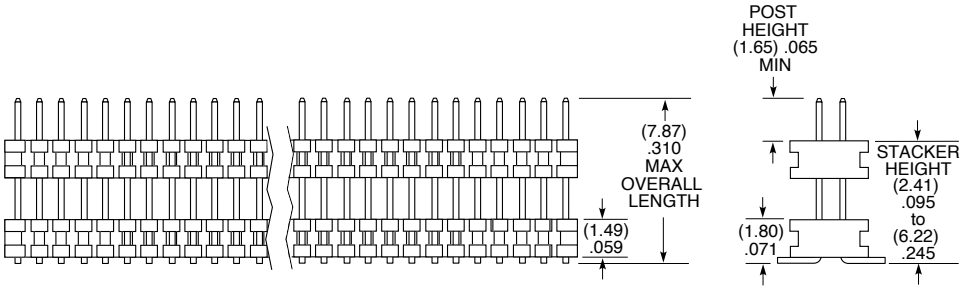
SPECIFICATIONS

Insulator Material:
Top: Black LCP
Bottom: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

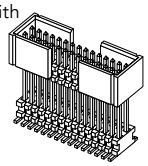
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

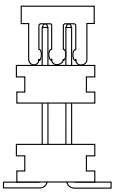




ALSO AVAILABLE
Contact Samtec

End shrouds
End shrouds with guide posts



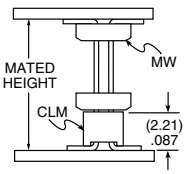


-P OPTION

APPLICATION

EXAMPLES		
LEAD STYLE		MATED HEIGHT*
MW	CLM	
–163-065	-02	(6.35 mm) .250"
–233-065		(8.13 mm) .320"

*Processing conditions will affect mated height.



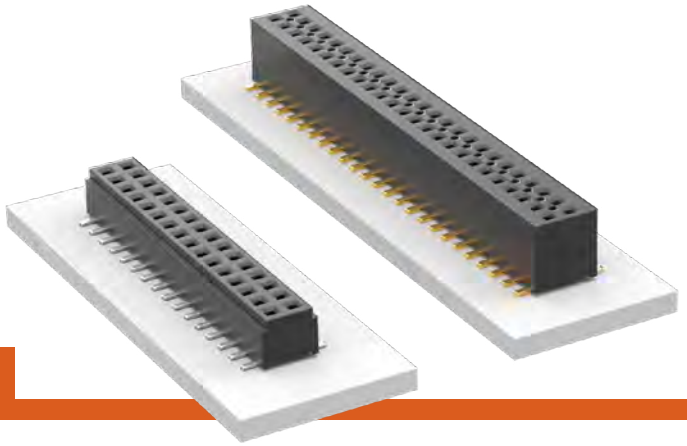
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RUGGED RELIABLE MICRO SOCKETS

(1.00 mm) .0394" PITCH • CLM/MLE SERIES



CLM
Mates:
FTM, FTMH, MW

MLE
Mates:
FTM, FTMH, MW

SPECIFICATIONS

Insulator Material: Black LCP
Contact Material:
CLM: Phosphor Bronze
MLE: BeCu
Plating:
CLM: Au or Sn over
50 µ" (1.27 µm) Ni
MLE: Au over 10 µ" (0.25 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (CLM/FTMH):
3.1 A per pin
(2 pins powered)
Current Rating (MLE/FTMH):
2.9 A per pin (2 pins powered)
Max Cycles:
CLM: 100 with 10 µ" (0.25 µm) Au
Voltage Rating:
CLM: 270 VAC/382 VDC
MLE: 310 VAC/438 VDC
Insertion Depth:
CLM:
Top Entry = (1.40 mm) .055" min.,
Bottom Entry =
(2.41 mm) .095" min.
(Add board thickness for
correct post OAL)
MLE:
(1.63 mm) .064" to
(3.18 mm) .125" with
(0.38 mm) .015" wipe,
pass-through, or (2.44 mm) .096"
minimum for bottom entry

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Alignment pin

Other Gold plating options

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and
options are non-standard,
non-returnable.

CLM - 1 - NO. PINS PER ROW - 02 - PLATING OPTION - D - OPTIONS

TIGER™ CLAW CONTACT

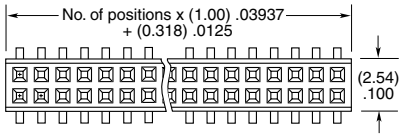
NO. PINS PER ROW: 02 thru 50

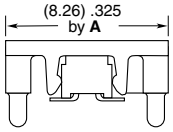
PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

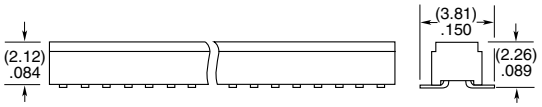
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280





-PA





-P

OPTIONS

–BE
= Bottom Entry
(Required for bottom entry)

–K
= (3.50 mm) .138" DIA
Polyimide film
Pick & Place Pad
(3 positions minimum)

–P
= Pick & Place Pad
(7 positions minimum)

–PA
= Pick & Place Pad with
integral Alignment Pin

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel
(must order maximum
quantity per reel;
contact Samtec for
quantity breaks)

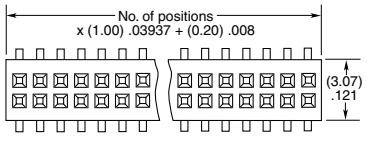
MLE - 1 - NO. PINS PER ROW - 01 - PLATING OPTION - DV - OPTIONS

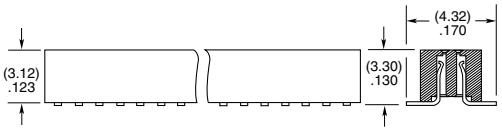
TIGER™ BEAM CONTACT

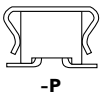
NO. PINS PER ROW: 02 thru 50

PLATING OPTION

–G
= 10 µ"
(0.25 µm)
Gold







-P



-A

OPTIONS

–A
= Alignment Pin
(3 positions minimum)
Metal or plastic
at Samtec discretion

–K
= (4.00 mm) .1575" DIA
Polyimide film
Pick & Place Pad
(5 positions minimum)

–P
= Metal Pick & Place Pad
(5 positions minimum)

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel
(must order maximum
quantity per reel;
contact Samtec for
quantity breaks)

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

QUAD ROW SMT TERMINAL & SOCKET

(1.27 mm) .050" PITCH • TOLC/SOLC SERIES



TOLC
Mates:
SOLC

SOLC
Mates:
TOLC

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.9 A per pin
(2 pins powered)
Voltage Rating:
188 VAC/266 VDC
Insertion Depth (SOLC):
(1.68 mm) .066" to
(3.61 mm) .142" with
(0.38 mm) .015" wipe
Max Cycles (SOLC):
100+

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-35)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Other sizes
Other platings

TOLC	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	Q	-	OTHER OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard Sizes)

Specify LEAD STYLE from chart

–F
= Gold flash on contact, Gold flash on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

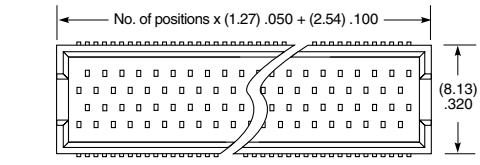
–A
= Alignment Pin (N/A with -LC)

–LC
= Locking Clip (N/A with -A) (Manual placement required)

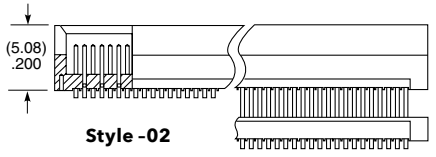
–K
= (9.00 mm) .354" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

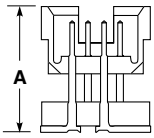


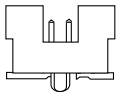
LEAD STYLE	A	MATED HEIGHT
–02	(5.59) .220	(6.35) .250
–12	(7.24) .285	(8.00) .315
–22	(9.25) .364	(10.00) .394
–32	(11.23) .442	(12.00) .472



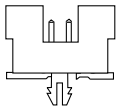
Style -02

Styles -12,-22,-32





-A OPTION



-LC OPTION

SOLC	-	1	NO. PINS PER ROW	-	02	-	PLATING OPTION	-	Q	-	OTHER OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard Sizes)

–F
= Gold flash on contact, Gold flash on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

–A
= Alignment Pin (N/A with -LC)

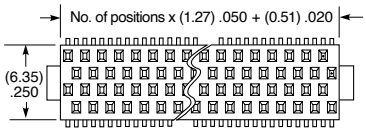
–LC
= Locking Clip (N/A with -A) (Manual placement required)

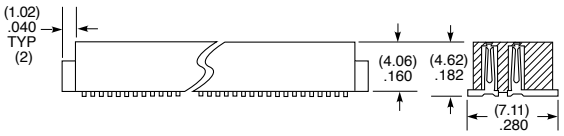
–K
= (7.00 mm) .276" DIA Polyimide film Pick & Place Pad

–P
= Pick & Place Pad

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



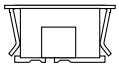




–A OPTION



–LC OPTION



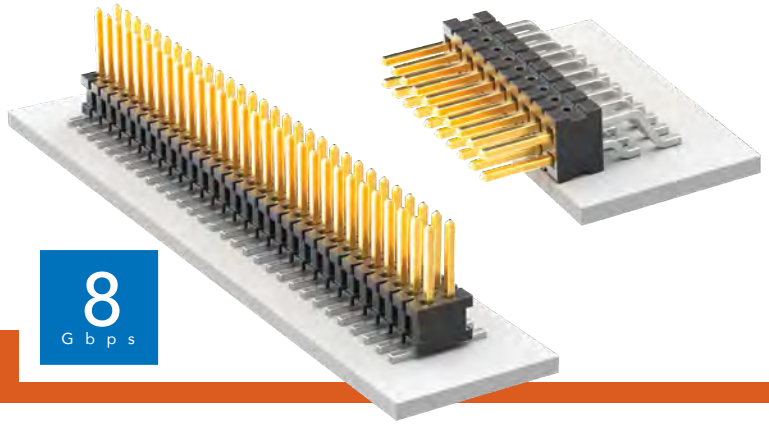
–P OPTION

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SURFACE MOUNT MICRO HEADER

(1.27 mm) .050" PITCH • FTSH SERIES



8 Gbps

FTSH
Board Mates:
CLP, FLE

Cable Mates:
FFSD, FFTP

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (FTSH/CLP):
3.4 A per pin
(2 pins powered)
Current Rating (FTSH/FLE):
2.9 A per pin
(2 pins powered)
Voltage Rating:
280 VAC/396 VDC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
–MT & –DV Tail Option:
(0.10 mm) .004" max (02-25)
–MT & –DH Tail Option:
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Molded Pick & Place pads
Latches
Other platings

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some sizes, styles and options are non-standard, non-returnable.

See SFM/TFM for positive alignment feature.

FTSH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	OPTION	–	FLEX SHROUD OPTIONS	–	OTHER OPTIONS

NO. PINS PER ROW
02 thru 50

LEAD STYLE
–01
= (3.05 mm) .120" Post (Mates with FFSD)
–02
= (1.91 mm) .075" Post (Mates with FLE)
–03
= (1.65 mm) .065" Post (Mates with CLP–D)
–04
= (3.81 mm) .150" Post (Mates with CLP-DH)
–05
= (4.32 mm) .170" Post (Mates with CLP–BE)

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

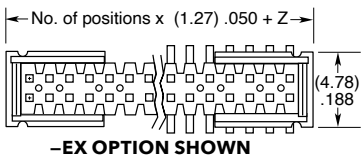
TAIL OPTION
–DV
= Double Vertical
–DH
= Double Horizontal (Styles –01, –02 & –04 only)
–MT
= Mixed Technology (Styles –01, –02 & –04 only)

OPTION
Leave Blank for -DH & -MT
–"XXX"
= Polarized Position (Specify position of omitted pin) (Not available with -EX options)

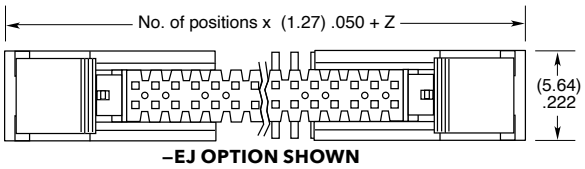
FLEX SHROUD OPTIONS
(Style –02 & –03 only, –DH & –MT not available)
9 pins/row minimum
(Other positions available. Call Samtec.)
–ES
= End Shroud
–EC
= End Shroud with Locking Clip (Manual placement required)
–EP
= End Shroud with Guide Post
–EL
= End Shroud with Board Lock (Boards are positively locked and cannot be unmated)
–EJ
= Ejector Shroud (Style –01 only)
–DH & –MT not available
10 pins/row minimum
25 pins/row maximum

OTHER OPTIONS
–K
= Keying Shroud for mating with FFSD (Style –01 only, 05 thru 25 pins/row only. 13, 17, 20 & 25 only with –EJ option) (-DV only)
–A
= Alignment Pin
(–DV 3 positions minimum)
(–DH 5 positions minimum)
(Metal or plastic at Samtec discretion)
–C
= (5.00 mm) .197" DIA Polyimide film Pick & Place Pad (–DH only)
–P
= Pick & Place Pad
(–DV 4 positions minimum)
(–DH & –MT not available)
–TR
= Tape & Reel (Flex Shroud options not available except –ES & –EJ)
–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

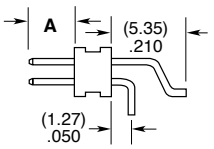
OPTION	Z
–ES	(2.57) .101
–EJ	(15.77) .621
–EC	(3.33) .131
–EP	(5.87) .231
–EL	(6.53) .257



–EX OPTION SHOWN

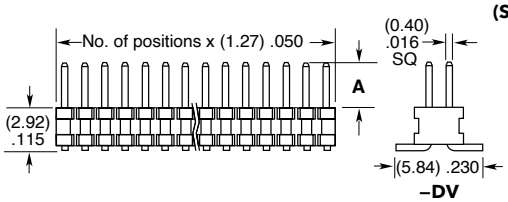


–EJ OPTION SHOWN

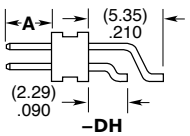


–MT
(Styles –01, –02 & –04 only)

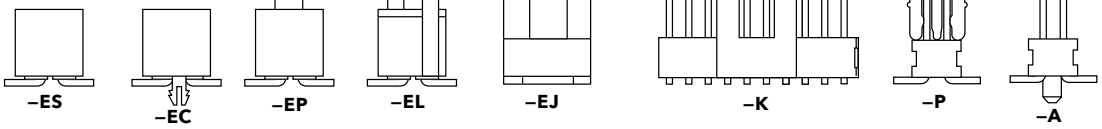
LEAD STYLE	A
–01	(3.05) .120
–02	(1.91) .075
–03	(1.65) .065
–04	(3.81) .150
–05	(4.32) .170



–DV



–DH
(Styles –01, –02, –04 only)

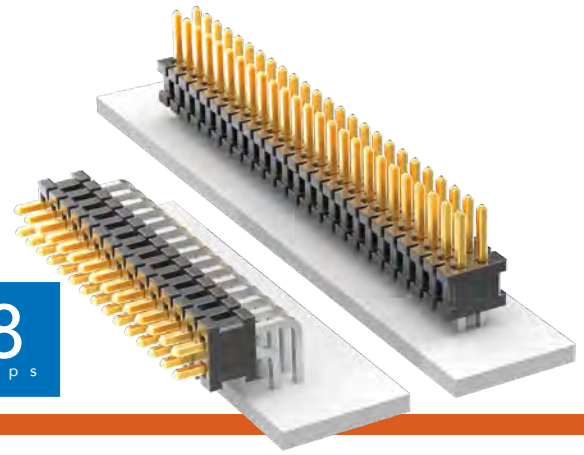


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

THROUGH-HOLE MICRO HEADER

(1.27 mm) .050" PITCH • FTSH SERIES

8 Gbps



FTSH
Board Mates:
CLP, FLE

Cable Mates:
FFSD, FFTP

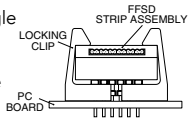
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (FTSH/CLP):
3.4 A per pin
(2 pins powered)
Current Rating (FTSH/FLE):
2.9 A per pin
(2 pins powered)
Voltage Rating:
280 VAC/396 VDC

PROCESSING

Lead-Free Solderable:
Yes

LOCKING CLIP



For single mating cycle with the FFSD. Specify -LC after tail option. Lead Style -01 and 10 pins/row minimum. 5-9 pins/row not available in combination with keying shroud (-K).

ALSO AVAILABLE
Contact Samtec

Molded Pick & Place pads
Other platings

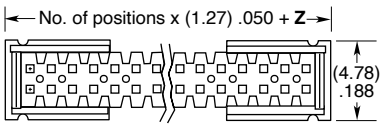
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some sizes, styles and options are non-standard, non-returnable.

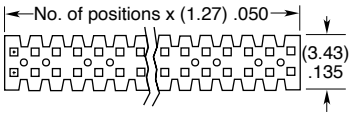
See SFM/TFM for positive alignment feature.

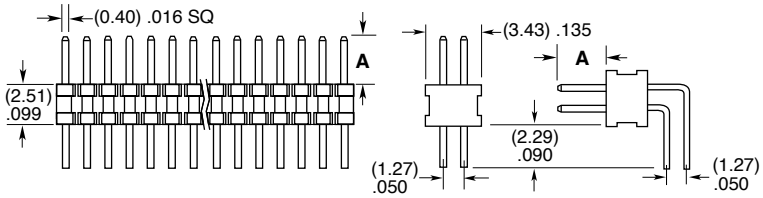
FTSH	-	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	OPTION	TAIL OPTION	OTHER OPTIONS
			02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail		Leave blank for RIght-angle –"XXX" = Polarized Position (Specify position of omitted pin) (Not available with -EX options)	Leave blank for straight tail –RA = Right-angle	–ES = End Shroud (Style –02 & –03) 9 pins/row minimum –EP = End Shroud with Guide Post (Style –02 & –03) 9 pins/row minimum –EL = End Shroud with Board Lock (Style –02 & –03) 9 pins/row minimum –EJ = Ejector Shroud (Style –01 only) 10 pins/row minimum 25 pins/row maximum –RA not available –K = Keying Shroud for mating with FFSD (Style –01 only, 05 thru 25 pins/row only. 13, 17, 20 & 25 only with -EJ option)



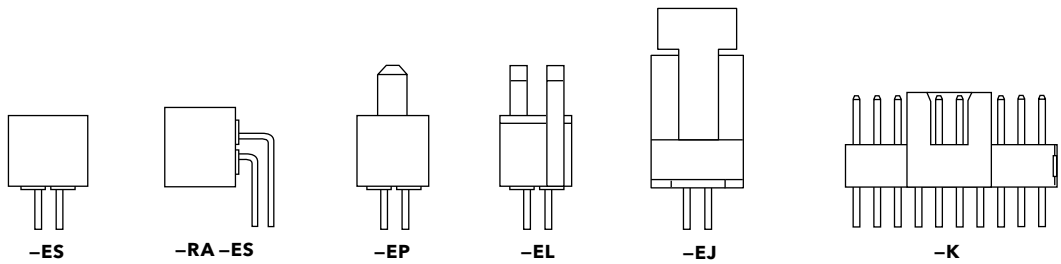
–EX OPTION SHOWN

OPTION	Z
–ES	(1.55) .061
–EJ	(15.77) .621
–EP	(5.87) .231
–EL	((6.53) .257





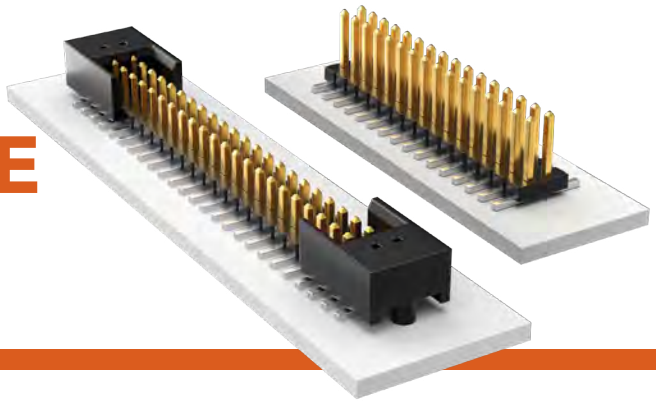
LEAD STYLE	A	MATES WITH
–01	(3.05) .120	FFSD
–02	(1.91) .075	FLE
–03	(1.65) .065	CLP-D
–04	(3.81) .150	N/A



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MICRO LOW PROFILE TERMINAL STRIPS

(1.27 mm) .050" PITCH • FTS SERIES



FTS
Board Mates:
CLP, FLE
Cable Mates:
FFSD

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-55 °C to +125 °C
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating:
3.4 A per pin
(2 pins powered)

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
.004" (0.10 mm) max

ALSO AVAILABLE
Contact Samtec

Alignment pin

FTS	–	1	NO. PINS PER ROW	–	LEAD STYE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

02 thru 50
(except –S & –SA option = 05 thru 46)

–01
= (3.05 mm) .120" Post (Mates with FFSD)

–02
= (1.91 mm) .075" Post (Mates with FLE)

–03
= (1.65 mm) .065" Post (Mates with CLP)

–04
= (3.81 mm) .150" Post (–D & –DV only)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–D
= Double Through-hole

–DV
= Double Vertical SMT

–S
= Single Through-hole

–SV
= Single Vertical SMT

(–D & –DV only)

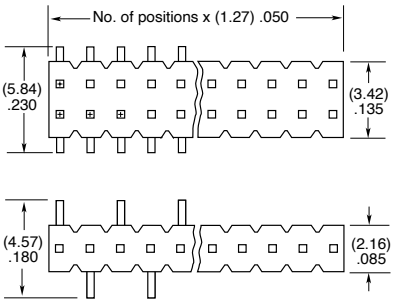
–SA
= End Shroud with Alignment Pin (05 thru 46 positions. Style -02 & -03 only)

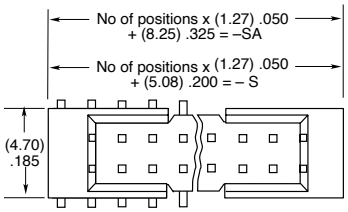
–S
= End Shroud (05 thru 46 positions. Style -02 & -03 only)

–P
= Pick & Place Pad (04 positions min.)

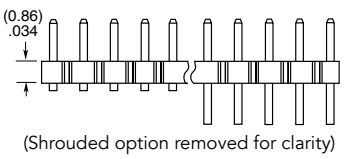
–TR
= Tape & Reel (-DV only) (Required callout for positions 02 thru 04)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (-DV only)

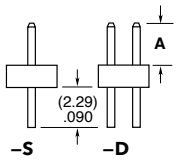




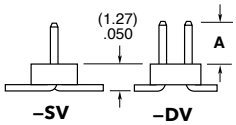
LEAD STYLE	A
–01	(3.05) .120
–02	(1.91) .075
–03	(1.65) .065
–04	(3.81) .150



(Shrouded option removed for clarity)

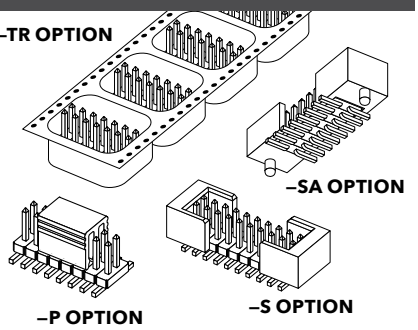


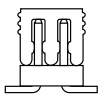
–S –D

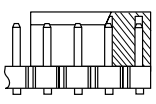


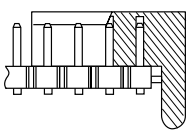
–SV –DV

OPTIONS




–P OPTION


–S OPTION


–SA OPTION

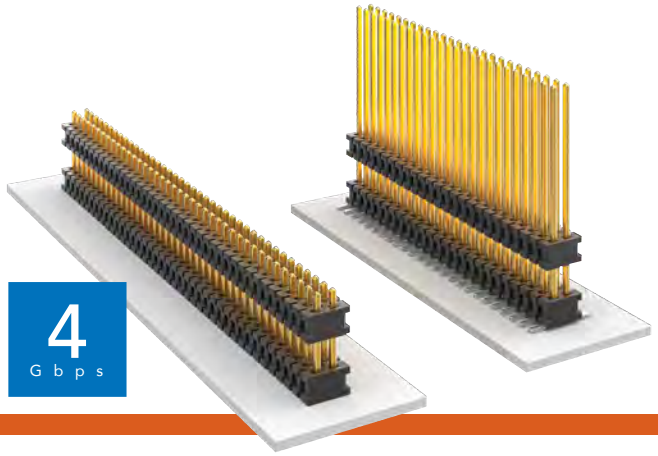
Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

MICRO BOARD STACKER

(1.27 mm) .050" PITCH • FW SERIES



FW
Board Mates:
CLP, FLE
Cable Mates:
FFSD

SPECIFICATIONS

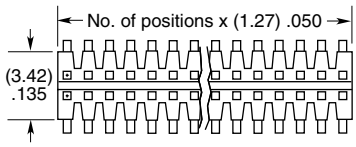
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

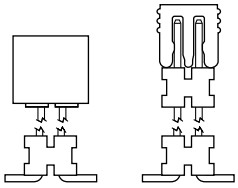
PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

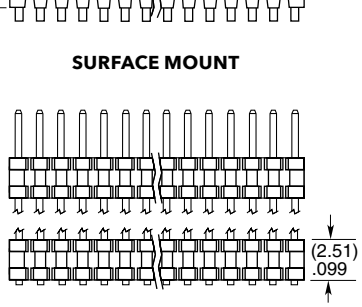
FW	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	STACKER HEIGHT	–	POST HEIGHT	–	OPTION
		02 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail				–"XXX" = Stacker Height (in inches) Example: –250 = (6.35 mm) .250"		–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"		–ES = End Shroud (–075 post height only. Mate only with CLP) (5.46 mm) .215" to (15.49 mm) .610" stacker height only 9 pins/row min. –EP = End Shroud with Guide Post (–075 post height only. Mate only with CLP.) (5.46 mm) .215" to (15.49 mm) .610" stacker height only 9 pins/row min. –A = Alignment Pin (3 positions min.) (5.46 mm) .215" to (15.75 mm) .620" stacker height only (SMT only) –P = Pick & Place Pad (5 positions min.) (SMT only) –TR = Tape & Reel (Max overall height = Post+Stacker Height+Pad+ Alignment Pin = (17.78) .700") (SMT only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (SMT only)

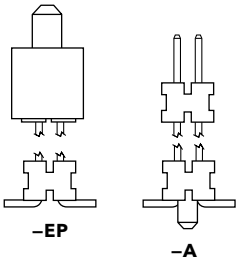
LEAD STYLE	STACKER HEIGHT	STACKER + POST
–03	(5.46) .215 to (8.51) .335	(7.11) .280 to (10.16) .400
–05	(8.64) .340 to (15.49) .610	(10.29) .405 to (17.15) .675





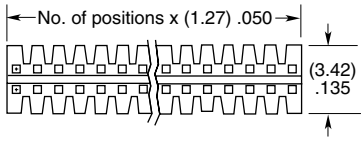
SURFACE MOUNT



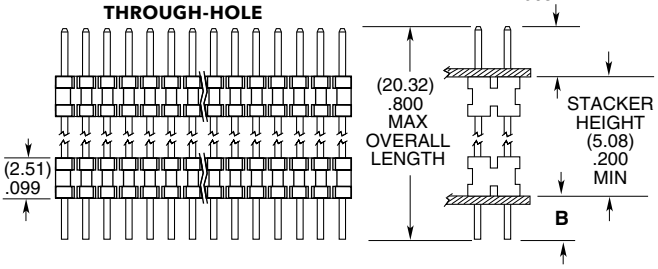


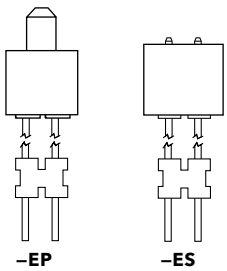
MATED HEIGHT		
FW LEAD STYLE	CLP LEAD STYLE	MATED HEIGHT*
FW-XX-03-X-X-233-065	-02	(8.13 mm) .320"
FW-XX-03-X-X-303-065		(9.91 mm) .390"

*Processing conditions will affect mated height.



THROUGH-HOLE





LEAD STYLE	TAIL (B)
–01	(1.14) .045
–02	(1.91) .075
–04	(2.29) .090

ALSO AVAILABLE
Contact Samtec

Smaller stack heights

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

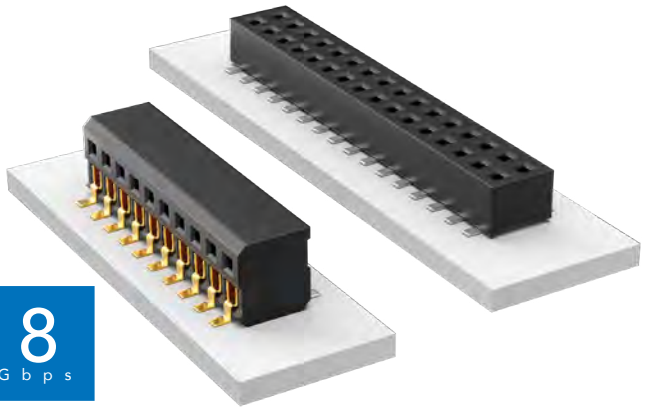
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ CLAW CONTACT

LOW PROFILE DUAL WIPE SOCKET

8 Gbps

(1.27 mm) .050" PITCH • CLP SERIES



CLP
Mates:
FTSH, FTS, FW

CLP	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTIONS

02 thru 50

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold (–D only)

–D
= Double Row

–DH
= Double Horizontal (Requires FTSH–04 lead style)

–BE
= Bottom Entry (Required for bottom entry applications)

–A
= Alignment Pin (Not available with –PA option) (05, 06, 07, 08, 10, 12, 15, 20, 25, 30, 40 positions only) (–DH option and other sizes. Contact Samtec.)

–K
= (4.00 mm) .157" DIA Polyimide film Pick & Place Pad

–P
= Pick & Place Pad (5 positions min. –D only) (Not always necessary for auto placement. See Flex Processing.)

–PA
= Pick & Place Pad with Alignment Pin (–D only) (Not available with –A option)

–TR
= Tape & Reel

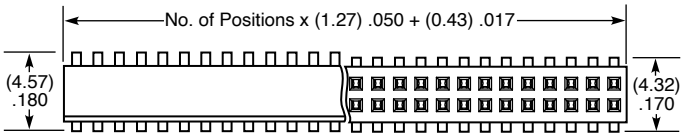
–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (CLP/FTSH):
3.4 A per pin
(2 pins powered)
Voltage Rating:
280 VAC/396 VDC
Insertion Depth:
Top Entry =
(1.40 mm) .055" minimum
Bottom Entry =
(2.41 mm) .095" minimum
plus board thickness
DH Entry =
(2.31 mm) .091" to (2.67 mm) .105"
Max Cycles:
100 with 10 µ" (0.25 µm) Au

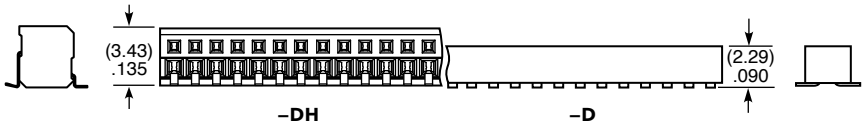
PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-35)
(0.15 mm) .006" max (36-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)



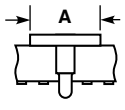
ALSO AVAILABLE
Contact Samtec

Single row
Other platings

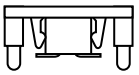


10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280



If odd pins/row, alignment pins are on middle position on centerline of the part. If even pins/row, then alignment pins are between middle two positions.



–PA OPTION



–P OPTION

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some lengths, styles and options are non-standard, non-returnable.

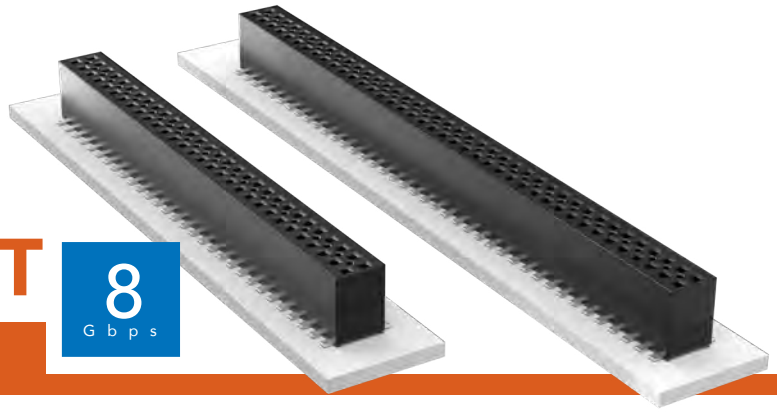
Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ BEAM CONTACT

COST-EFFECTIVE RELIABLE SOCKET

(1.27 mm) .050" PITCH • FLE SERIES

8 Gbps



FLE
Board Mates:
FTSH, FTS, FW

Cable Mates:
FFMD*, FMTP

***Note:**
Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.)

FLE	-	1	NO. PINS PER ROW	-	01	-	PLATING OPTION	-	DV	-	OPTION

02 thru 50

–G
= 10 µ" (0.25 µm) Gold

–A
= Alignment Pin (Metal or plastic at Samtec discretion) (3 positions minimum)

–K
= (4.25 mm) .167" DIA Polyimide film Pick & Place Pad (5 positions minimum)

–P
= Metal Pick & Place Pad (5 positions minimum)

–TR
= Tape & Reel

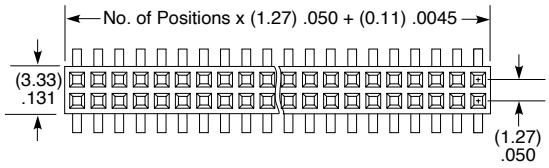
–FR
= Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
281 VAC/397 VDC
Insertion Depth:
(1.83 mm) .072" to (4.37 mm) .172" or pass-through
Max Cycles:
100+

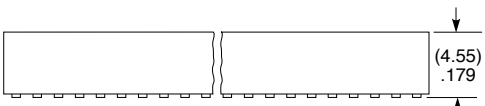
PROCESSING

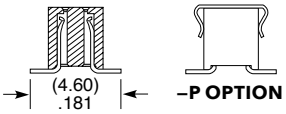
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max



ALSO AVAILABLE
Contact Samtec

Other Plating





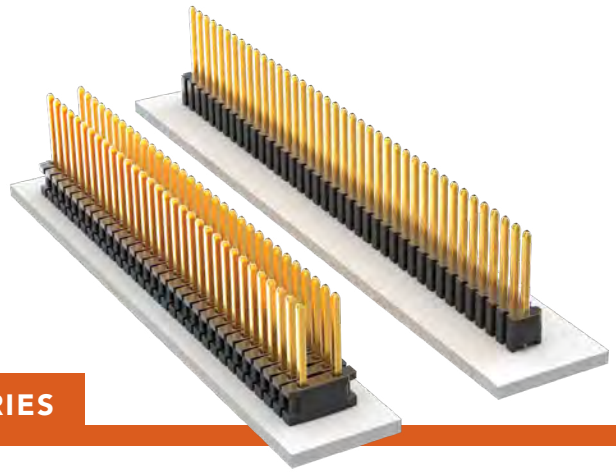
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

THROUGH-HOLE MICRO HEADER

(1.27 mm) .050" PITCH • TMS/HTMS SERIES



TMS/HTMS
Mates:
SMS, SLM, RSM

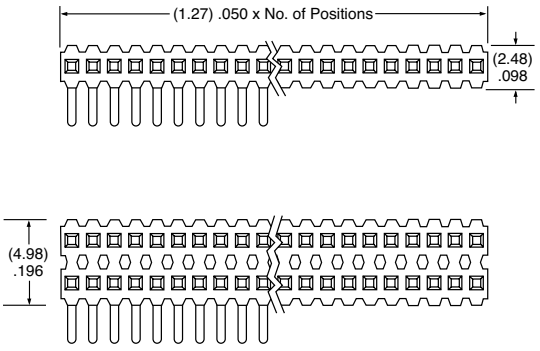
SERIES	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OPTION
TMS = Standard **HTMS** = High Temp			01 thru 50		Specify LEAD STYLE from chart		**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–G** = 10 µ" (0.25 µm) Gold on post, Gold flash on tail		**–S** = Single Row **–D** = Double Row		**–RA** = Right-angle **–"XXX"** = Polarized Position (Specify position of omitted pin)

SPECIFICATIONS

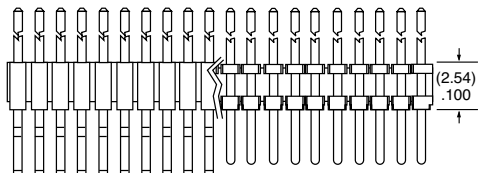
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (TMS/SMS):
5 A per pin
(2 pins powered)
Voltage Rating:
300 VAC/424 VDC
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold

PROCESSING

Lead–Free Solderable:
Yes

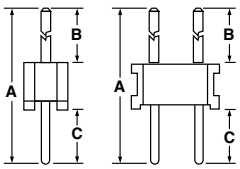


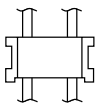
T/H LEAD STYLE	A	B	C
–01	(11.43) .450	(5.84) .230	(3.05) .120
–02	(8.13) .320	(2.54) .100	
–21	(12.83) .505	(5.84) .230	(4.45) .175
–51	(10.41) .410	(4.83) .190	(3.05) .120
–52	(10.80) .425	(5.21) .205	
–53	(12.83) .505	(7.24) .285	
–54	(14.10) .555	(8.51) .335	
–55	(15.49) .610	(9.91) .390	
–56	(15.88) .625	(10.29) .405	
–57	(16.51) .650	(10.92) .430	
–58	(17.91) .705	(12.32) .485	
–59	(19.18) .755	(13.59) .535	
–60	(20.96) .825	(15.37) .605	



SINGLE ROW

DOUBLE ROW



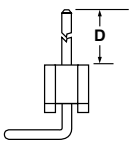


HTMS –D BODY DESIGN

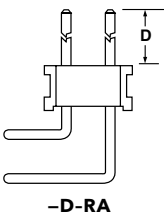
ALSO AVAILABLE
Contact Samtec

Other Plating

RA LEAD STYLE	D
–01	(5.84) .230
–02	(2.54) .100
–03	(3.18) .125



–S-RA



–D-RA

Important Note:
Style -02 does not mate with SMS Series.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

SHROUDED HEADERS & STACKERS

(1.27 mm) .050" PITCH • TML/ZML SERIES



TML/ZML
Mates:
SMS, RSM

SPECIFICATIONS

TML
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold

ZML
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold

PROCESSING

TML
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (32)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

ZML
Same as TML except:
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Other sizes
Other platings

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Some sizes, styles and options are non-standard, non-returnable.

TML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

NO. PINS PER ROW: 05, 08, 10, 20, 32 (Standard sizes)

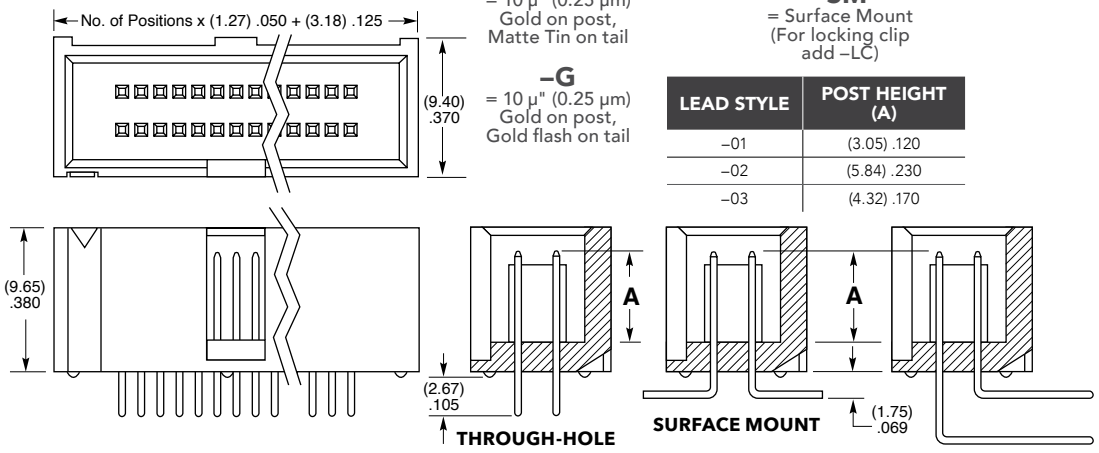
LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:
- **–F** = Gold flash on post, Matte Tin on tail
- **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- **–G** = 10 µ" (0.25 µm) Gold on post, Gold flash on tail

TAIL OPTION: (Leave blank for Through-hole)
- **–RA** = Right-angle
- **–SM** = Surface Mount (For locking clip add –LC)

OTHER OPTION:
- **–"XXX"** = Polarized position (Specify position of omitted pin)

LEAD STYLE	POST HEIGHT (A)
–01	(3.05) .120
–02	(5.84) .230
–03	(4.32) .170



ZML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – BODY HEIGHT – TAIL OPTION

NO. PINS PER ROW: 05, 08, 10, 20, 32 (Standard sizes)

LEAD STYLE: Specify LEAD STYLE from chart

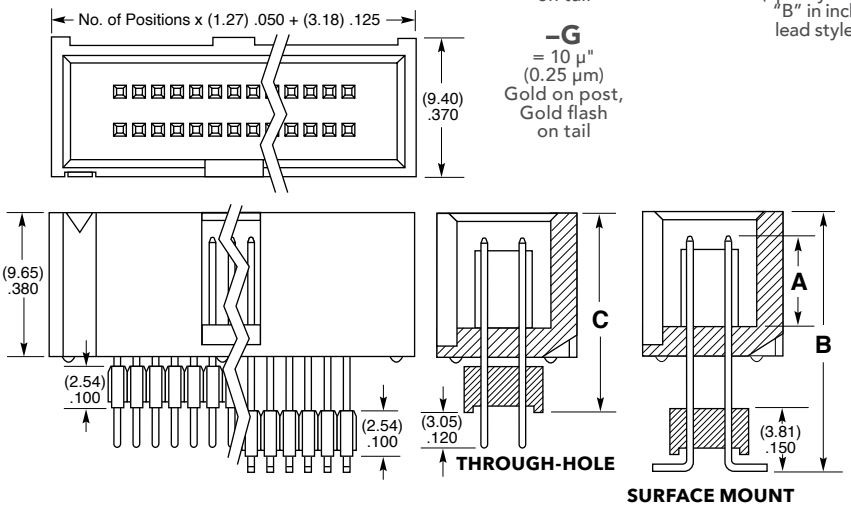
PLATING OPTION:
- **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- **–G** = 10 µ" (0.25 µm) Gold on post, Gold flash on tail

BODY HEIGHT: (Leave blank for Through-hole)
- **–"XXX"** = –SM Body Height (Specify board space "B" in inches from lead style charts.)

TAIL OPTION: (Leave blank for Through-hole)
- **–SM** = Surface Mount

THROUGH-HOLE	
LEAD STYLE	BODY HEIGHT (C)
–01	(12.83) .505
–02	(14.22) .560
–03	(16.64) .655
–04	(19.69) .775

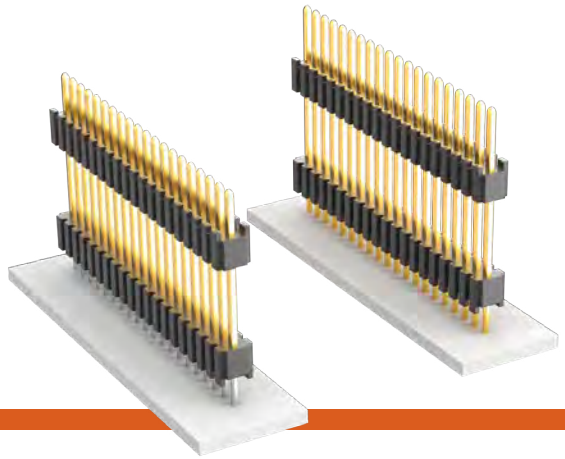
SURFACE MOUNT		
LEAD STYLE	POST HEIGHT (A)	BODY HEIGHT (B)
–53	(3.05) .120	(13.46) .530 to (20.19) .795
–54	(5.84) .230	(13.46) .530 to (17.40) .685



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

MICRO BOARD STACKER

(1.27 mm) .050" PITCH • DWM/HDWM SERIES



DWM/HDWM
Mates:
SMS, SLM, RSM

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold

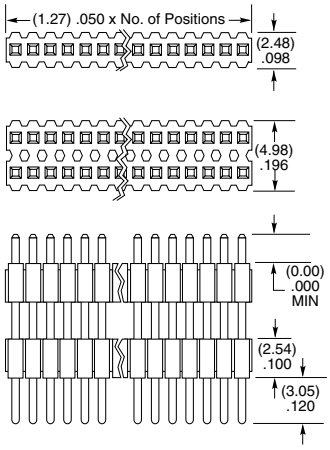
PROCESSING

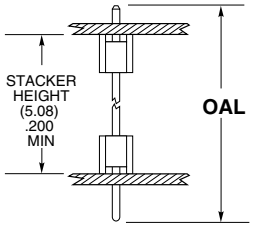
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Other Platings

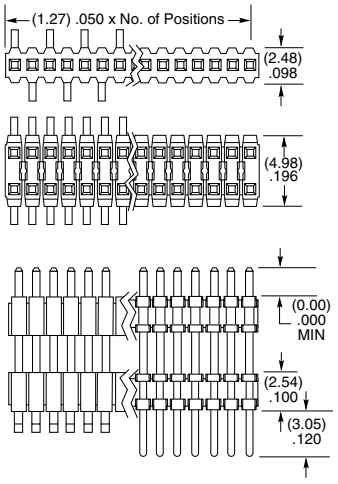
DWM	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	STACKER HEIGHT	–	OTHER OPTION
		01 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail		–S = Single Row –D = Double Row		–"XXX" = Stacker Height Example: –200 = (5.08 mm) .200"		– "XXX" = Polarized Position (Specify position of omitted pin)

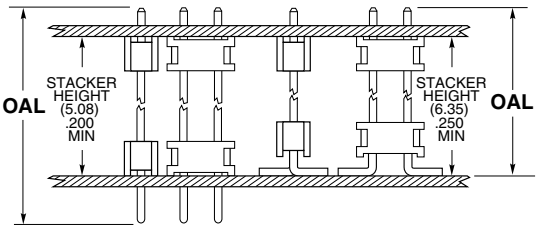




OAL	
LEAD STYLE	THROUGH-HOLE
–01	(11.43) .450
–51	(10.41) .410
–52	(10.80) .425
–53	(12.83) .505
–54	(14.10) .555
–55	(15.49) .610
–56	(15.88) .625
–57	(16.51) .650
–58	(17.91) .705
–59	(19.18) .755
–60	(20.96) .825
–61	(26.67) 1.050

HDWM	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	STACKER HEIGHT	–	OTHER OPTION
		01 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail		–S = Single Row –D = Double Row		–"XXX" = Stacker Height Example: –250 = (6.35 mm) .250"		– "XXX" = Polarized Position (Specify position of omitted pin) – SM = Surface Mount (02 thru 40 positions only) – A = Alignment Pin (6 positions minimum –D only) Metal or plastic at Samtec discretion (Not available with –LC) – LC = Locking Clip (5 positions minimum –D only) (Not available with –A) (Manual placement required) – P = Pick & Place Pad





OAL		
LEAD STYLE	THROUGH-HOLE	SURFACE MOUNT
–01	(11.43) .450	(8.38) .330
–51	(10.41) .410	—
–52	(10.80) .425	—
–53	(12.83) .505	(9.78) .385
–54	(14.10) .555	(11.05) .435
–55	(15.49) .610	(12.45) .490
–56	(15.88) .625	(12.83) .505
–57	(16.51) .650	(13.46) .530
–58	(17.91) .705	(14.86) .585
–59	(19.18) .755	(15.62) .615
–60	(20.96) .825	—
–61	(26.67) 1.050	—

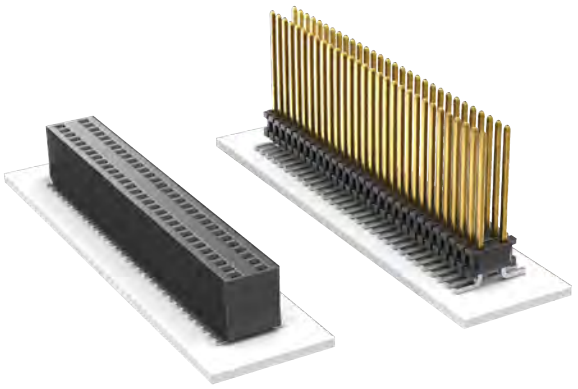
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMT MICRO HEADER & SOCKET

(1.27 mm) .050" PITCH • FTR/RSM SERIES



FTR
Mates:
RSM, SMS, SLM

RSM
Mates:
FTR, HTMS, HDWM, DWM, TML, ZML, TMS

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
RSM: Phosphor Bronze
Terminal Material:
FTR: Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
FTR: -55 °C to +105 °C with Tin;
FTR: -55 °C to +125 °C with Gold
RSM: -55 °C to +125 °C
Current Rating (FTR/RSM):
3.8 A per pin
(2 pins powered)
Voltage Rating:
290 VAC/410 VDC
Lead Size Accepted:
RSM: (0.46 mm) .018" SQ
Insertion Depth:
RSM: Top Entry =
(2.64 mm) .104"to (5.84 mm) .230" with (0.38 mm) .015" wipe, or pass-through.
RSM: Bottom Entry =
(5.49 mm) .216" minimum
(Add board thickness for correct post OAL)

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
RSM: (0.10 mm) .004" max
FTR: (0.10 mm) .004" max (02-20)
FTR: (0.15 mm) .006" max (21-40)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

Note:
Some lengths, styles and options are non-standard, non-returnable.

FTR – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OPTION

NO. PINS PER ROW: 02 thru 40

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

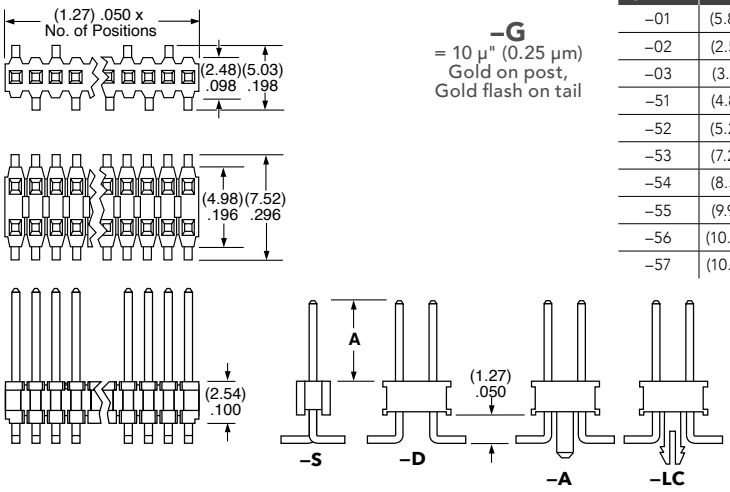
–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

ROW OPTION

–S
= Single Row

–D
= Double Row

LEAD STYLE	A
–01	(5.84) .230
–02	(2.54) .100
–03	(3.18) .125
–51	(4.83) .190
–52	(5.21) .205
–53	(7.24) .285
–54	(8.51) .335
–55	(9.91) .390
–56	(10.29) .405
–57	(10.92) .430



OPTION

–"XX"
= Polarized

–A
= Alignment Pin (5 positions min. for –D) (Metal or plastic at Samtec discretion) (Not available with -LC)

–LC
= Locking Clip (6 positions min. for –D) (Not available with -A) (Manual placement required)

–P
= Plastic Pick & Place Pad (5 positions min. for –D) (8 positions min. for –S)

–TR
= Tape & Reel (4 positions min. for –S)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (4 positions min. for –S)

RSM – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – ROW OPTION – OPTION

NO. PINS PER ROW: 02 thru 36

PLATING OPTION

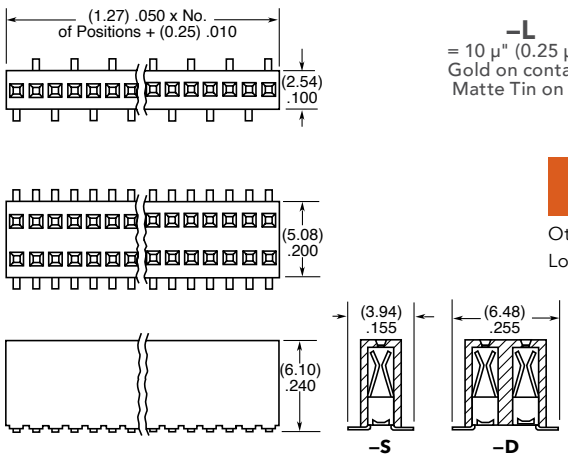
–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

ROW OPTION

–S
= Single Row

–D
= Double Row



ALSO AVAILABLE
Contact Samtec

Other platings
Locking clips

OPTION

–K
= (6.25 mm) .246" DIA Polyimide film Pick & Place Pad (5 positions minimum for –D) (7 positions minimum for –S)

–P
= Plastic Pick & Place Pad (5 positions minimum for –D) (6 positions minimum for –S)

–TR
= Tape & Reel

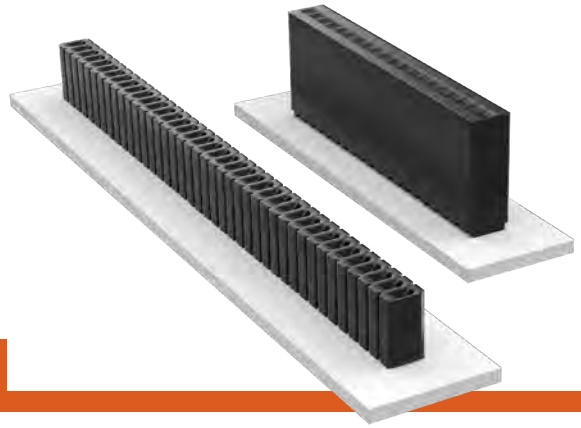
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

THROUGH-HOLE MICRO SOCKETS

(1.27 mm) .050" PITCH • SLM/SMS SERIES



SLM
Mates:
HTMS, TMS, MTMS, DWM, HDWM, FTR, HMTMS

SMS
Mates:
HTMS, TMS, MTMS, DWM, HDWM, FTR, TML, ZML, HMTM

SPECIFICATIONS

Insulator Material:
SLM: Black Glass Filled Polyester
SMS: Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating (SLM/TMS):
5.2 A per pin
(2 pins powered)
Current Rating (SMS/TMS):
5.0 A per pin
(2 pins powered)
Voltage Rating:
SLM: 238 VAC/336 VDC
SMS: 300 VAC/424 VDC
Insertion Depth:
SLM: (2.03 mm) .080" to (3.05 mm) .120"
SMS: (3.43 mm) .135" to (6.35 mm) .250" with (0.38 mm) .015" wipe

PROCESSING

Lead-Free Solderable:
SLM: No, Lead Wave Only
SMS: Yes

ALSO AVAILABLE
Contact Samtec

Other Platings

SLM	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION

01 thru 50

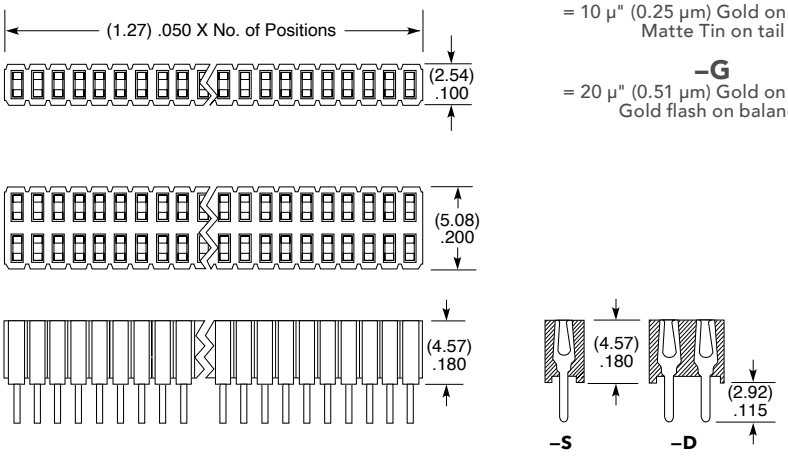
–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

–S
= Single Row

–D
= Double Row



SMS	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION

01 thru 50

Specify LEAD STYLE from chart

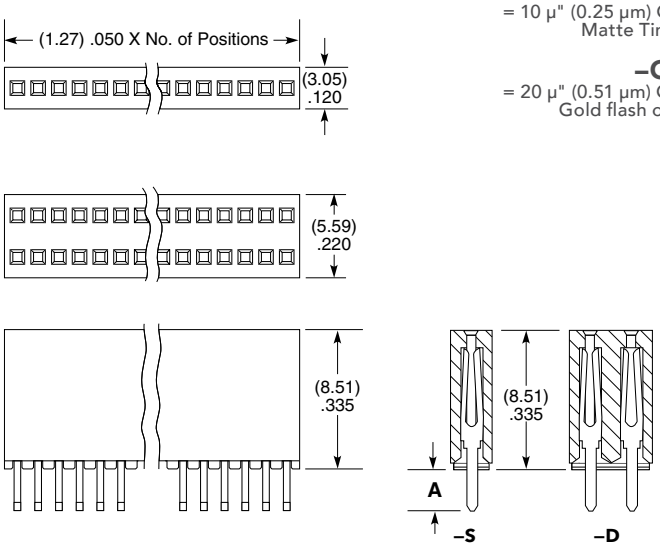
–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

–S
= Single Row

–D
= Double Row



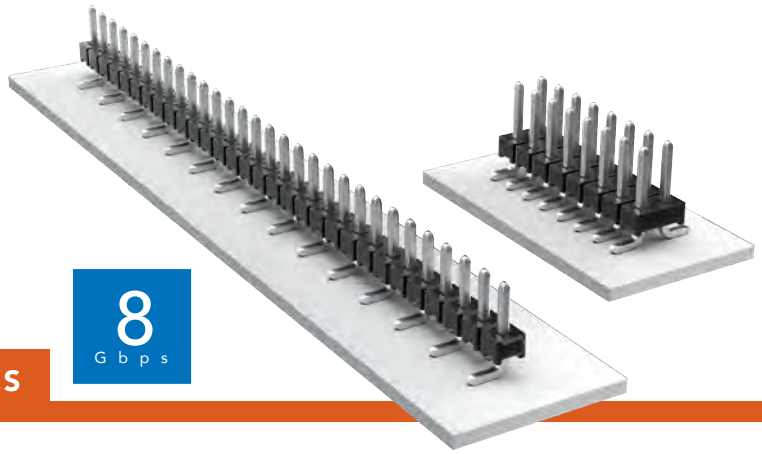
LEAD STYLE	A
–01	(2.54) .100
–02	(4.83) .190

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

LOW PROFILE SMT HEADER

(2.00 mm) .0787" PITCH • TMM SERIES



8 Gbps

TMM
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS
Cable Mates:
TCSD

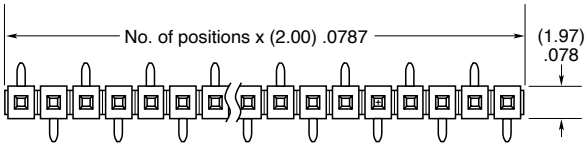
TMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	SM	–	OTHER OPTION
			02 thru 40		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin		–S = Single Row –D = Double Row				–A = Alignment Pin (Metal or plastic at Samtec's discretion) (5 positions minimum) (–D only) –"XXX" = Polarized Position (Specify position of omitted pin) –P = Pick & Place Pad (3 positions minimum) –TR = Tape & Reel (3 thru 36 positions only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (3 thru 36 positions only)

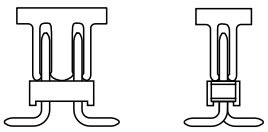
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Current Rating:
3.3 A per pin
(2 pins powered)
Voltage Rating:
281 VAC/397 VDC
mated with SQW;
250 VAC/354 VDC
mated with SQT;
375 VAC/530 VDC
mated with SMM

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

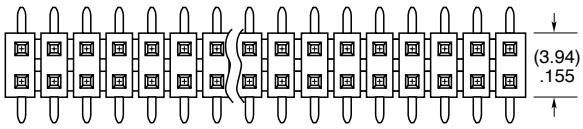




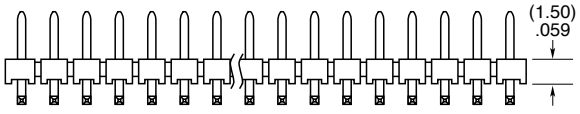
-P

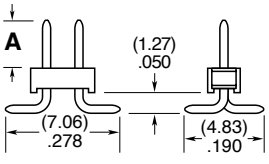
ALSO AVAILABLE
Contact Samtec

Other plating



LEAD STYLE	A	MATES WITH
–01	(3.20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1.91) .075	CLT
–05	(1.65) .065	
–06	(4.27) .168	CLT-BE



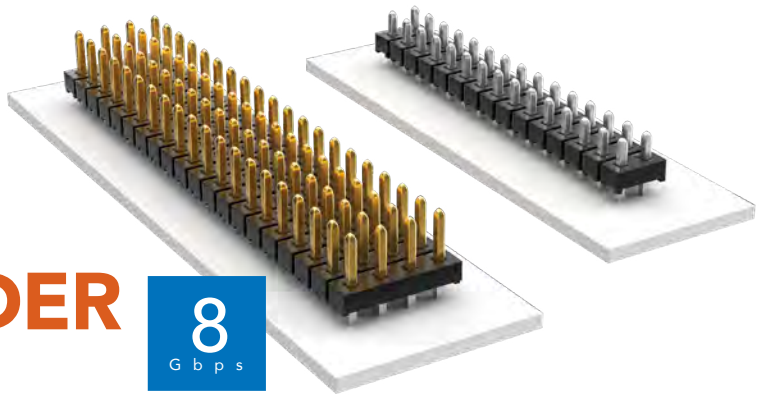


-D -S

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



THROUGH-HOLE LOW PROFILE HEADER

8 Gbps

(2.00 mm) .0787" PITCH • TMM SERIES

TMM
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS
Cable Mates:
TCSD

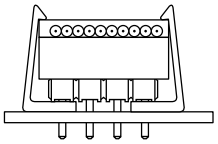
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Current Rating (SMM/TMM):
3.3 A per pin
(2 pins powered)
Voltage Rating:
281 VAC/397 VDC
mated with SQW;
250 VAC/354 VDC
mated with SQT
375 VAC/530 VDC
mated with SMM

PROCESSING

Lead–Free Solderable:
Yes

APPLICATION



Retention Clip Option (–RC)

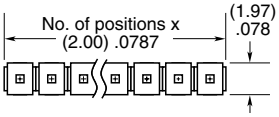
ALSO AVAILABLE
Contact Samtec

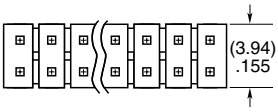
Other Platings

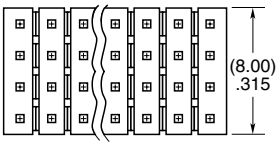
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

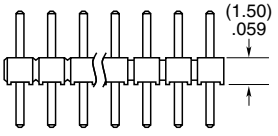
Note:
Some lengths, styles and options are non-standard, non-returnable.

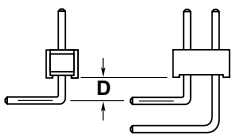
TMM	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OTHER OPTION
			02 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin		–S = Single Row –D = Double Row –Q = Four Row		–RA & –RE = Right-angle (Lead Style –01 only) (2 positions minimum, –Q row) –RC = Retention Clip (Mates with TCSD) (Double row only, 4 positions minimum, only available –06 lead style) –"XXX" = Polarized Position (Specify position of omitted pin)



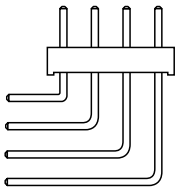




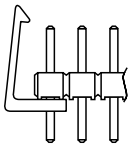




-RA & -RE

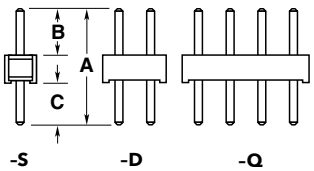


-Q -RA



-RC

OPTION	D
–RA	(1.27) .050
–RE	(3.56) .140

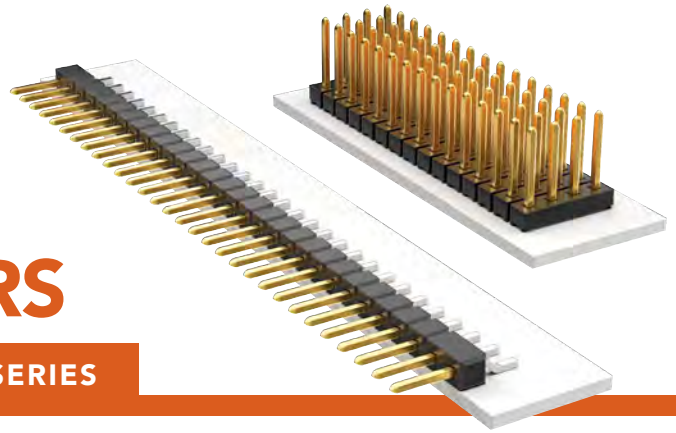


-S -D -Q

LEAD STYLE	A	B	C
–01	(8.20) .323	(3.20) .126	(3.50) .138
–02		(3.70) .146	(3.00) .118
–03		(4.00) .158	(2.70) .106
–04	(5.69) .224	(1.91) .075	(2.29) .090
–05	(5.43) .214	(1.65) .065	
–06	(9.58) .377	(3.20) .126	(4.88) .192

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

HORIZONTAL & MODIFIED HEADERS



(2.00 mm) .0787" PITCH • MMT/MTMM SERIES

MMT/MTMM
Board Mates:
CLT, SQT*, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

***Important Note:**
SQT will not mate to the MMT –02 lead style.

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity (MMT):
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-36)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

MMT – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OPTION

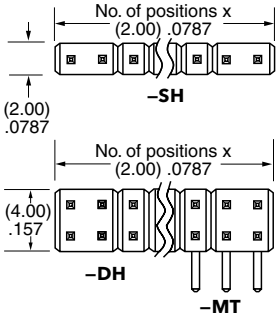
NO. PINS PER ROW: 02 thru 36

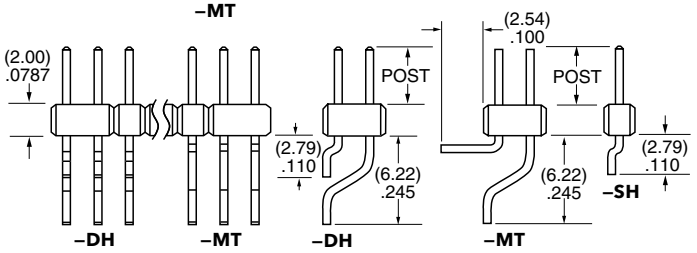
LEAD STYLE
–01
= (3.20 mm) .126" post
–02
= (4.45 mm) .175" post

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail
–L
= 10 µ" (0.25 µm) Gold post, Matte Tin on tail
–T
= Matte Tin

ROW OPTION
–SH
= Single Row
–DH
= Double Row
–MT
= Double Row Mixed Technology

OPTION
–K
= (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (3 positions min.)
–P
= Pick & Place Pad (2 positions min.)
–"XXX"
= Polarized Position Specify position of omitted pin
–TR
= Tape & Reel
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)





ALSO AVAILABLE
Contact Samtec
Alignment pins
Locking clips
Molded pick & place pads

MTMM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – POST HEIGHT – OPTION

NO. PINS PER ROW: 01 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

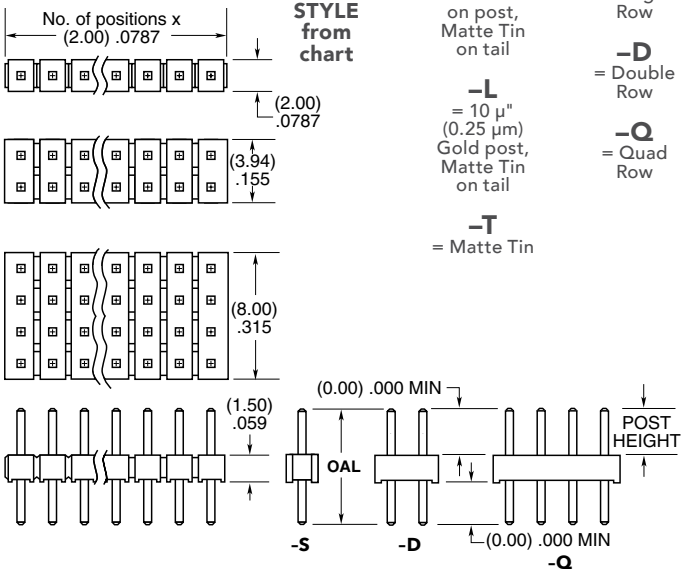
PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail
–L
= 10 µ" (0.25 µm) Gold post, Matte Tin on tail
–T
= Matte Tin

ROW OPTION
–S
= Single Row
–D
= Double Row
–Q
= Quad Row

POST HEIGHT
–"XXX"
= Post Height in inches (0.13 mm) .005" increments
Example:
–070
= (1.78 mm) .070"

OPTION
–"XXX"
= Polarized Position Specify position of omitted pin

LEAD STYLE	OAL
–02	(6.48) .255
–03	(7.67) .302
–04	(8.20) .323
–05	(9.58) .377
–06	(10.08) .397
–07	(11.58) .456
–08	(12.09) .476
–09	(13.59) .535
–10	(14.10) .555
–11	(15.09) .594
–12	(15.60) .614
–13	(17.09) .673
–14	(19.08) .751
–15	(21.08) .830

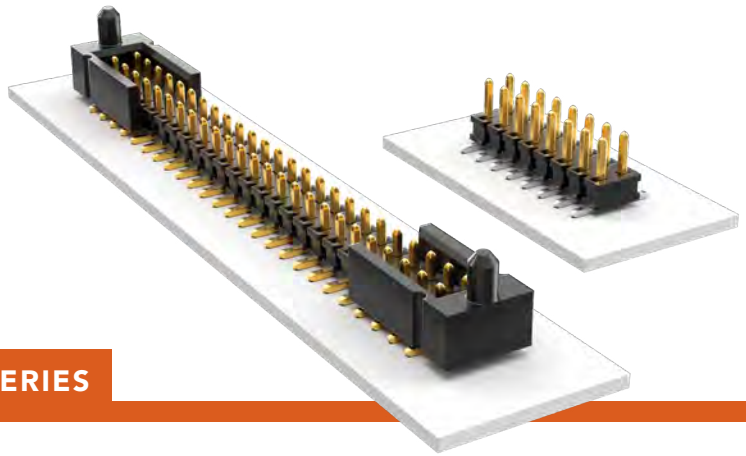


Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEXIBLE SMT HEADER

(2.00 mm) .0787" PITCH • TMMH SERIES



TMMH
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Current Rating (TMMH/CLT):
4.2 A per pin
(2 pins powered)
Current Rating (TMMH/ESQT):
4.5 A per pin
(2 pins powered)
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Voltage Rating:
405 VAC/573 VDC
mated with CLT;
281 VAC/397 VDC
mated with SQW;
250 VAC/354 VDC
mated with SQT

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

ALSO AVAILABLE
Contact Samtec

Other Platings

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Note:
Some lengths, styles and options are non-standard, non-returnable.

TMMH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	DV	–	FLEX SHROUD OPTIONS	–	OTHER OPTIONS

03 thru 50

Specify LEAD STYLE from chart

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

All Flex Shroud options require 9 pins/row minimum (For board-to-board interfaces. Will not mate with TCSD)

–ES
= End Shroud (For best cost also see TSH Series)

–EC
= End Shroud with Locking Clip (For best cost also see TSH Series) (Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock (Boards are positively locked and cannot be unmated)

–EBC
= End Shroud with Board Lock and Locking Clip (Boards are positively locked and cannot be unmated)

–EPC
= End Shroud with Guide Post and Locking Clip (Manual placement required)

–"XXX"
= Polarized Position. Specify position of omitted pin

–A
= Alignment Pin (3 positions minimum) (Not available with –LC)

–LC
= Locking Clip (5 positions minimum) (Not available with –A) (Manual placement required)

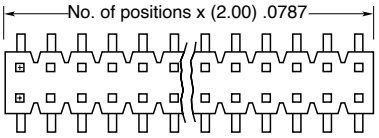
–M
= Pick & Place Pad (5 positions minimum)

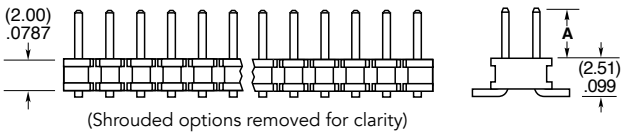
–TR
= Tape & Reel Packaging (36 positions maximum) (Flex Shroud options not available except –ES, –EP & –EL)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (36 positions maximum) (Flex Shroud options not available except –ES, –EP & –EL)

OPTION	Z
–ES	(2.92) .115
–EC	(4.70) .185
–EP & –EPC	(6.10) .240
–EL & –EBC	(4.45) .175

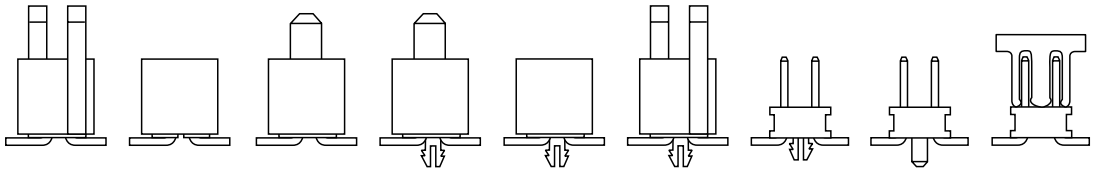






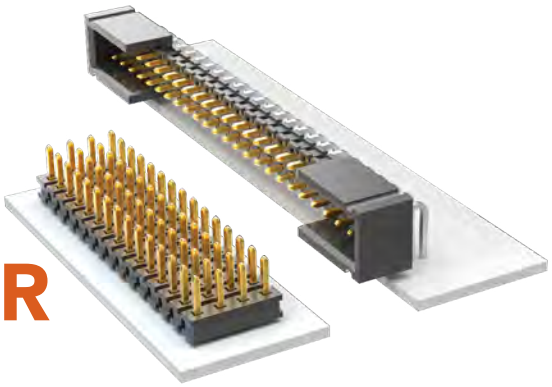
(Shrouded options removed for clarity)

LEAD STYLE	A	MATES WITH
–01	(3.20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1.91) .075	CLT
–05	(1.65) .065	



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEXIBLE THROUGH-HOLE HEADER



(2.00 mm) .0787" PITCH • TMMH SERIES

TMMH
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

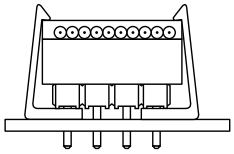
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Current Rating (TMMH/CLT):
4.2 A per pin
(2 pins powered)
Current Rating (TMMH/ESQT):
4.5 A per pin
(2 pins powered)
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Voltage Rating:
405 VAC/573 VDC mated with CLT;
281 VAC/397 VDC mated with SQW;
250 VAC/354 VDC mated with SQT

PROCESSING

Lead–Free Solderable:
Yes

APPLICATION



Retention Clip Option (–RC)

ALSO AVAILABLE
Contact Samtec

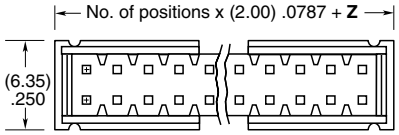
Other Platings

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

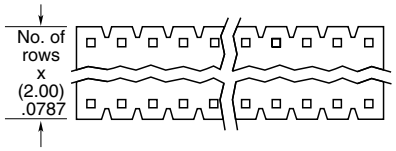
Note:
Some lengths, styles and options are non-standard, non-returnable.

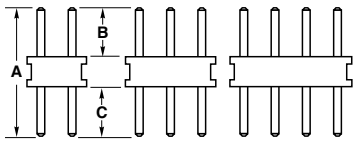
TMMH	– 1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	TAIL OPTION	FLEX SHROUD OPTIONS	OTHER OPTIONS
		03 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–D = Double Row (Required for Flex Shroud option) –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–RA = Right-angle (Double & Triple Row only) (–ES, –EP, –EL Double Row only) (–EC, –EBC and –EPC not available) (–06 Lead style not available)	Flex Shroud requires -D row & 9 pins/row minimum (For board-to-board interfaces. Will not mate with TCSD) –ES = End Shroud –EC = End Shroud with Locking Clip (Manual placement required) –EP = End Shroud with Guide Post –EL = End Shroud with Board Lock (Boards are positively locked and cannot be unmated) –EBC = End Shroud with Board Lock and Locking Clip (Boards are positively locked and cannot be unmated) –EPC = End Shroud with Guide Post and Locking Clip (Manual placement required)	–"XXX" = Polarized Position (Specify position of omitted pin) –RC = Retention Clip (Mates to TCSD) (Double row only, minimum position 4 and available only –06 lead style)

OPTION	Z
–ES	(2.92) .115
–EC	(4.70) .185
–EP & –EPC	(6.10) .240
–EL & –EBC	(4.45) .175

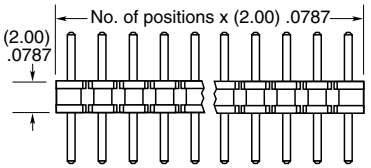


(Shrouded option requires –D)

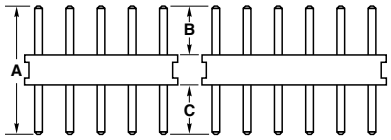




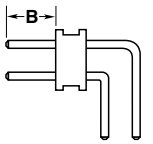
–D –T –Q



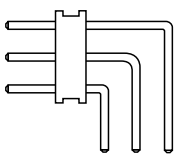
(Shrouded options removed for clarity)



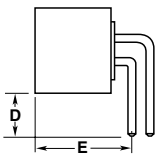
–5 –6



–RA

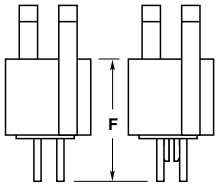


–T–RA
(Lead style –01 only)

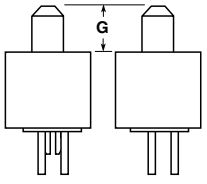


–D–RA–ES
(–RA also available with other flex shroud options)

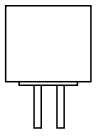
LEAD STYLE	A	B	C	D	E	F	G
–01	(7.67) .302	(3.20) .126	(2.46) .097	(2.34) .092	(6.60) .260	(5.84) .230	(4.45) .175
–04	(6.45) .254	(1.91) .075	(2.57) .101	(2.62) .103	(5.26) .207	(4.50) .177	(3.02) .119
–05	(6.45) .254	(1.65) .065	(2.29) .090	(3.12) .123	5.26) .207		
–06	(8.74) .344	(3.20) .126	(3.53) .139	N/A	N/A	N/A	N/A



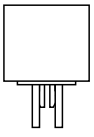
–D–EL –D–EBC



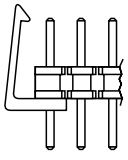
–D–EPC –D–EP



–D–ES



–D–EC

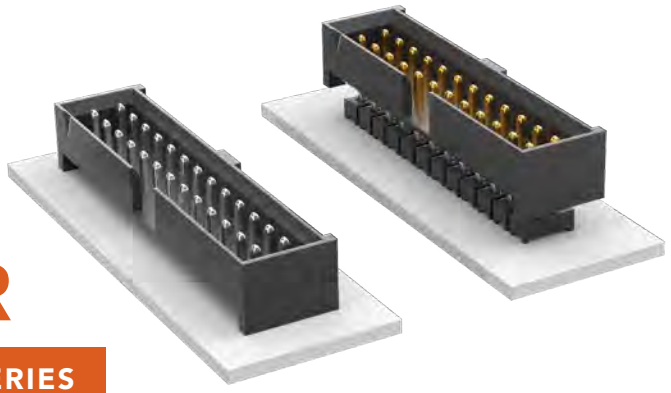


–RC

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

SHROUDED HEADER & STACKER



(2.00 mm) .0787" PITCH • LTMM/ZLTMM SERIES

LTMM/ZLTMM
Mates:
SQT, SQW, ESQT, SMM

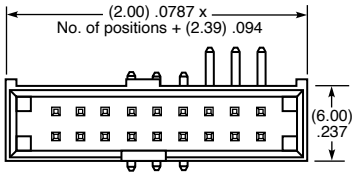
SPECIFICATIONS

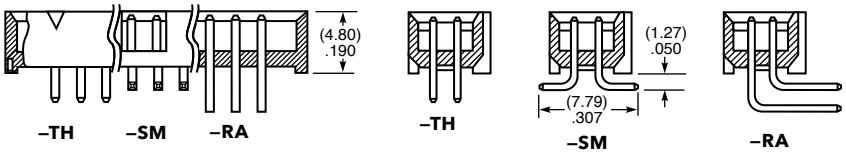
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

LTMM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION
			04, 05, 06, 07, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Standard sizes)				–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin				Leave blank for Through-hole –RA = Right-angle –SM = Surface Mount		–"XX" = Polarized Position –LC = Locking Clip (-SM only) (Manual placement required) –K = (7.50 mm) .295" DIA Film Pick & Place Pad (-SM only) –TR = Tape & Reel (–SM only) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–SM only)

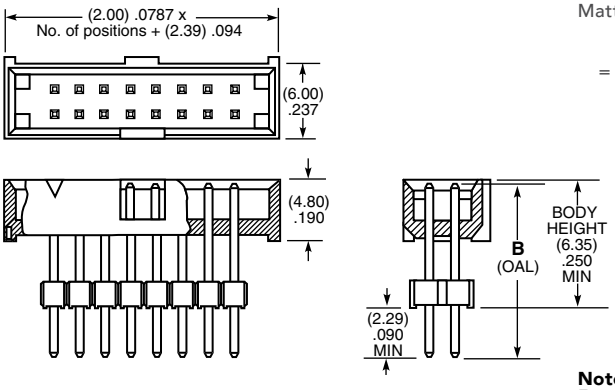




ALSO AVAILABLE
Contact Samtec

Other sizes
Other plating

ZLTMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	BODY HEIGHT	–	OTHER OPTION
			04, 05, 06, 07, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Standard sizes)		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin				–"XXX" = Body Height		–"XX" = Polarized Position



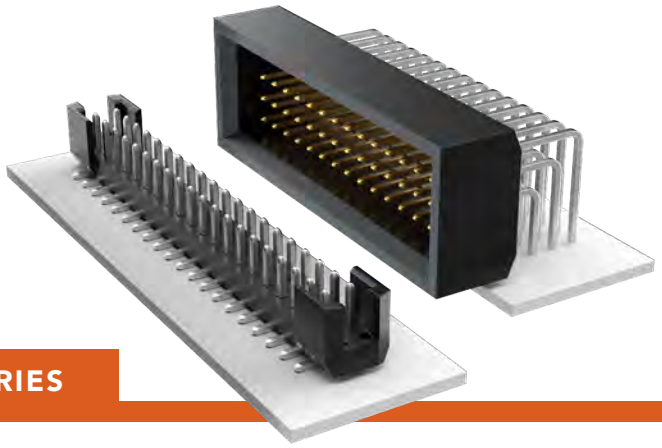
LEAD STYLE	B (OAL)	MAX BODY HEIGHT
–75	(9.58) 0.377	(7.42) 0.292
–62	(10.08) 0.397	(7.92) 0.312
–65	(10.49) 0.413	(8.33) 0.328
–73	(12.09) 0.476	(9.93) 0.391
–63	(14.10) 0.555	(11.94) 0.470
–66	(15.09) 0.594	(12.93) 0.509
–69	(15.60) 0.614	(13.44) 0.529
–74	(17.09) 0.673	(14.94) 0.588
–70	(17.60) 0.693	(15.44) 0.608
–71	(21.08) 0.830	(18.92) 0.745
–72	(21.62) 0.851	(19.46) 0.766

Note:
This Series is non-standard, non-returnable.

Note:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SHROUDED HEADERS



(2.00 mm) .0787" PITCH • TSH/TMMS SERIES

TSH
Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, PTF

TMMS
Mates:
SQT, SQW, ESQT

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity (TSH):
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

TSH

TSH – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION – OTHER OPTION

NO. PINS PER ROW
05, 10, 15, 20, 25, 30, 35, 40, 45
(40 & 45 = –D & -RA only)
(Standard sizes)

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

ROW OPTION
–D
= Vertical Through-hole

–DV
= Vertical Surface Mount

–RA
= Right-angle Through-hole

–DH
= Horizontal Surface Mount

OTHER OPTION
–LC
= Locking Clip (–DV only) (Not available with -A) (Manual placement required)

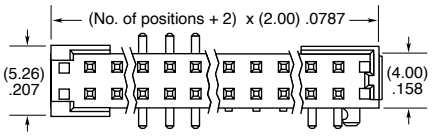
–A
= Alignment Pin (–DV only) (Not available with -LC)

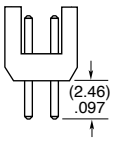
–SL
= Solder Locks (–DH only)

–K
= (4.50 mm) .177" DIA Polyimide Film Pick & Place Pad (–DH only) (Not available with 15 - 30 positions)

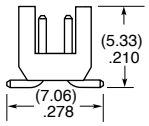
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

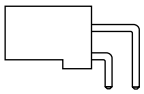




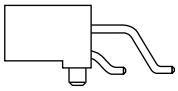
–D



–DV



–RA



–DH

TMMS

TMMS – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – Q – OPTION – FS

NO. PINS PER ROW
05, 10, 15, 20, 30, 40, 50

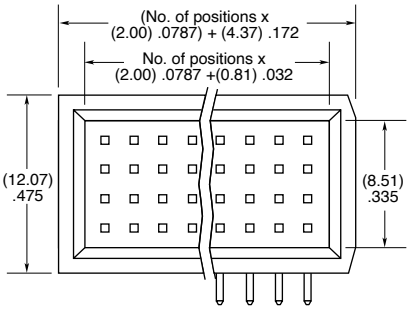
PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail

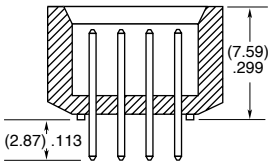
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

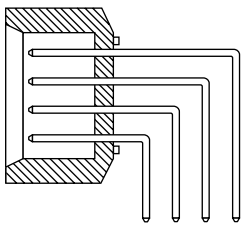
OPTION
–RA
= Right-angle

ALSO AVAILABLE
Contact Samtec

Other sizes
Other plating





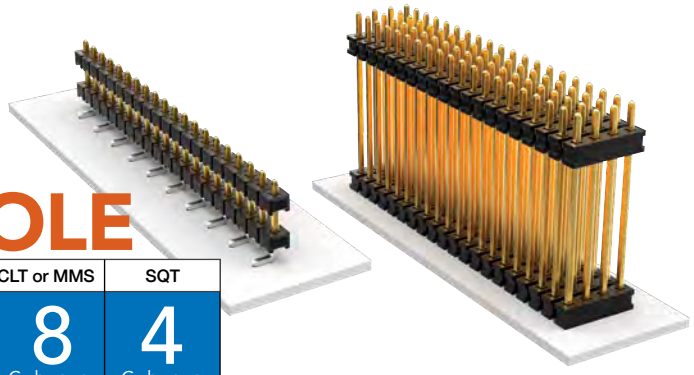


–RA

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SMT & THROUGH-HOLE BOARD STACKERS



CLT or MMS	SQT
8 Gbps	4 Gbps

(2.00 mm) .0787" PITCH • TW SERIES

TW

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Current Rating:
3.9 A per pin
(2 pins powered)
Voltage Rating:
350 VAC/495 VDC

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

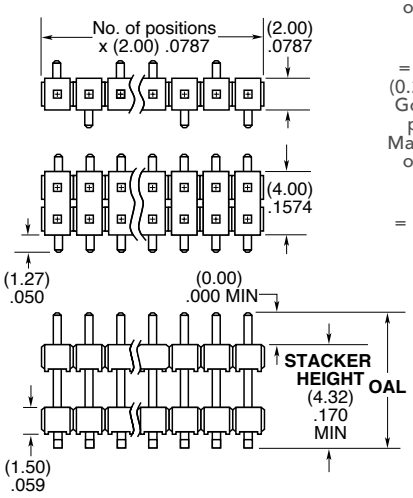
ALSO AVAILABLE
Contact Samtec

Other Platings
End shrouds with or without guide post

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

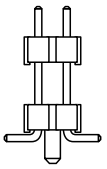
This Series is non-standard, non-returnable.

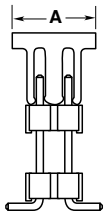
TW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	SM	OTHER OPTION
	02 thru 36	Specify LEAD STYLE from chart	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row	–"XXX" = Stacker Height in inches (0.13 mm) .005" increments Example: –250 = (6.35 mm) .250"		–"XXX" = Polarized Position –A = Alignment Pin (Metal or plastic at Samtec discretion) (4.83 mm) .190" min. board space (–D only) –P = Pick & Place Pad (1.91 mm) .075" min. post height (04-36 only) –"X"R Specify "T" for Tape & Reel Specify "F" for Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–07 lead style N/A) (–06 lead style with –P option N/A as standard)



LEAD STYLE	OAL
–02	(7.85) .309
–03	(11.86) .467
–04	(12.37) .487
–06	(15.37) .605
–07	(17.35) .683
–09	(9.86) .388

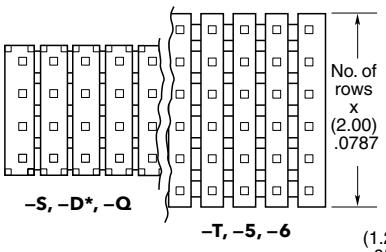
ROW OPTION	A
–S	(5.08) .200
–D	(6.35) .250


–A OPTION



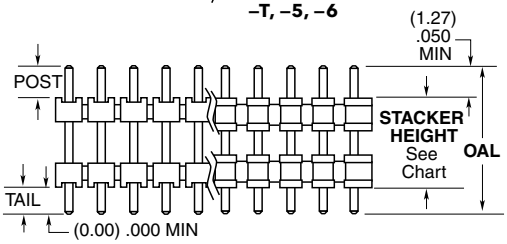
–P OPTION

TW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	TAIL SPEC
	02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–"XXX" = Stacker Height in inches (0.13 mm) .005" increments Example: –250 = (6.35 mm) .250"	–"XXX" = Tail Length in inches (0.13 mm) .005" increments Example: -150 = (3.81 mm) .150" –"XXX" = Polarized Position (Specify position to be removed)



–S, –D*, –Q

–T, –5, –6



–S, –D*, –Q

–T, –5, –6

ROW OPTION	STACKER HEIGHT
–S, –D*, –Q	(3.05) .120 MIN
–T, –5, –6	(4.06) .160 MIN

*–D with stacker height greater than (4.06 mm) .160" will not have standoffs.

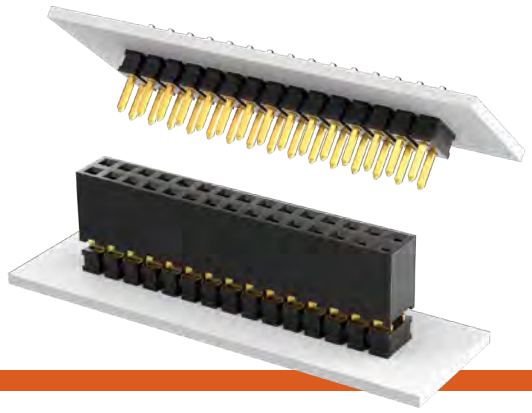
LEAD STYLE	OAL
–01	(8.20) .323
–02	(9.60) .377
–03	(13.60) .535
–04	(14.10) .555
–05	(15.10) .594
–06	(17.10) .673
–07	(19.10) .751
–08*	(21.10) .830
–09	(11.60) .456
–10	(15.60) .614
–11	(10.08) .397
–12*	(28.19)1.110

*Style –08 & –12 = S & D only

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PRESS-FIT HEADERS & SOCKETS

(2.00 mm) .0787" PITCH • PTT/PTF SERIES



PTT
Mates:
PTF, ESQT, PTHF, SQW, SQT, SMM

PTF
Mates:
PTT, TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
4.5 A per pin
(2 pins powered)
Voltage Rating:
250 VAC/354 VDC
Insertion Depth:
(2.67 mm) .105" to
(3.56 mm) .140"
Max Cycles:
100 with 30 µ" (0.76 µm) Au

ALSO AVAILABLE
Contact Samtec

Other Platings

TOOLING

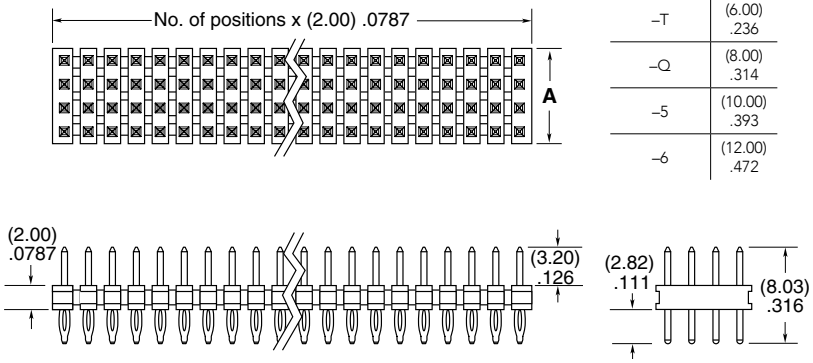
Press-Fit
PHT: CAT-PT-PH-1XX-X-X
PHF: CAT-PT-PH-1XX-X-B

For more information,
visit www.samtec.com/tooling

Note:
Some lengths, styles and options are non-standard, non-returnable.

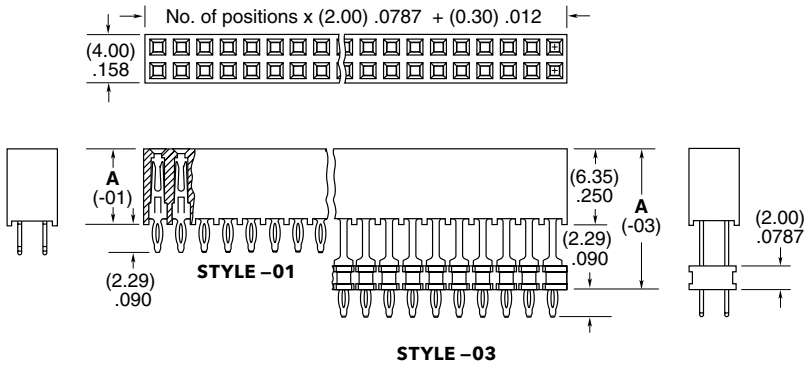
PTT	-	1	NO. PINS PER ROW	-	01	-	PLATING OPTION	-	ROW OPTION	-	OPTION
			02 thru 50				–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail		–S = Single Row –D = Double Row –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row		–"XXX" = Polarized Position

ROW OPTION	A
–S	(2.00) .079
–D	(4.00) .158
–T	(6.00) .236
–Q	(8.00) .314
–5	(10.00) .393
–6	(12.00) .472



PTF	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	D	-	OPTION
			02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail				–"XXX" = Polarized Position

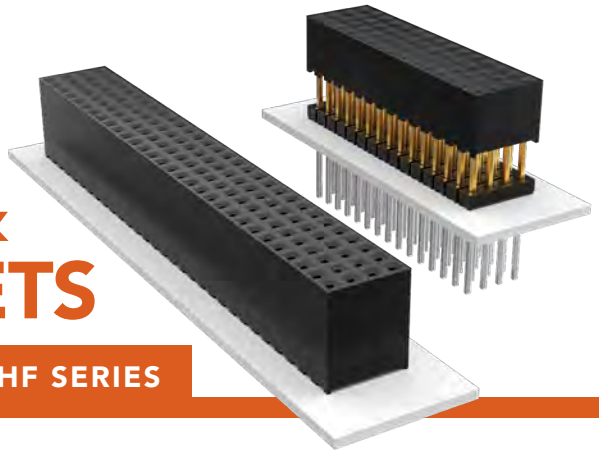
LEAD STYLE	A
–01	(6.35) .250
–03	(9.14) .360



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

FLEXIBLE ELEVATED & SELF-NESTING SOCKETS



(2.00 mm) .0787" PITCH • ESQT/ESQT (-368)/PTHF SERIES

ESQT

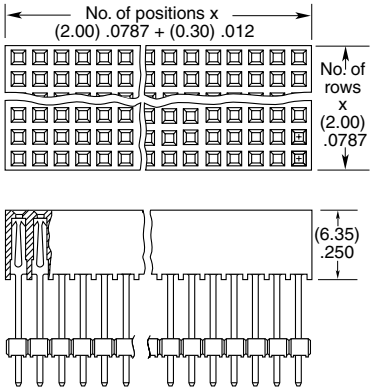
Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH, TMMS

Cable Mates:
TCMD

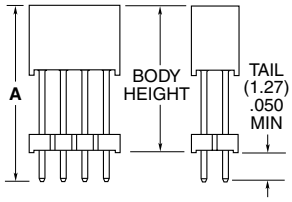
ESQT	– 1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	BODY HEIGHT	OTHER OPTION
		02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –M = 20 µ" (0.51 µm) Gold on contact, Matte Tin on tail –GF = 15 µ" (0.38 µm) Gold on contact, Gold flash on tail (Recommended for self-nesting) (–02 lead style only)	–S = Single Row –D = Double Row –T = Triple Row –Q = Quad Row –5 = Five Row –6 = Six Row	–"XXX" = Body Height (in inches) (7.87 mm) .310" minimum for –S, –D, –Q (9.53 mm) .375" minimum for –T, –5, –6	–"XXX" = Polarized Position (Indicate position number)

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (ESQT/TMMH):
4.5 A per pin
(2 pins powered)
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198" with
(0.38 mm) .015" wipe
Max Cycles:
100 with 10 µ" (0.25 µm) Au
Lead–Free Solderable:
Yes, for -S, -D & -Q
(Wave only for -T, -5 & -6)



LEAD STYLE	A	MAX TAIL	MAX BODY HEIGHT
–02	(21.59) .850	(13.72) .540	(20.32) .800
–03	(11.63) .458	(3.76) .148	(10.36) .408



ESQT (-368)/PTHF

Mates:
ESQT, PTHF

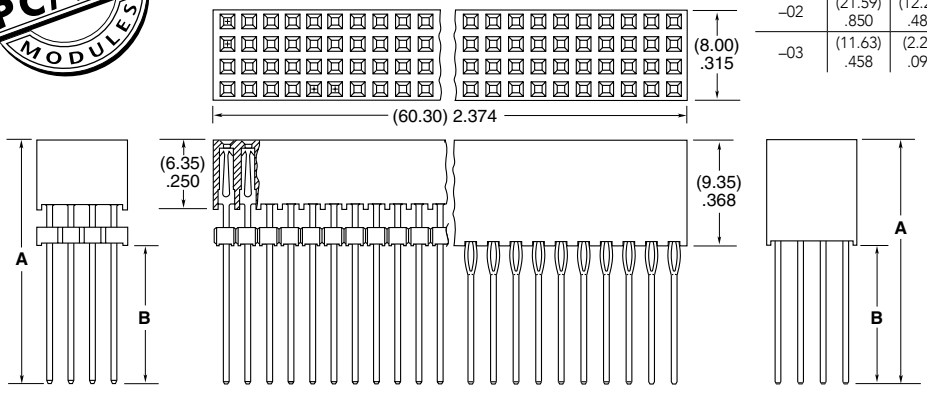
SERIES	– 1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	Q	368
ESQT = Solder Tails PTHF = Press-fit Tails		30	Specify LEAD STYLE from chart	–GF = 15 µ" (0.38 µm) Gold on contact, Gold flash on tail (–02 Lead Style only) –M = 20 µ" (0.51 µm) Gold on contact, Matte Tin on tail (–03 Lead Style only)		

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer (ESQT-368)
Black High Temp Nylon (PTHF)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Max Cycles:
100 with 10 µ" (0.25 µm) Au
Lead–Free Solderable:
Yes (ESQT-368)

EMBEDDED-PC PC/104 MODULES

LEAD STYLE	ESQT A	ESQT B	PTHF A	PTHF B
–02	(21.59) .850	(12.24) .482	(21.59) .850	(12.24) .482
–03	(11.63) .458	(2.29) .090	(12.34) .486	(3.00) .118



ESQT (–368) SERIES PTHF SERIES

TOOLING

Press-Fit
CAT-PT-PT-130-A-4

For more information, visit www.samtec.com/tooling

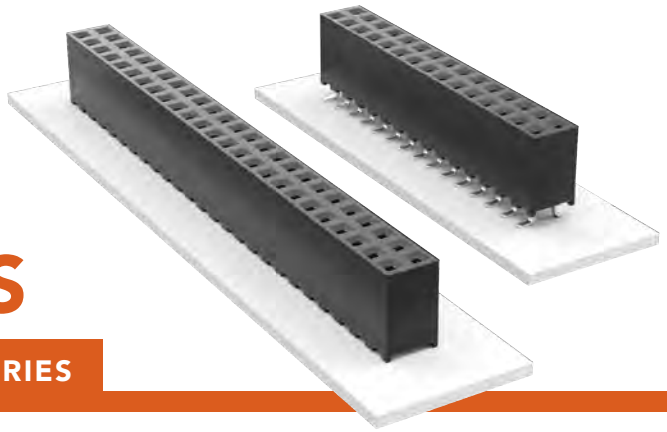
Note:
This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

COST-EFFECTIVE RUGGED SOCKETS

(2.00 mm) .0787" PITCH • SQW/SQT SERIES



SQW/SQT
Board Mates:
TMMH, TMMS, TMM, MTMM, MMT, TW, TSH, LTMM, ZLTMM, PTT
Cable Mates:
TCMD

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
(SQW/TMMH) = 3.8 A per pin
(2 pins powered)
(TMMH/SQT) = 5.1 A per pin
(2 pins powered)
Voltage Rating:
281 VAC/398 VDC
mated with TMM;
250 VAC/354 VDC
mated with TMMH
SQW Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198" with
(0.38 mm) .015" wipe
SQT Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198"
Max Cycles:
100 with 10 µ" (0.25 µm) Au

PROCESSING

SQW Lead–Free Solderable:
Yes, for -D & -D-VS
(Wave only for -T, -Q, -5 & -6)
SQT Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-10)
(0.15 mm) .006" max (11-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

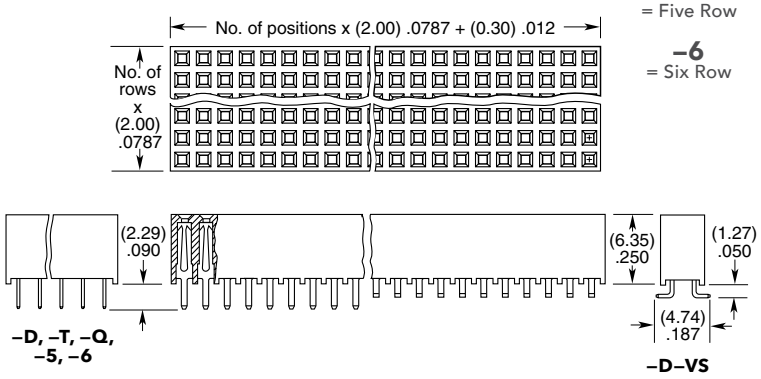
SQW - 1 - NO. PINS PER ROW - 01 - PLATING OPTION - ROW OPTION - OPTION

NO. PINS PER ROW: 02 thru 50

PLATING OPTION
–F = Gold flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

ROW OPTION
–D = Double Row
–D–VS = Double Row Surface Mount
–T = Triple Row
–Q = Four Row
–5 = Five Row
–6 = Six Row

OPTION
–"XXX" = Polarized Position –D–VS only options:
–A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion. (Not available with -LC)
–LC = Locking Clip (5 positions minimum) (Not available with -A) (Manual placement required)
–K = (4.25 mm) .167" DIA Polyimide Film Pick & Place Pad (4 positions minimum)
–P = Pick & Place Pad (4 positions minimum)
–TR = Tape & Reel (4–28 positions only)
–FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (4–28 positions only)



SQT - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - ROW OPTION - OTHER OPTION

4 Gbps

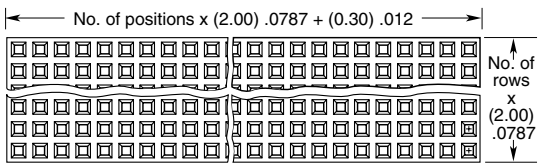
NO. PINS PER ROW: 02 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

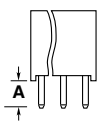
PLATING OPTION
–F = Gold flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

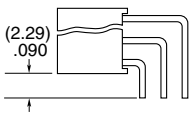
ROW OPTION
–S = Single Row
–D = Double Row
–T = Triple Row
–Q = Four Row
–5 = Five Row
–6 = Six Row

OTHER OPTION
–RA = Right-angle (–Q, –5 & –6 Row not available) (Lead Style –01 only)
–"XXX" = Polarized Position (Indicate position number)



LEAD STYLE	A
–01	(2.29) .090
–02	(15.24) .600
–03	(5.28) .208





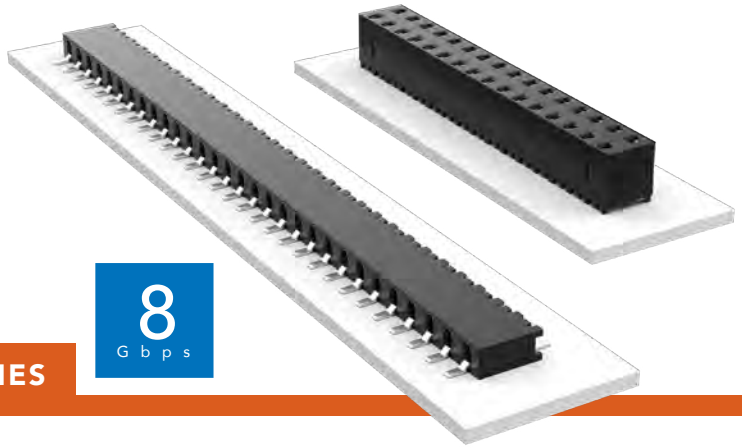
–RA OPTION
(–Q, –5 & –6 not available)

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ CLAW CONTACT

TIGER CLAW™ SOCKET STRIP



8 Gbps

(2.00 mm) .0787" PITCH • MMS SERIES

MMS
Board Mates:
TMMH, TMM,MTMM, MMT, TW, LTMM, ZLTMM, TSH
Cable Mates:
TCMD

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating (MMS/TMM):
3.9 A per pin
(2 pins powered)
Voltage Rating:
350 VAC/495 VDC
Insertion Depth:
DH = (2.13 mm) .084" to (2.79 mm) .110"
SH = (2.13 mm) .084" minimum or pass-through
Top Entry DV/SV = (2.13 mm) .084" to (4.32 mm) .170"
Bottom Entry DV/SV = (4.27 mm) .168" minimum (Plus board)

PROCESSING

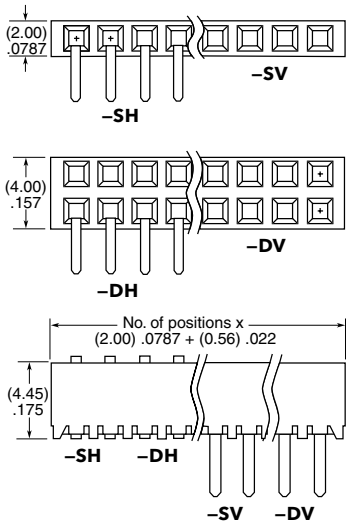
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

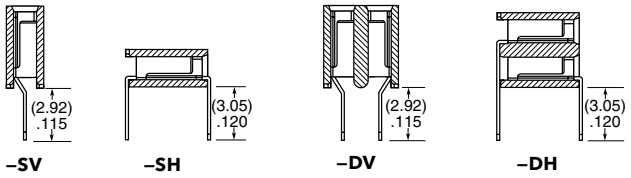
ALSO AVAILABLE
Contact Samtec

Alignment Pin (–DV only)
Locking clips and Through-hole pass-through options
Other platings

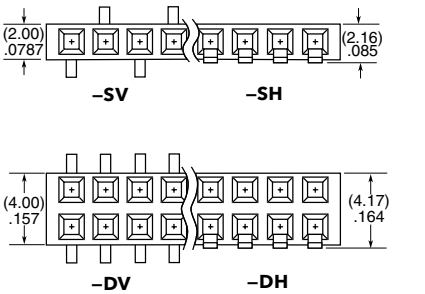
Note:
Some lengths, styles and options are non-standard, non-returnable.

MMS	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 40				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail		–SV = Single Vertical –SH = Single Horizontal –DV = Double Vertical –DH = Double Horizontal		–"XX" = Polarized Position

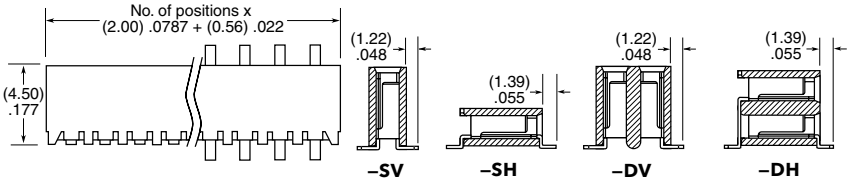




MMS	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			02 thru 40				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail		–SV = Single Vertical –SH = Single Horizontal –DV = Double Vertical –DH = Double Horizontal		–"XX" = Polarized Position –K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (3 positions min.) (–SV & –DV only) –M = Metal Pick & Place Pad (4 positions min.) (–DV only) –P = Plastic Pick & Place Pad (4 positions min.) (–SV & –DV only) –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)





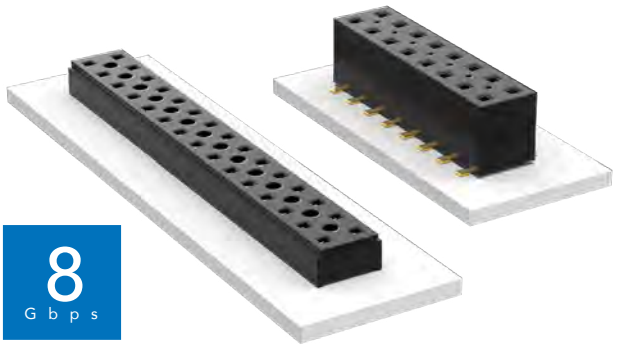


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

COST-EFFECTIVE & DUAL WIPE SOCKETS

8 Gbps

(2.00 mm) .0787" PITCH • TLE/CLT SERIES



TLE
Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TCMD, TSH

CLT
Mates:
TMM, TMMH, MTMM, MMT, TW, TSH

SPECIFICATIONS

TLE
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (TLE/TMMH):
3.2 A per pin (2 pins powered)
Voltage Rating:
406 VAC/574 VDC
Insertion Depth:
(2.08 mm) .082" to
(4.37 mm) .172" with
(0.38 mm) .015" wipe,
pass-through, or
(3.35 mm) .132" min
for bottom entry

CLT
Same as TLE except:
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (CLT/TMMH):
4.2 A per pin (2 pins powered)
Voltage Rating:
405 VAC/573 VDC
Insertion Depth:
Top Entry=
(1.40 mm) .055" minimum
Bottom Entry=
(2.57 mm) .101" minimum
(add board thickness for
correct post OAL)
Max Cycles:
100 with 10 µ" (0.25 µm) Au

PROCESSING

TLE
Lead–Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

CLT
Same as TLE except:
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-34)*
(0.20 mm) .008" max (35-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

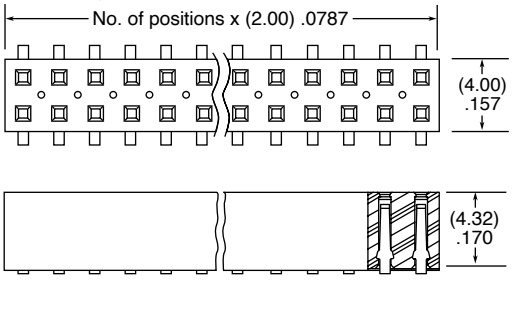
Note:
Some lengths, styles and options are non-standard, non-returnable.

TLE - 1 - NO. PINS PER ROW - 01 - PLATING OPTION - DV - OPTIONS

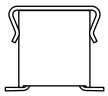
TIGER™ BEAM CONTACT



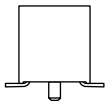
02 thru 50



–P Option



–A Option



–G
= 10 µ" (0.25 µm) Gold

OPTIONS

–A
= Alignment Pin
(3 positions minimum)

–K
= (5.00 mm) .197" DIA
Polyimide Film Pick & Place Pad
(3 positions minimum)

–P
= Metal Pick & Place Pad
(4 positions minimum)

–TR
= Tape & Reel Packaging
(2-37 positions only)

-FR
= Full Reel Tape & Reel
(must order maximum quantity per reel; contact Samtec for quantity breaks)
(2-37 positions only)

CLT - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - D - OTHER OPTIONS

TIGER™ CLAW CONTACT



02 thru 50

–01
= Through-hole

–02
= Surface Mount

–03
= Through-hole

ALSO AVAILABLE
Contact Samtec
Other Platings

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

All options require Style –02

–BE
= Bottom Entry
(Required for bottom entry applications)

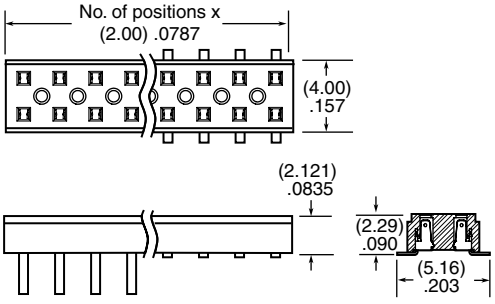
–A
= Alignment Pin
(3 positions minimum)
Metal or plastic at Samtec's discretion

–K
= (5.00 mm) .197" DIA
Polyimide Film
Pick & Place Pad
(04 thru 50 only)

–P
= Pick & Place Pad
(4 positions minimum)
(Not always necessary for auto placement.)

–TR
= Tape & Reel
(36 positions max)

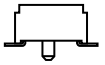
–FR
= Full Reel Tape & Reel
(must order maximum quantity per reel; contact Samtec for quantity breaks)
(36 positions max)



–01 or –03

-02

LEAD STYLE	A
–01	(2.16) .085
–03	(2.95) .116



–A Option



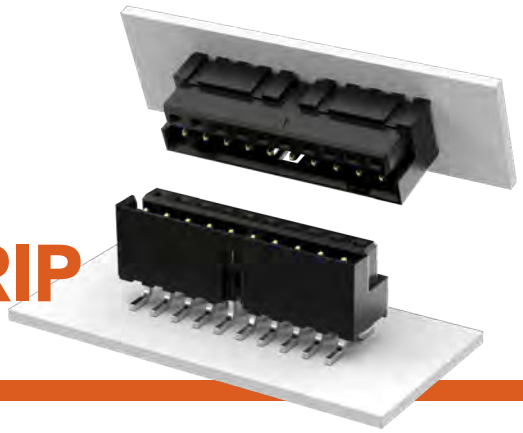
–P Option

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

SELF MATING HERMAPHRODITIC STRIP

(2.00 mm) .0787" PITCH • LS2 SERIES



LS2
Mates:
LS2

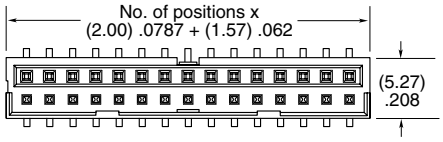
LS2	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	D	-	TAIL OPTION	-	OPTION
			05, 10, 15, 20, 25, 30		–01 =Through-hole –02 = Surface Mount		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–01 only –RA1 = Right-angle (Shroud Down) –RA2 = Right-angle (Shroud Up)		–K = (6.30 mm) .248" DIA Polyimide Film Pick & Place Pad (–02 only) –TR = Tape & Reel –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

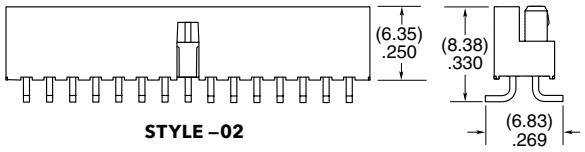
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.2 A per pin
(6 adjacent pins powered)
Voltage Rating:
475 VAC/672 VDC

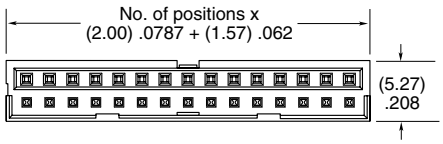
PROCESSING

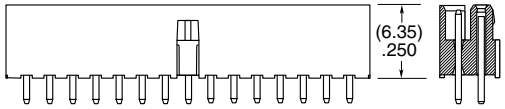
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)





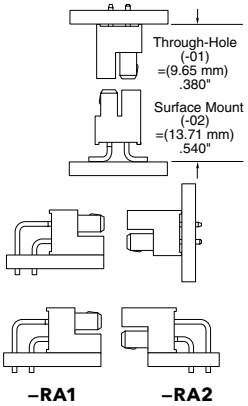
STYLE –02

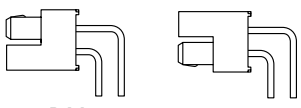




STYLE –01

APPLICATION





ALSO AVAILABLE
Contact Samtec

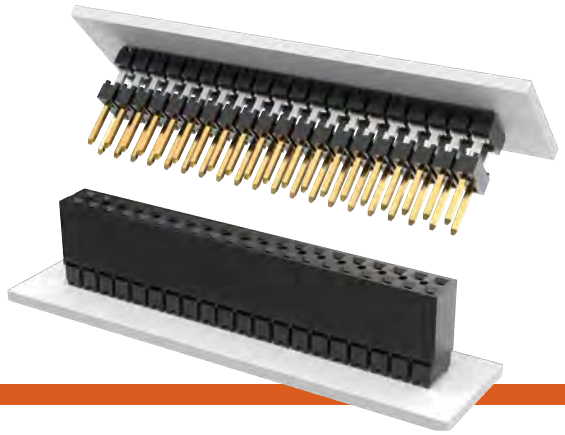
Alignment pin
Other platings
Other stack heights

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

PRESS-FIT HEADERS & SOCKETS

(2.54 mm) .100" PITCH • PHT/PHF SERIES



PHT
Board Mates:
SSW, SSQ, ESW, ESQ, BCS, BSW, CES, SLW, PHF, SSM
Cable Mates:
IDSD, IDSS

PHF
Board Mates:
TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, PHT, DW, HW

SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
Current Rating (PHT/PHF):
4.8 A per pin
(2 pins powered)
(PHF) Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"

PROCESSING

Contact ipg@samtec.com

ALSO AVAILABLE
Contact Samtec

Other Platings

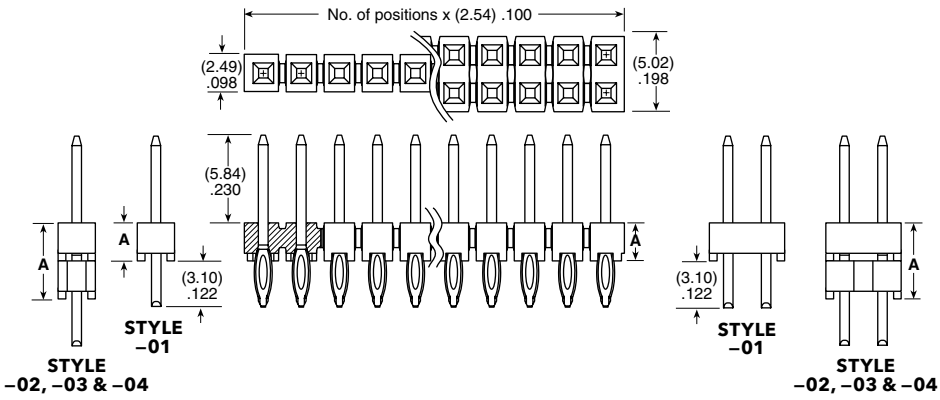
TOOLING

Press-Fit
PHT: CAT-PT-PH-1XX-X-X
PHF: CAT-PT-PH-1XX-X-B

For more information, visit www.samtec.com/tooling

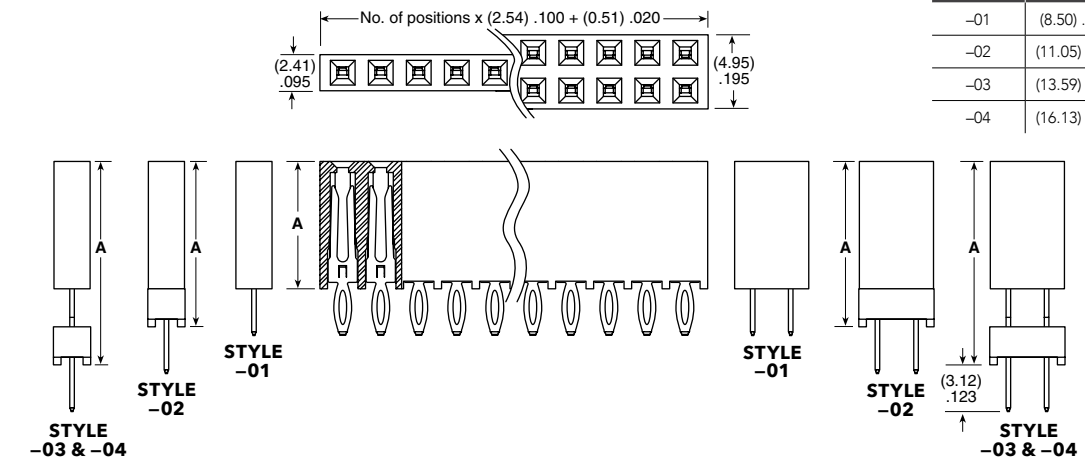
Note:
Some lengths, styles and options are non-standard, non-returnable.

PHT	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OTHER OPTION
			01 = (single row only) 02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail		–S = Single Row –D = Double Row		–"XXX" = Polarized Position



LEAD STYLE	A
–01	(2.54) .100
–02	(5.08) .200
–03	(7.62) .300
–04	(10.16) .400

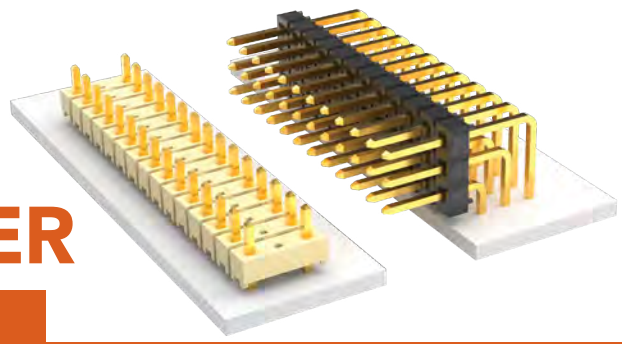
PHF	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OTHER OPTION
			01 = (single row only) 02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail		–S = Single Row –D = Double Row		–"XXX" = Polarized Position



LEAD STYLE	A
–01	(8.50) .335
–02	(11.05) .435
–03	(13.59) .535
–04	(16.13) .635

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

THROUGH-HOLE .025" SQ POST HEADER



(2.54 mm) .100" PITCH • TSW/HTSW SERIES

TSW/HTSW
Board Mates:
SSW, SSQ, SSM, ESW, ESQ, BCS, BSW, CES, SLW
Cable Mates:
IDSD, IDSS

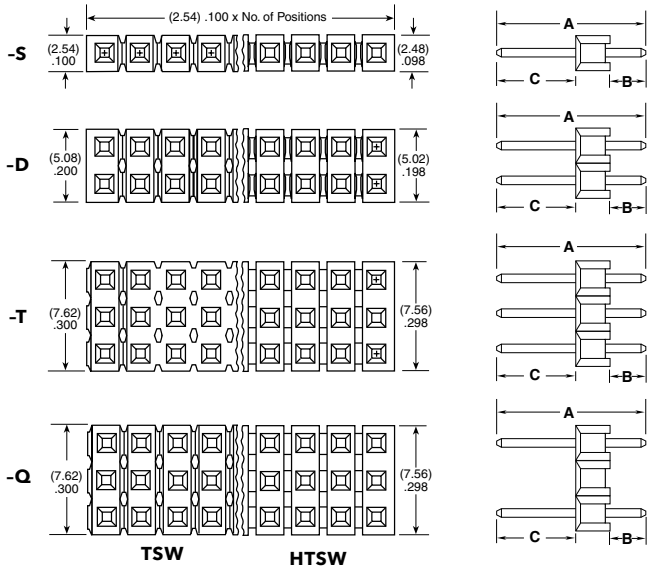
SERIES		PIN CENTERS		NO. PINS PER ROW		LEAD STYLE
TSW = Standard Strip **HTSW** = Hi-Temp Strip	–	**–1** = .100" (2.54 mm) Centers, (All positions filled) **–2** = .200" (5.08 mm) Centers, (Every other position filled)	–	**01 thru 50** = .100" (2.54 mm) Center Version **02 thru 25** = .200" (5.08 mm) Center Version	–	**Specify LEAD STYLE from chart**

SPECIFICATIONS

Insulator Material:
TSW: PBT
HTSW: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Voltage Rating:
465 VAC/658 VDC
mated with SSW;
500 VAC/707 VDC
mated with BCS;
515 VAC/728 VDC
mated with ESQ;
450 VAC/636 VDC -RA/-RE
mated with BCS or SSM;
400 VAC/566 VDC
mated with CES
Lead–Free Solderable:
HTSW: Yes
TSW: No, Lead Wave Only

CURRENT RATING (PER PIN)						
TSW mated with						
ESW	SSW	SLW	SSQ	SSM	BCS	SNT
5.2 A	5.7 A	5.2 A	6.3 A	5.2 A	4.6 A	4.3 A

2 POSITIONS POWERED



Straight Pin Versions

ALSO AVAILABLE
Contact Samtec

Other Platings

OTHER SOLUTIONS

Elevated Right-angle option
Shunts

STRAIGHT PIN VERSIONS			
LEAD STYLE	A	B	C
*–05	(8.51) .335	(3.30) .130	(2.67) .105
*– 06	(7.62) .300	(2.41) .095	(2.67) .105
*– 07	(10.92) .430	(2.54) .100	(5.84) .230
*– 08	(13.46) .530	(5.08) .200	
– 09	(18.54) .730	(10.16) .400	
–10	(21.08) .830	(12.70) .500	
–11	(23.62) .930	(15.24) .600	
–12	(26.16) 1.030	(17.78) .700	
–13	(31.24) 1.230	(22.86) .900	
–14	(13.46) .530	(2.79) .110	(8.13) .320
*–15	(18.54) .730		(13.21) .520
*–16		(7.87) .310	(8.13) .320
*–17	(21.08) .830	(2.79) .110	(15.74) .620
*–18	(23.62) .930		(18.29) .720

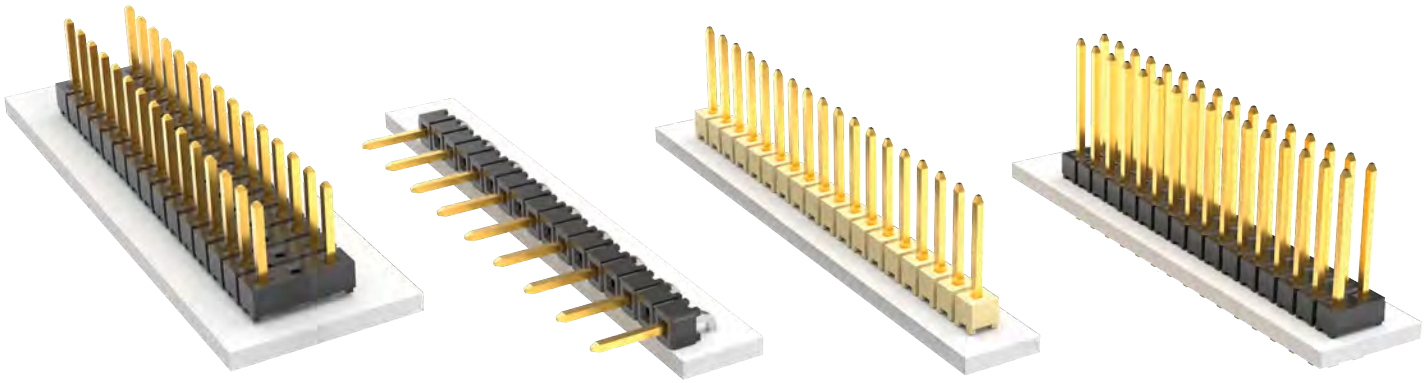
* Available with –LL (Locking Lead) Option
Specify -07 for best mate with IDXX Series IDC Cable

STRAIGHT PIN VERSIONS			
LEAD STYLE	A	B	C
*–19	(26.16) 1.030	(2.79) .110	(20.83) .820
*– 20	(31.24) 1.230		(25.91) 1.020
*– 21	(36.32) 1.430	(2.79) .110	(30.99) 1.220
*– 22	(16.00) .630	(7.62) .300	(5.84) .230
*– 23	(11.30) .445	(2.92) .115	
*– 24	(12.15) .480		(6.73) .265
*– 25	(16.00) .630	(5.33) .210	(8.13) .320
▲– 26	(11.58) .456	(3.20) .126	(5.84) .230
– 27	(33.78) 1.330	(25.40) 1.000	
– 28	(28.70) 1.130	(20.32) .800	
– 29	(33.78) 1.330	(23.11) .910	(8.13) .320
– 30	(28.70) 1.130	(18.03) .710	
+– 41	(9.27) .365	(0.89) .035	(5.84) .230
+– 42	(11.94) .470	(1.27) .050	(8.13) .320

+ Style –41 & –42 available with HTSW only.
▲ Except: Style –26 (0.46) .018 DIA Tail

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–GF
= 3 µ" (0.07 µm) Gold on post and tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

ROW OPTION

–S
= Single Row

–D
= Double Row

–T
= Triple Row

–Q
= Double Row
(5.08 mm) .200"row space

OTHER OPTION

–RA or –RE
= Right-angle

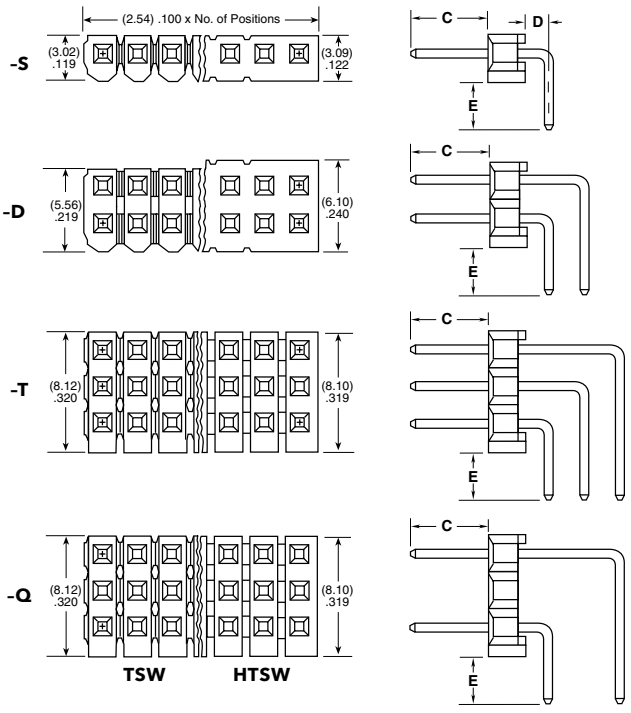
–NA
= Right-angle
(Using straight body for coplanar mating with SSW-RA series)

–LL
= Locking Lead
See charts for available styles.
Not available with single row
1 or 2 positions.
Recommended hole size
(1.02 mm ± 0.03 mm) .040" ± .001)

–LC
= Locking Clip
(Styles –08 thru –13 & –22 only)
(Requires 4 pin minimum)
(Not available with T, –Q, –RA or–RE)

–LA
= –RA Option with –LL Option

–"XXX"
= Polarized Position



Right-Angle Versions

LEAD STYLE	D
– RA	(1.52) .060
– RE	(4.06) .160

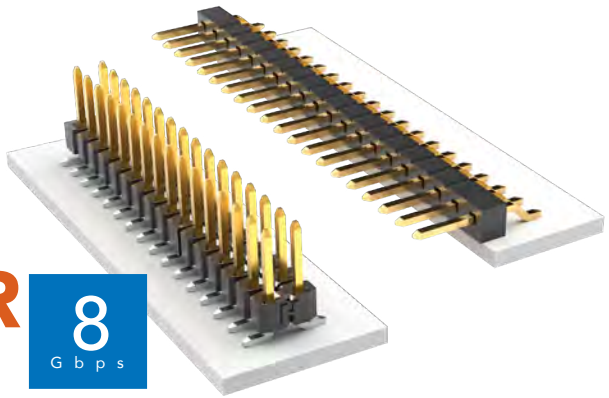
RIGHT-ANGLE VERSIONS		
-RE LEAD STYLE	C	SINGLE E
– 09	(5.84) .230	(4.83) .190
–10		(7.37) .290
–11		(9.91) .390
–12		(12.45) .490
–13		(17.53) .690
–16	(8.13) .320	(2.54) .100
– 21	(5.84) .230	(22.61) .890
– 22		(2.29) .090
– 27		(20.07) .790
– 28		(14.99) .590

RIGHT-ANGLE VERSIONS				
-RA LEAD STYLE	SINGLE (–S)		DOUBLE (–D)	TRIPLE (–T & –Q)
	C	E	E	E
– 08	(5.84) .230	(2.29) .090	(2.29) .090	(2.29) .090
– 09		(7.37) .290	(7.37) .290	(7.37) .290
–10		(9.91) .390	(9.91) .390	(9.91) .390
–11		(12.45) .490	(12.45) .490	(12.45) .490
–12		(14.99) .590	(14.99) .590	(14.99) .590
–13		(20.07) .790	(20.07) .790	N/A
*–16	(8.13) .320	(5.08) .200	(5.08) .200	(5.08) .200
– 21	(5.84) .230	(25.15) .990	N/A	N/A
*– 22		(4.83) .190	(4.83) .190	(4.83) .190
*– 25	(8.13) .320	(2.54) .100	(2.54) .100	(2.54) .100
– 27	(5.84) .230	(22.61) .890	N/A	N/A
– 28		(17.53) .690	(17.53) .690	
– 29	(8.13) .320	(20.32) .800	N/A	
– 30		(15.24) .600	(15.24) .600	

* Available with –LA (Locking Lead) Option

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SURFACE MOUNT .025" SQ POST HEADER



8 Gbps

(2.54 mm) .100" PITCH • TSM SERIES

TSM
Board Mates:
SSW, SSQ, SSM, BSW, ESW, ESQ, BCS, SLW, CES, HLE
Cable Mates:
IDSS, IDSD

TSM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–
			02 thru 36		Specify LEAD STYLE from chart	

SPECIFICATIONS

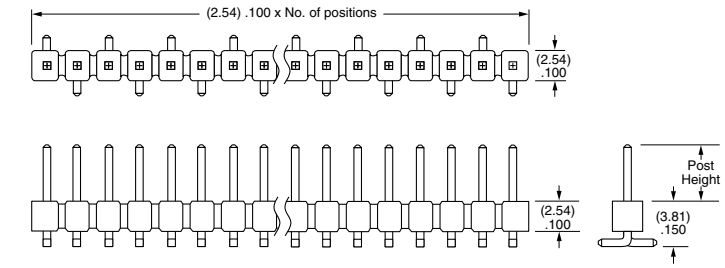
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
495 VAC/700 VDC -SV/-DV
mated with the BCS
405 VAC/573 VDC -SV/-DV
mated with the SSM
400 VAC/566 VDC
mated with HLE

PROCESSING

Lead–Free Solderable:
Yes
-DH/-SH/-SV Lead Coplanarity:
(0.15 mm) .006" max (02-36)*
-DV Lead Coplanarity:
(0.10 mm) .004" max (02-05)
(0.13 mm) .005" max (06-10)*
(0.15 mm) .006" max (11-36)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

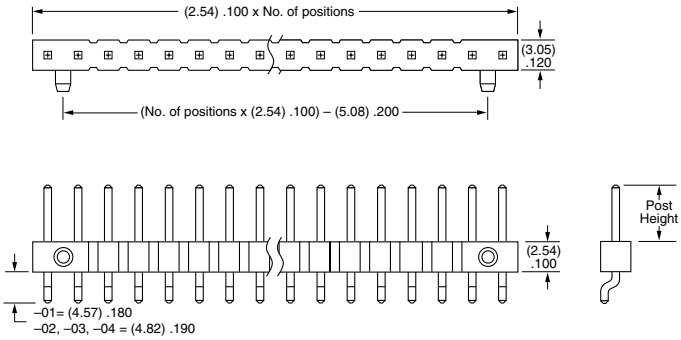
MATES	CURRENT RATING (PER PIN)
TSM/SSW	4.7 A
TSM/SSM	5.6 A
TSM/HLE	4.1 A
TSM/BCS	5.0 A

2 POSITIONS POWERED

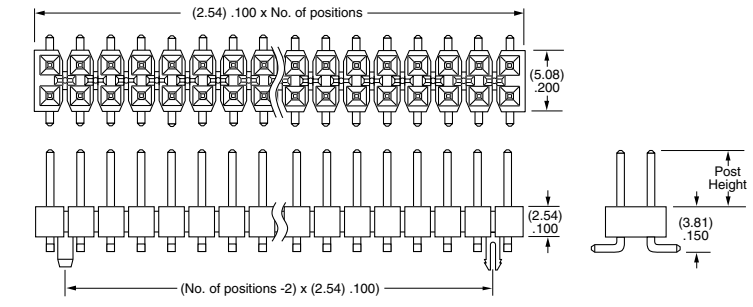


–SV Row Option

LEAD STYLE	POST HEIGHT	MATES WITH
–01	(5.84) .230	SSW, BCS, SSM, IDSS, IDSD
–02	(8.13) .320	SSM-DH
–03	(10.67) .420	Bottom Mount & Pass-Through
–04	(3.05) .120	SLW, CES, HLE



–SH Row Option

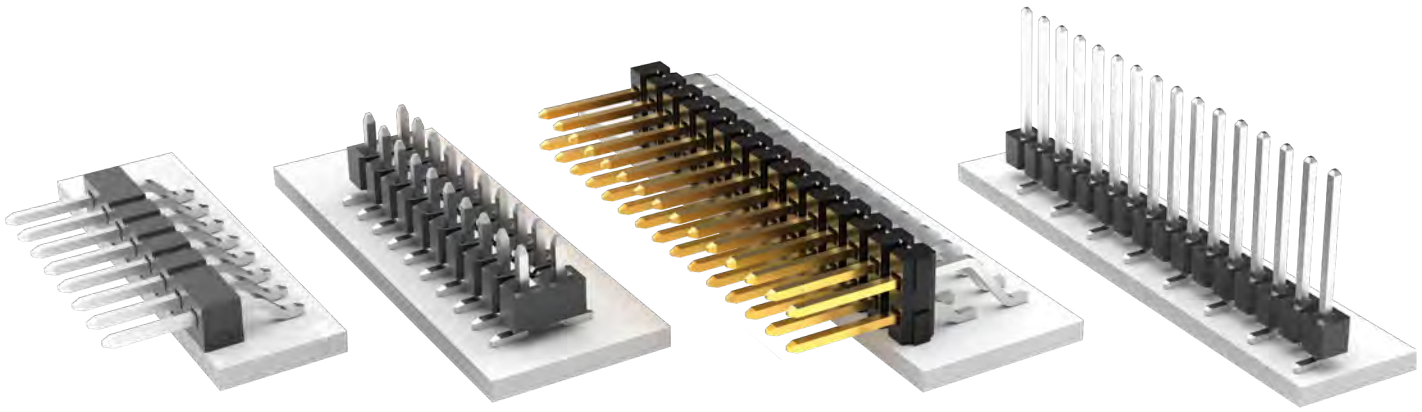


–DV Row Option

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some sizes, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

ROW OPTION

–SV
= Single Row Vertical Pin

–DV
= Double Row Vertical Pin

–SH
= Single Row Horizontal Pin

–DH
= Double Row Horizontal Pin

–TM
= Triple Row Vertical Mixed Technology
(Style –01 only)
(02 thru 30 positions only)

–MT
= Mixed Technology Pin
(Style –01, –02 or –03 only)

OTHER OPTIONS

–"XXX"
= Polarized Position

–A
= Alignment Pin
metal or plastic at Samtec discretion
(Not available with –TM or –MT)
(02 positions minimum)
(Not available with –LC)

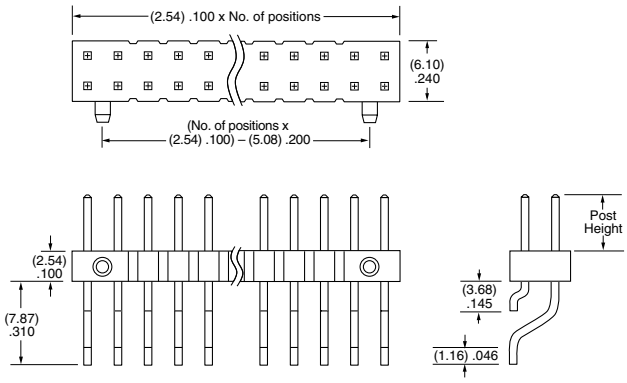
–LC
= Locking Clip
(Not available with –TM)
(3 positions minimum)
(Not available with –A)
(Manual placement required)

–K
= (6.50 mm) .256" DIA
Polyimide Film Pick & Place Pad
(–SH: 4 positions minimum without –TR;
2 & 3 positions available with –TR)
(–DH: 4 positions minimum without –TR)

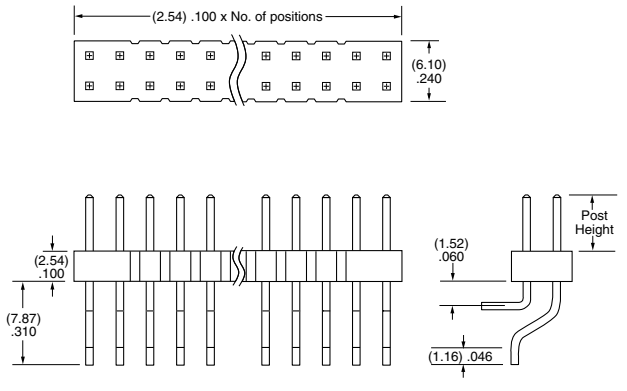
–P
= Plastic Pick & Place Pad
(–DV: 4 positions minimum without –TR;
2 & 3 positions available with –TR)
(–SH: 4 positions minimum without –TR;
2 & 3 positions available with –TR)
(–DH: 5 positions minimum without –TR)
(–SV: 4 positions minimum without –TR;
2 & 3 positions available with –TR)

–TR
= Tape & Reel
–SV: 02-22 positions, –DV: 02-28 positions,
–SH: 02-30 positions, –DH: 02-29 positions
(Not available with –MT or –TM)

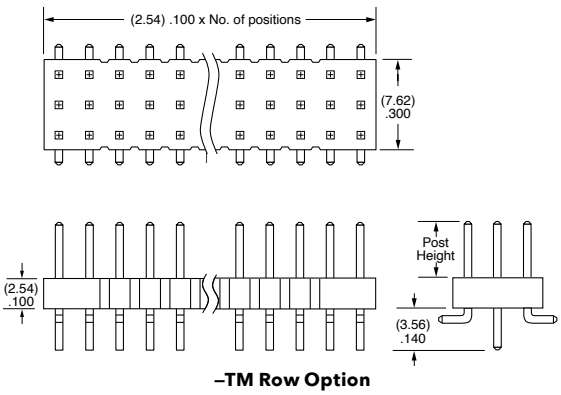
–FR
= Full Reel Tape & Reel
(must order maximum quantity per reel;
contact Samtec for quantity breaks)
–SV: 02-22 positions, –DV: 02-28 positions,
–SH: 02-30 positions, –DH: 02-29 positions
(Not available with –MT or –TM)



–DH Row Option



–MT Row Option

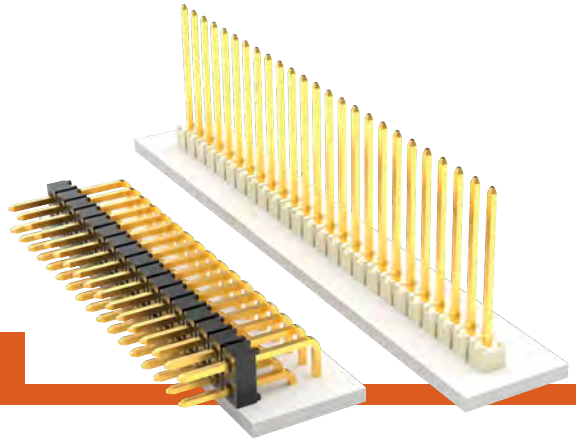


–TM Row Option

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

MODIFIED .025" SQ POST HEADERS



(2.54 mm) .100" PITCH • MTSW/HMTSW SERIES

MTSW/HMTSW
Board Mates:
SSW, SSQ, ESW, ESQ, BCS, BSW CES, SLW, HLE, SSM
Cable Mates:
IDSD, IDSS

SERIES	PIN CENTERS	NO. PINS PER ROW	LEAD STYLE
MTSW = Modified Strip **HMTSW** = Hi-Temp Modified Strip	**–1** = (2.54 mm) .100" Pitch (All positions filled) **–2** = (5.08 mm) .200" Pitch (Every other position filled)	**01 thru 50** = .100" (2.54 mm) Center Version **02 thru 25** = .200" (5.08 mm) Center Version	**Specify LEAD STYLE from chart**

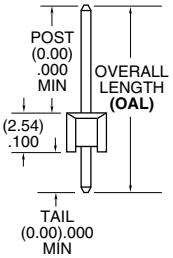
SPECIFICATIONS

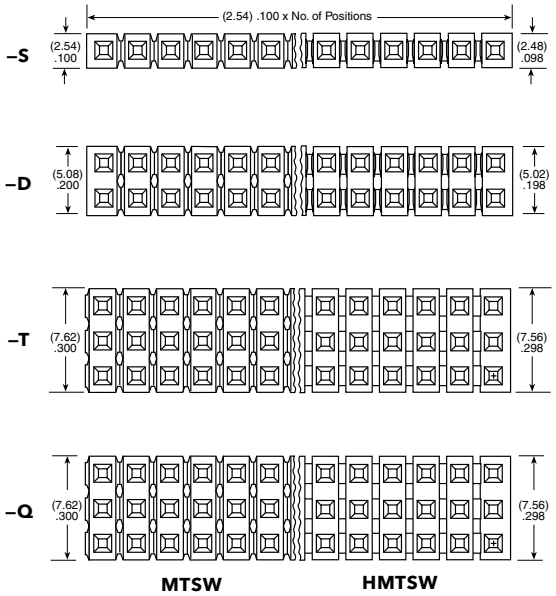
Insulator Material:
MTSW: Black Glass Filled Polyester
HMTSW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin

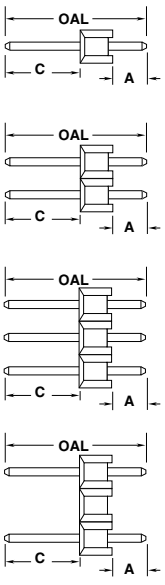
PROCESSING

Lead–Free Solderable:
MTSW: No, Lead Wave Only
HMTSW: Yes

LEAD STYLE	OAL
– 05	(8.51) .335
– 06	(7.62) .300
– 07	(10.92) .430
– 08	(13.46) .530
– 09	(18.54) .730
– 10	(21.08) .830
– 11	(23.62) .930
– 12	(26.16) 1.030
– 13	(31.24) 1.230
– 21	(36.32) 1.430
– 22	(16.00) .630
– 23	(11.30) .445
– 24	(12.19) .480
– 27	(33.78) 1.330
– 28	(28.70) 1.130





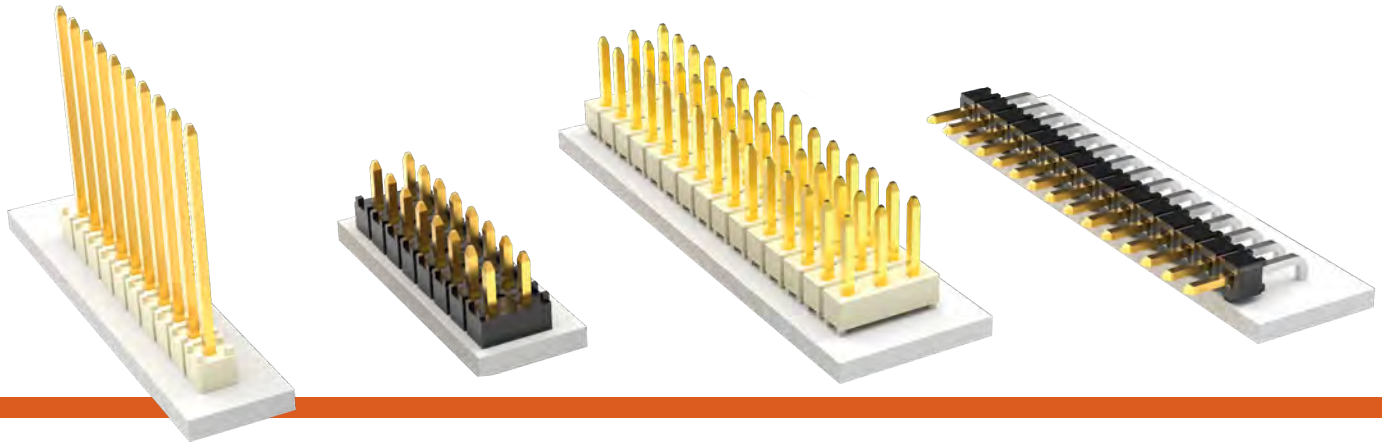


Straight Pin Versions: A=OAL-C- (2.54) .100"

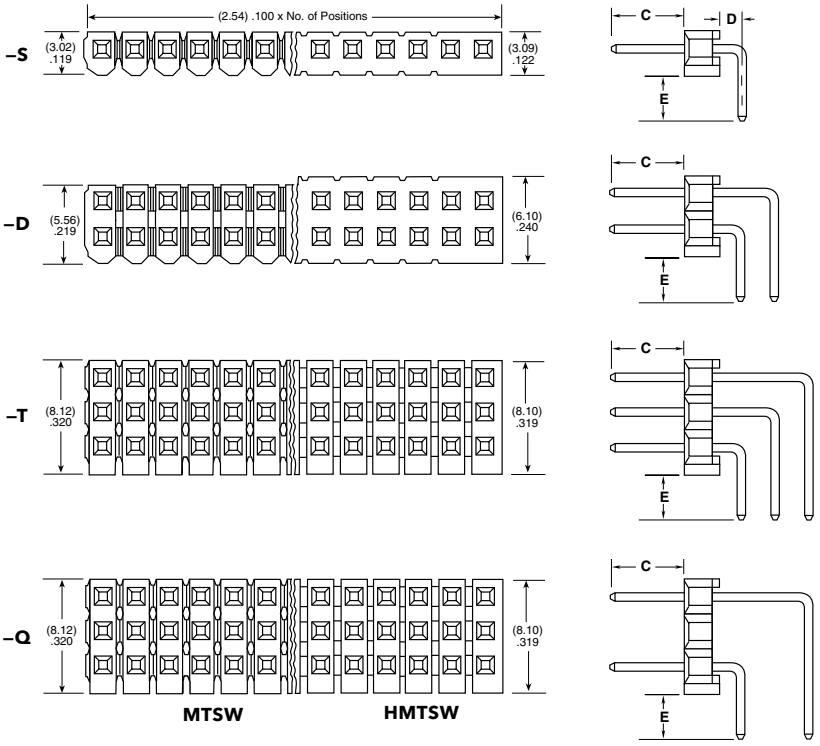
FOR "A" = (2.29) .090		
LEAD STYLE	OAL	C MAXIMUM STRAIGHT
– 05	(8.51) .335	(5.97) .235
– 06	(7.62) .300	(2.79) .110
– 07	(10.92) .430	(6.10) .240
– 08	(13.46) .530	(8.64) .340
– 09	(18.54) .730	(13.72) .540
– 10	(21.08) .830	(16.26) .640
– 11	(23.62) .930	(18.80) .740
– 12	(26.16) 1.030	(21.34) .840
– 13	(31.24) 1.230	(26.42) 1.040
– 21	(36.32) 1.430	(31.50) 1.240
– 22	(16.00) .630	(11.18) .440
– 23	(11.30) .445	(6.48) .255
– 24	(12.19) .480	(7.37) .290
– 27	(33.78) 1.330	(28.96) 1.140
– 28	(28.70) 1.130	(23.88) .940

Note:
These Series are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



PLATING OPTION	ROW OPTION	POST HEIGHT	OTHER OPTION	POLARIZED OPTION
–F = Gold flash on post, Matte Tin on tail	**–S** = Single Row	**"XXXX"** = "C" Dimension (Specify post height in INCHES .005" (0.13 mm) increments)	**–RA or –RE** = Right-angle (HMTSW –S &–D = 36 positions maximum)	**"XXX"** = Polarized (Specify "XXX" as position number)
–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail	**–D** = Double Row		**–LL** = Locking Lead (not available with –RE, not available in single row 1 or 2 positions) (Available on tails from (2.29 mm) .090" to (10.16 mm) .400" only)	
–G = 10 µ" (0.25 µm) Gold on post, Gold flash on balance	**–T** = Triple Row		**–LA** = –RA option with –LL Option (Maximum "C" = (13.46 mm) .530")	
–T = Matte Tin	**–Q** = Double Row .200" (5.08 mm) row space			



–RX OPTION	D
–RA	(1.52) .060
–RE	(4.06) .160

FOR "E" = (2.29) .090 MIN FOR –RA & –RE)			
LEAD STYLE	OAL	C MAXIMUM with/–RA	C MAXIMUM with/–RE
– 05	(8.51) .335	Not Available	Not Available
– 06	(7.62) .300	Not Available	Not Available
– 07	(10.92) .430	(3.30) .130	Not Available
– 08	(13.46) .530	(5.84) .230	(3.30) .130
– 09	(18.54) .730	(10.92) .430	(8.38) .330
– 10	(21.08) .830	(13.46) .530	(10.92) .430
– 11	(23.62) .930	(16.00) .630	(13.46) .530
– 12	(26.16) 1.030	(18.54) .730	(16.00) .630
*– 13	(31.24) 1.230	(23.62) .930	(21.08) .830
*– 21	(36.32) 1.430	(28.70) 1.130	(26.16) 1.030
– 22	(16.00) .630	(8.38) .330	(5.84) .230
*– 23	(11.30) .445	(3.68) .145	Not Available
*– 24	(12.19) .480	(4.57) .180	
*– 27	(33.78) 1.330	(26.16) 1.030	(23.62) .930
*– 28	(28.70) 1.130	(21.08) .830	(18.54) .730

* Styles –21, –23, –24, –27 not available with –D Right-angle
Styles –13, –21, –23, –24, –27, –28 not available with –T or –Q Right-angle

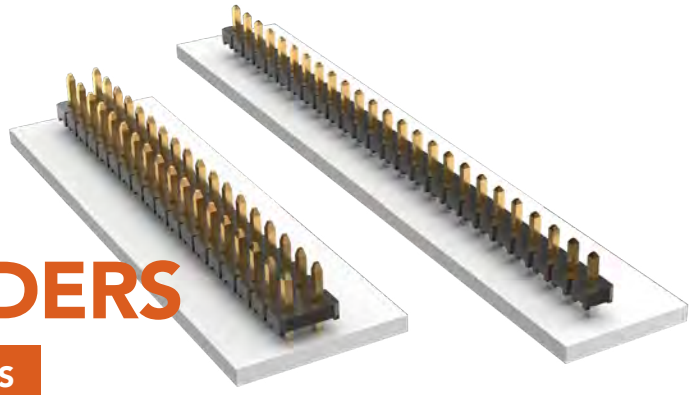
Right-Angle Versions (- RA Options): E=OAL-C- (5.33) .210"

Right-Angle Versions (-RE Options) Single Row Only: E=OAL-C- (7.87) .310"

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

LOW PROFILE .025" SQ POST HEADERS



(2.54 mm) .100" PITCH • TLW/MTLW SERIES

TLW/MTLW
Board Mates:
BSW, CES, SLW, HLE

FEATURES

These headers provide the ultimate low profile (0.64 mm) .025" square post board stacking system. The high quality Phosphor Bronze terminals are available with a standard short post height (TLW Series) for mating with low profile sockets, or the post height can be Modified (MTLW Series) to accommodate IDC assemblies and other applications.

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
Current Rating (TLW/SLW):
5.2 A per pin
(2 pins powered)
Voltage Rating:
406 VAC/574 VDC

PROCESSING

Lead–Free Solderable:
Yes

ALSO AVAILABLE
Contact Samtec

Other platings
Notch option

Note:
Some lengths, styles and options are non-standard, non-returnable. MTLW Series is non-standard, non-returnable.

TLW - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - ROW OPTION - OTHER OPTION

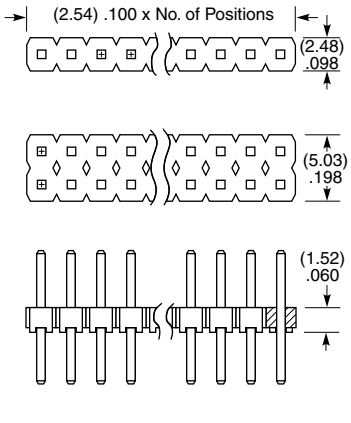
NO. PINS PER ROW
01 thru 40
= Single Row
01 thru 36
= Double Row

LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail
–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail
–T
= Matte Tin

ROW OPTION
– S
= Single Row
– D
= Double Row

OTHER OPTION
–RA
= Right-angle (–01 Lead Style only)
–"XX"
= Polarized Position Specify position for omitted pin.



LEAD STYLE	A	B
–01	N/A	(5.84) .230
–05	(4.32) .170	(2.67) .105
–06	(3.43) .135	

MTLW - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - ROW OPTION - POST HEIGHT

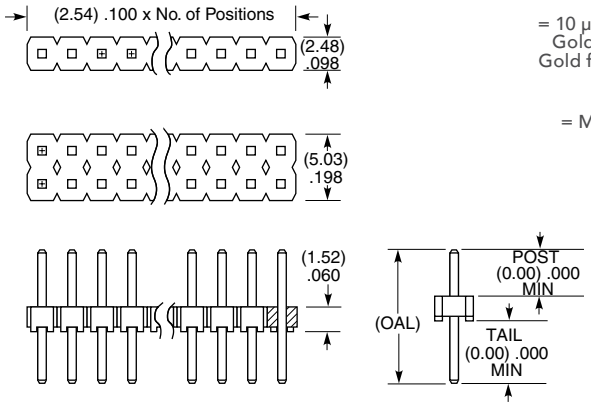
NO. PINS PER ROW
01 thru 40
= Single Row
01 thru 36
= Double Row

LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION
–F
= Gold flash on post, Matte Tin on tail
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail
–T
= Matte Tin

ROW OPTION
– S
= Single Row
– D
= Double Row

POST HEIGHT
–"XXX"
= Post Height Dimension (In inches)

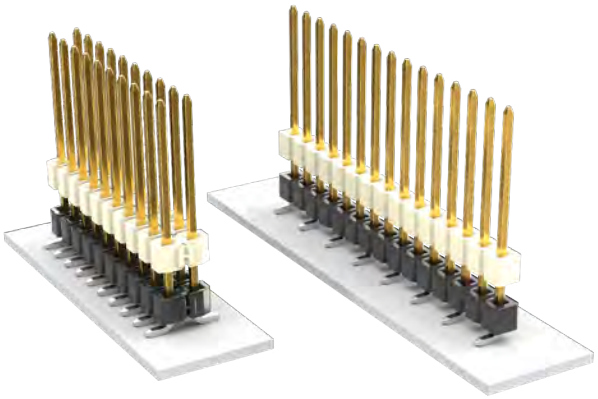


LEAD STYLE	OAL
–05	(8.51) .335
–06	(7.62) .300
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–22	(16.00) .630
–23	(11.30) .445
–24	(12.19) .480

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

FLEXIBLE .025" SQ BOARD STACKERS



(2.54 mm) .100" PITCH • HW SERIES

HW
Board Mates:
SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF
Cable Mates:
IDSS, IDSD

SPECIFICATIONS

Insulator Material:
HW-SM Top = Natural LCP
HW-SM Bottom = Black LCP
HW-TH = Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Other platings

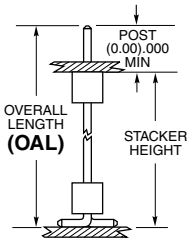
Locking Clip available with double row HW-SM (Manual placement required)

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

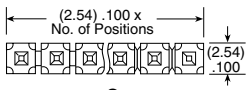
This Series is non-standard, non-returnable.

HW	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	STACKER HEIGHT	–	SM	–	OTHER OPTION
		01 thru 50 (Through-hole) **02 thru 36** (Surface mount)		**Specify LEAD STYLE from chart**		**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact area of longer tail, Matte Tin on tail **–G** = 10 µ" (0.25 µm) Gold on contact area of longer tail, Gold flash on balance **–T** = Matte Tin		**–S** = Single Row **–D** = Double Row **–T** = Triple Row (Through-hole only) **–Q** = Double Row .200" (5.08 mm) row space (Through-hole only)		**–"XXX"** = Stacker Height (in inches) Through-hole = (5.08 mm) .200" Min. Surface mount = (6.35 mm) .250"Min.		Leave blank for Through-hole		**–"XXX"** = HW-TH Tail Length (in inches) (1.40 mm) .055"min. Example: –250 = (6.35 mm) .250" **–LL** = Locking Lead (Through-hole only) (Shortest dimension between the tail and the post is the end that will be crimped. Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only.) Single row, 01 & 02 positions & –Q row not available **–"XXX"** = Polarized (Specify omitted pin position) **–A** = Alignment Pin (Metal or plastic at Samtec discretion) (Surface mount only) **–TR** = Tape & Reel (4–27 pins per row only) (Not Available on Lead Styles 10, 11, 12 & 20) (Surface mount only) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (4–27 pins per row only) (Not Available on Lead Styles 10, 11, 12 & 20) (Surface mount only)

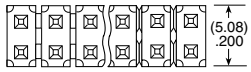
LEAD STYLE	OAL (TH)
– 07	(10.92) .430
– 08	(13.46) .530
– 09	(18.54) .730
–10	(21.08) .830
–11	(23.62) .930
–12	(26.16) 1.030
–13	(31.24) 1.230
–14	(36.32) 1.430
–15	(16.00) .630
–16	(11.30) .445
–17	(12.19) .480
–19	(33.78) 1.330
–20	(28.70) 1.130



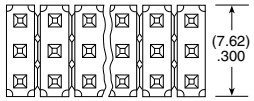
LEAD STYLE	OAL (SMT)
– 08	(11.81) .465
– 09	(16.89) .665
–10	(19.43) .765
–11	(21.97) .865
–12	(24.51) .965
–15	(14.35) .565
–16	(9.65) .380
–17	(10.54) .415
–20	(27.05) 1.065



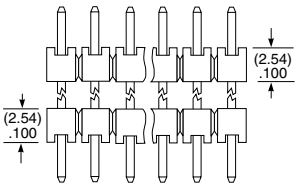
–S



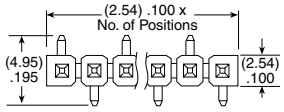
–D



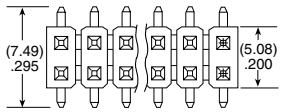
–T or –Q*
–Q* same as –T except middle row pins are removed



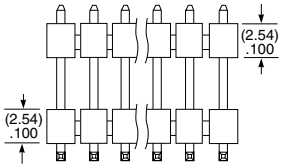
HW-TH



–S



–D



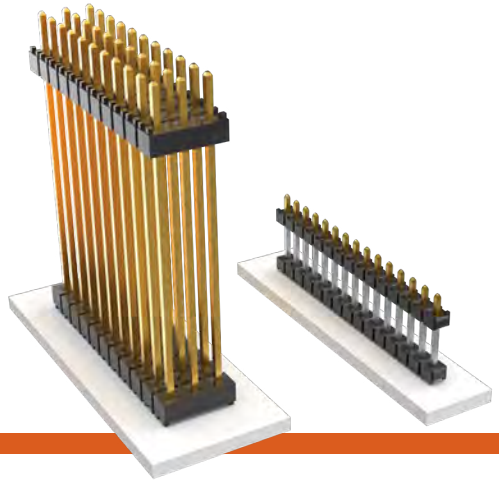
HW–SM

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

FLEXIBLE .025" SQ BOARD STACKERS

(2.54 mm) .100" PITCH • DW/EW/ZW SERIES



DW/EW/ZW
Board Mates:
SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF
Cable Mates:
IDSS, IDSD

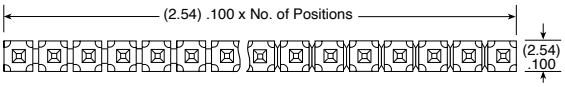
SPECIFICATIONS

Insulator Material:
Black Glass Filled Polyester
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin

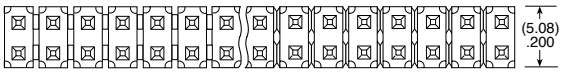
PROCESSING

Lead–Free Solderable:
No, Lead Wave Only

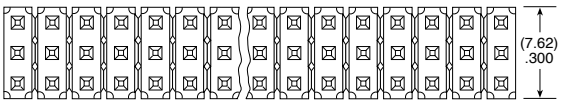
SERIES	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	OTHER OPTION
DW = (2.79 mm) .110" Tail **EW** = (8.38 mm) .330" Tail **ZW** = Custom Tail	01 thru 50	Specify LEAD STYLE from chart	**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact area of longer tail, Matte Tin on tail **–G** = 10 µ" (0.25 µm) Gold on contact area of longer tail, Gold flash on balance **–T** = Matte Tin	**–S** = Single Row **–D** = Double Row **–T** = Triple Row **–Q** = Double Row .200" (5.08 mm) row space	**–"XXX"** = Stacker Height (in inches) (5.08 mm) .200" minimum Example: –250 = (6.35 mm) .250"	**–"XXX"** = ZW Tail Length (in inches) (1.40 mm) .055" minimum Example: –250 = (6.35 mm) .250" **–LL** = Locking Lead (Shortest dimension between the tail and the post is the end that will be crimped. Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only.) Single row, 01 & 02 positions & –Q row not available **–"XXX"** = Polarized (Specify omitted pin position)



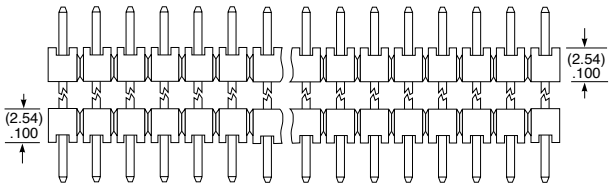
–S



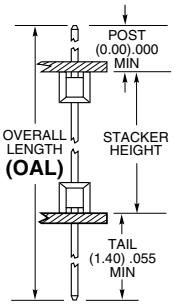
–D



–T or –Q*
–Q* same as –T except middle row pins are removed



LEAD STYLE	OAL
– 07	(10.92) .430
– 08	(13.46) .530
– 09	(18.54) .730
–10	(21.08) .830
–11	(23.62) .930
–12	(26.16) 1.030
–13	(31.24) 1.230
–14	(36.32) 1.430
–15	(16.00) .630
–16	(11.30) .445
–17	(12.19) .480
–19	(33.78) 1.330
–20	(28.70) 1.130



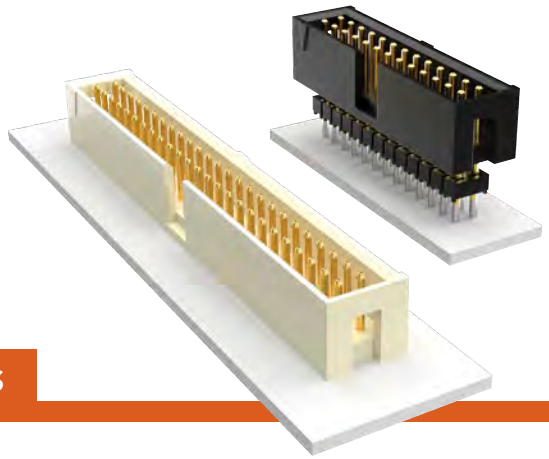
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SHROUDED .025" SQ POST HEADERS

(2.54 mm) .100" PITCH • TSS/HTSS/ZSS SERIES



TSS/HTSS/ZSS
Mates:
SSW, SSQ, ESW, ESQ, SSM, BCS

SPECIFICATIONS

Insulator Material:
TSS, ZSS=Black Glass Filled Polyester
HTSS=Natural PCT
Terminal Material:
Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin

PROCESSING

Lead–Free Solderable:
HTSS=Yes
TSS, ZSS=No, Lead Wave only
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

SERIES	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION

TSS
= Connector Strip

HTSS
= High Temp Connector Strip

03
(TSS only)

05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36
(Standard sizes)

Specify LEAD STYLE from chart

–F
= Gold flash on post, Matte Tin on tail (Not available on -DV)

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

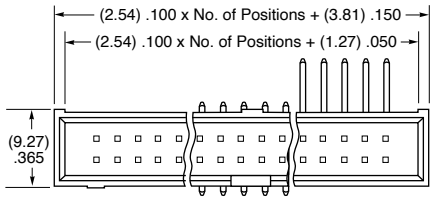
–D
= Double Row Through-hole (lead style –01, –02 & –03 only)

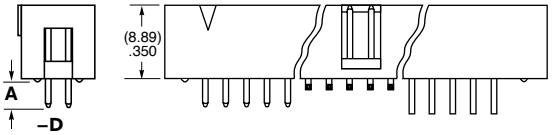
–DV
= Double Row Surface Mount (lead style –01 only) (HTSS only)

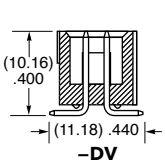
–D–RA
= Double Row Right-angle (lead style –04 & –05 only)

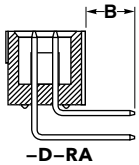
LEAD STYLE	T/H (A)
–01	(2.92) .115
–02	(4.19) .165
–03	(14.35) .565

LEAD STYLE	RIGHT ANGLE (B)
–04	(3.30) .130
–05	(5.84) .230









ZSS	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	D	-	BODY HEIGHT

03, 05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36
(Standard sizes)

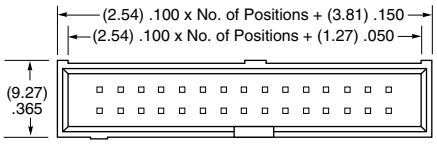
Specify LEAD STYLE from chart

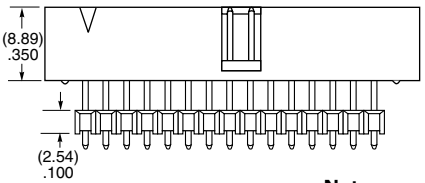
–F
= Gold flash on post, Matte Tin on tail

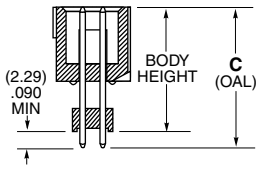
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–"XXXX"
= Body Height







LEAD STYLE	C (OAL)	MAX BODY HEIGHT
–01	(16.00) .630	(13.72) .540
–02	(18.54) .730	(16.26) .640
–03	(21.08) .830	(18.80) .740
–04	(23.62) .930	(21.34) .840
–05	(26.16) 1.030	(23.88) .940
–06	(28.70) 1.130	(26.42) 1.040
–07	(31.24) 1.230	(28.96) 1.140
–08	(33.78) 1.330	(31.50) 1.240
–09	(36.32) 1.430	(34.04) 1.340

ALSO AVAILABLE
Contact Samtec

Other sizes
Other platings
Alignment Pins
Single Row
Locking Leads
Polarized

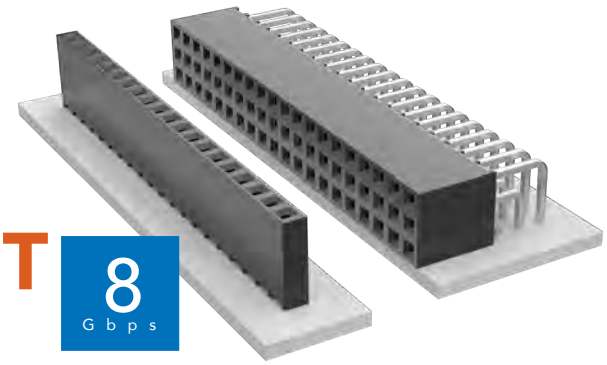
Note:
Some lengths, styles and options are non-standard, non-returnable. ZSS is non-standard, non-returnable.

Note:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

THROUGH-HOLE .025" SQ POST SOCKET



8 Gbps

(2.54 mm) .100" PITCH • SSW/SSQ SERIES

SSW/SSQ
Mates:
TSW, MTSW, MTLW, DW, EW, ZW, TSS, ZSS, TSM, TSSH, HTSS

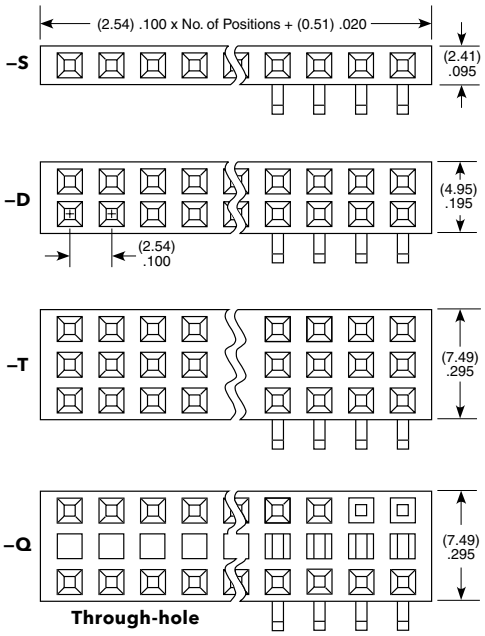
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer (-S & -D) or
Black High Temperature Thermoplastic (-T)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating:
(SSW/TSM) = 4.7 A per pin (2 pins powered)
(SSQ/TSW) = 6.3 A per pin (2 pins powered)
Voltage Rating:
465 VAC/655 VDC
Insertion Depth:
(3.68 mm) .145" to (6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au

PROCESSING

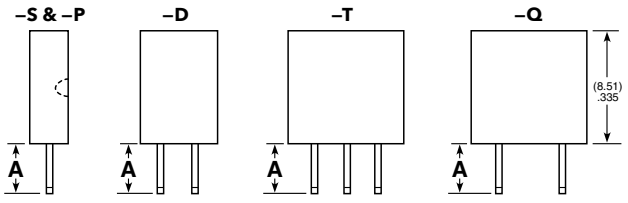
Lead–Free Solderable:
Yes:
-S and -D row option
No, Lead Wave only:
-P, -T and -Q row option

SERIES	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	TAIL OPTION	OTHER OPTION
SSW = Solder Tail **SSQ** = Square Tail		01 thru 50	Specify LEAD STYLE from chart	**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail **–G** = 20 µ" (0.51 µm) Gold on contact, Gold flash on tail **–T** = Matte Tin (-T N/A on LIF contacts)	**–S** = Single Row **–P** = Single Row (36 pins max **–D** = Double Row **–T** = Triple Row **–Q** = Double Row .200" (5.08 mm) row space (outer rows filled only)	Leave blank for straight pin version) **–RA** = Right-angle	**–LL** = Locking Lead Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only. Not Available with single row 1 or 2 positions) **"XXX"** = Polarized (Specify "XXX" as position number)



THROUGH-HOLE		
LEAD STYLE		SINGLE DOUBLE OR TRIPLE
Standard Insertion Force	Low Insertion Force*	A
–01	–21	(2.64) .104
–02	–22	(4.93) .194
–03	–23	(10.00) .394
–04	–24	(14.83) .584
–06**	N/A	(3.15) .124

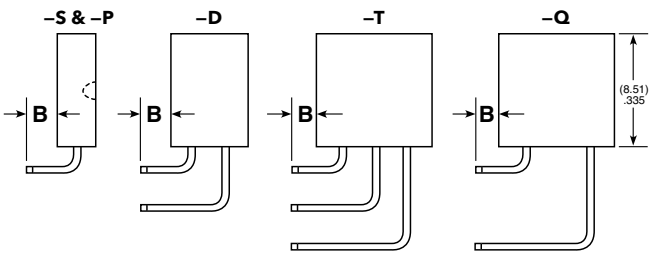
* LIF not available with Tin Plating
**Style –06 Not available with SSQ



Straight Pin Versions

RIGHT-ANGLE				
LEAD STYLE		SINGLE	DOUBLE	TRIPLE
Standard Insertion Force	Low Insertion Force*	(–S) B	(–D) B	(–T & –Q) B
–02	–22	(2.54) .100	(2.54) .100	(2.54) .100
–03	–23	(7.62) .300	(7.62) .300	N/A
–04	–24	(12.45) .490	N/A	N/A

*LIF not available with Tin Plating



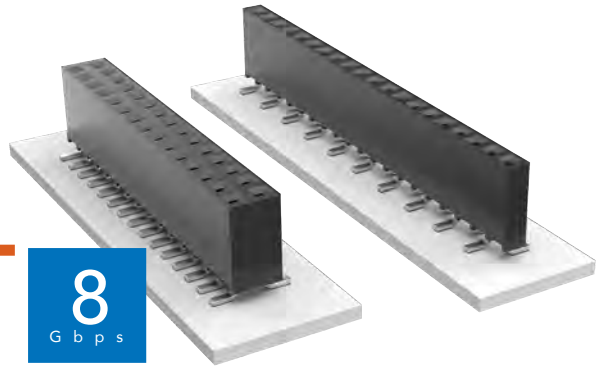
Right-angle Versions

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

SURFACE MOUNT .025" SQ POST SOCKET



8 Gbps

(2.54 mm) .100" PITCH • SSW SERIES

SSW
Mates:
TSW, MTSW, HTSW, HMTSW, MTLW, EW, ZW, TSS, HTSS, ZSS, TSM, TSSH, DW, HW

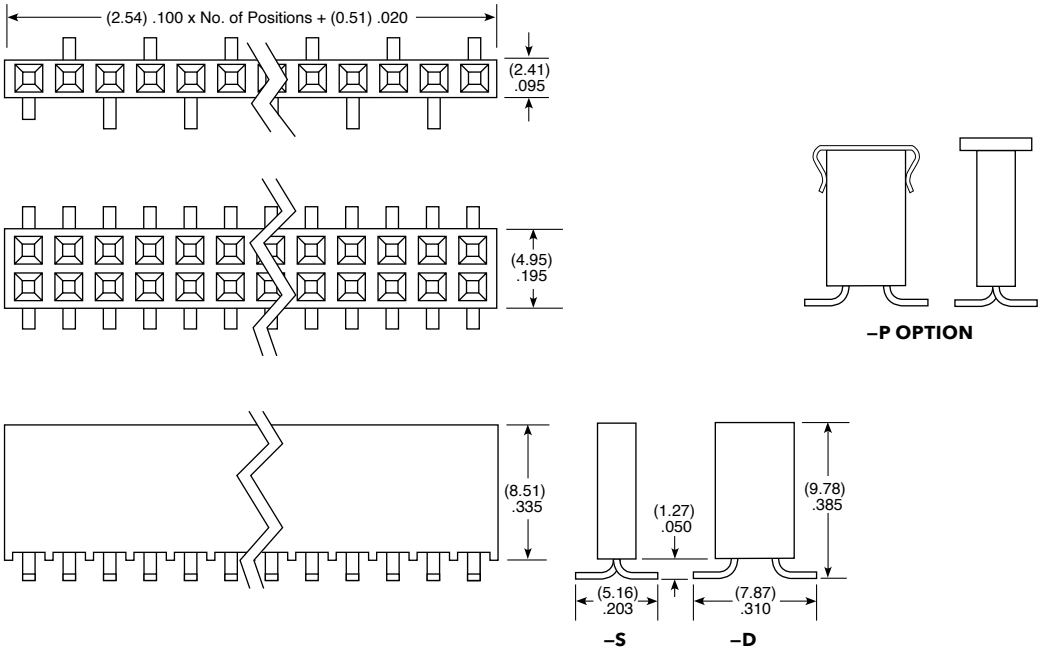
SSW	-	1	NO. PINS PER ROW	-	22	-	PLATING OPTION	-	ROW OPTION	-	VS	-	OTHER OPTION
			02 thru 36				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –G = 20 µ" (0.51 µm) Gold on contact, Gold flash on tail		–S = Single Row –D = Double Row				–"XX" = Polarized Position –K = –S: (3.50 mm) .138" DIA, –D: (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (03 positions min.) –P = Pick & Place Pad (05 positions min.) –TR = Tape & Reel (–02 thru –28) –FR = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–02 thru –28)

SPECIFICATIONS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating (SSW/TSM):
4.7 A per pin
(2 pins powered)
Voltage Rating:
465 VAC/658 VDC
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max



ALSO AVAILABLE
Contact Samtec

Other platings
Notch option

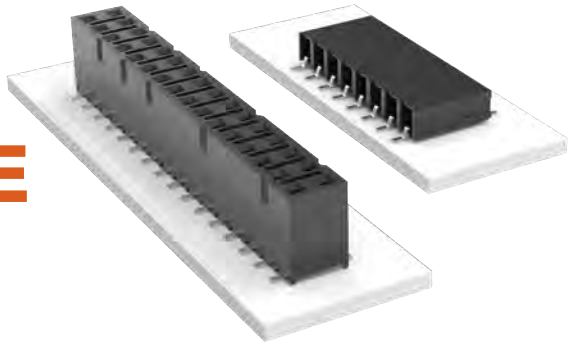
Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ CLAW CONTACT

TIGER CLAW™ SURFACE MOUNT SOCKET

8 Gbps



(2.54 mm) .100" PITCH • SSM SERIES

SSM
Mates:
TSW, MTSW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM, HMTSW, HTSW, TSSH, BST, HTSS, TLW, MTLW

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating (SSM/TSW):
5.2 A per pin
(2 pins powered)
Current Rating (SSM/TSM):
5.6 A per pin
(2 pins powered)
Voltage Rating:
405 VAC/573 VDC
Insertion Depth:
SV/DV = (4.34 mm) .171" to (7.24 mm) .285" or pass-through from top; (5.56 mm) .219" plus board thickness minimum from bottom;
SH/DH = (4.34 mm) .171" to (6.35 mm) .250"

PROCESSING

Lead–Free Solderable:
Yes
–DH Coplanarity:
Less than 28 positions
(0.15 mm) .006" max*
More than 27 positions
(0.20 mm) .008" max*
–SH, –SV, –DV Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

ALSO AVAILABLE
Contact Samtec

Alignment pin

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Notes:
Severe Environment Testing qualified; aligns with MIL-DTL-55302. Visit samtec.com/set

Some sizes, styles and options are non-standard, non-returnable.

SSM	-	1	NO. PINS PER ROW	-	PLATING OPTION	-	ROW OPTION	-	OTHER OPTION

02 thru 36
(–SV, – SH, –DH)

02 thru 40
(–DV)

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–SV
= Single Row Vertical Pin

–DV
= Double Row Vertical Pin

–SH
= Single Row Horizontal Pin

–DH
= Double Row Horizontal Pin

–"XXX"
= Polarized Position (–BE not available)

–BE
= Bottom Entry (–DV & –SV only)

–LC
= Locking Clip (–DV & –SV only) Contact Samtec for –DH & –SH

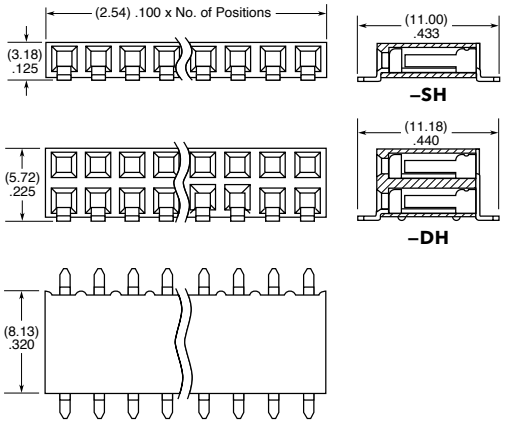
–K
= (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (2 positions min.) –DV & –SV only

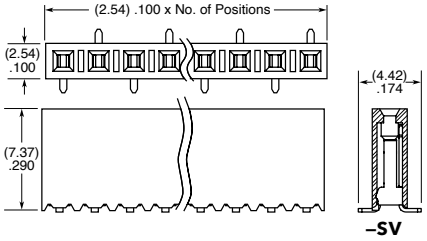
–M
= Metal Pick & Place Pad (5 positions min.) –DV only

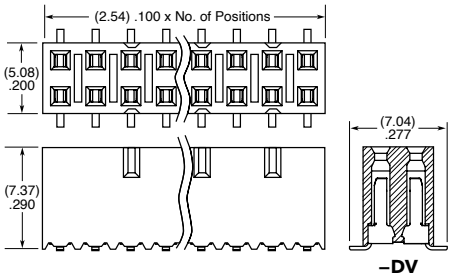
–P
= Plastic Pick & Place Pad (–DV & –SV only) (6 positions min. Contact Samtec for availability on smaller positions)

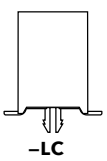
–TR
= Tape & Reel (29 positions max.)

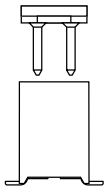
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (29 positions max.)

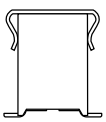










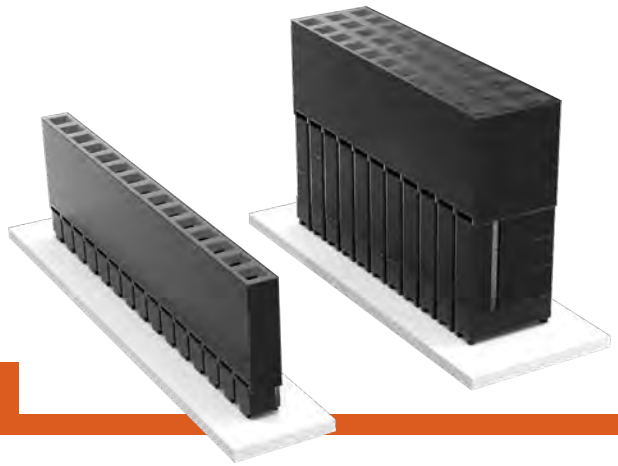


Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

ELEVATED SOCKETS

(2.54 mm) .100" PITCH • ESW/ESQ SERIES



ESW/ESQ

Mates:
TSW, MTSW, EW, MTLW, TSS, ZSS, TSM, DW, ZW, HW, TSSH, HTSS

SERIES	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION	-	OTHER OPTION
ESW = Solder Tail **ESQ** = Square Tail			01 thru 36		Specify LEAD STYLE from chart		**–F** = Gold flash on contact, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail **–G** = 20 µ" (0.51 µm) Gold contact, Gold Flash on Balance **–T** = Matte Tin (Not available with LIF contact)		**–S** = Single Row **–D** = Double Row **–T** = Triple Row (ESQ only)		**–LL** = Locking Lead (Two leads per strip crimped. Not available with single row 1 or 2 positions) **"XX"** = Polarized

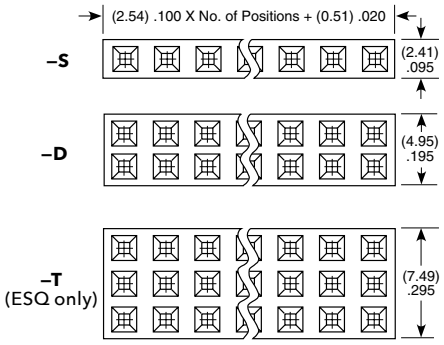
SPECIFICATIONS

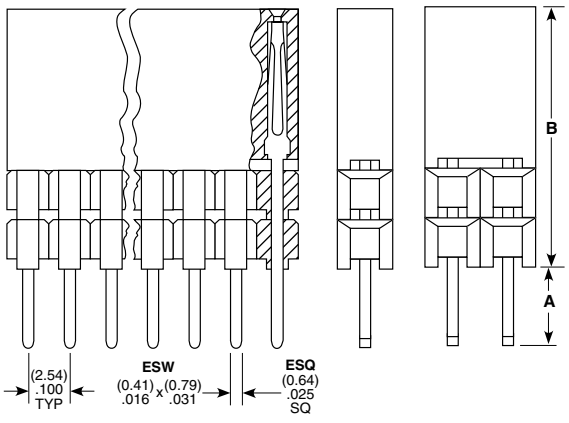
Insulator Material:
Black Glass Filled Polyester
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating (ESW/TSW):
5.2 A per pin
(2 pins powered)
Current Rating (ESQ/TSW):
5.7 A per pin
(2 pins powered)
Voltage Rating:
515 VAC/728 VDC
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au

PROCESSING

Lead-Free Solderable:
No, Lead Wave only

LEAD STYLE			
STANDARD INSERTION FORCE	LOW INSERTION FORCE	A	B
– 12	– 37	(2.29) .090	(11.05) .435
– 13	– 38	(7.36) .290	
– 23	– 48	(4.83) .190	(13.59) .535
– 33	– 58	(2.29) .090	(16.13) .635
– 14	– 39	(12.19) .480	(11.05) .435
– 24	– 49	(9.65) .380	(13.59) .535
– 34	– 59	(7.11) .280	(16.13) .635
– 44	– 69	(4.57) .180	(18.67) .735

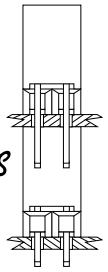




APPLICATIONS

EMBEDDED-PC PC/104 MODULES

Self Nesting Sockets



(ESQ SERIES)

PC/104™ J1/P1 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-14-G-D
Low Insertion Force	ESQ-132-39-G-D
PC/104™ J1 "Non-Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-12-G-D
Low Insertion Force	ESQ-132-37-G-D
PC/104™ J2/P2 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-120-14-G-D
Low Insertion Force	ESQ-120-39-G-D

PC/104 is a trademark of the PC/104 Consortium.

ALSO AVAILABLE
Contact Samtec

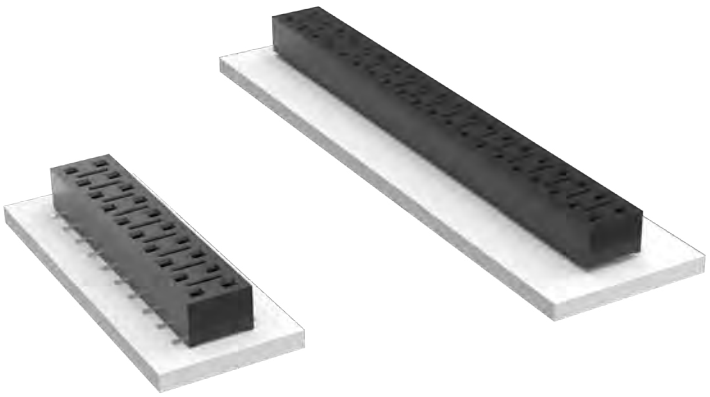
Other Platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ BEAM CONTACT

COST-EFFECTIVE RELIABLE SOCKET



(2.54 mm) .100" PITCH • HLE SERIES

HLE
Board Mates:
TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, HW

HLE	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	DV	–	TAIL OPTION	–	OTHER OPTION

02 thru 50

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

Leave blank for Surface Mount (Requires –BE for Bottom Entry)

–TE
= Through-hole Top Entry

–PE
= Through-hole Pass-through Entry (Requires –BE for Bottom Entry)

–BE
= Bottom Entry (Not available with –TE)

–A
= Alignment Pin (4 positions min.) Metal or plastic at Samtec discretion (Not available with -TE, -PE & -LC)

–LC
= Locking Clip (2 positions min.) (Not available with -A) (Manual placement required)

–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (3 positions min.) Not available with –TE or –PE tail option

–P
= Metal Pick & Place Pad (3 positions min.)

–TR
= Tape & Reel (29 positions max.)

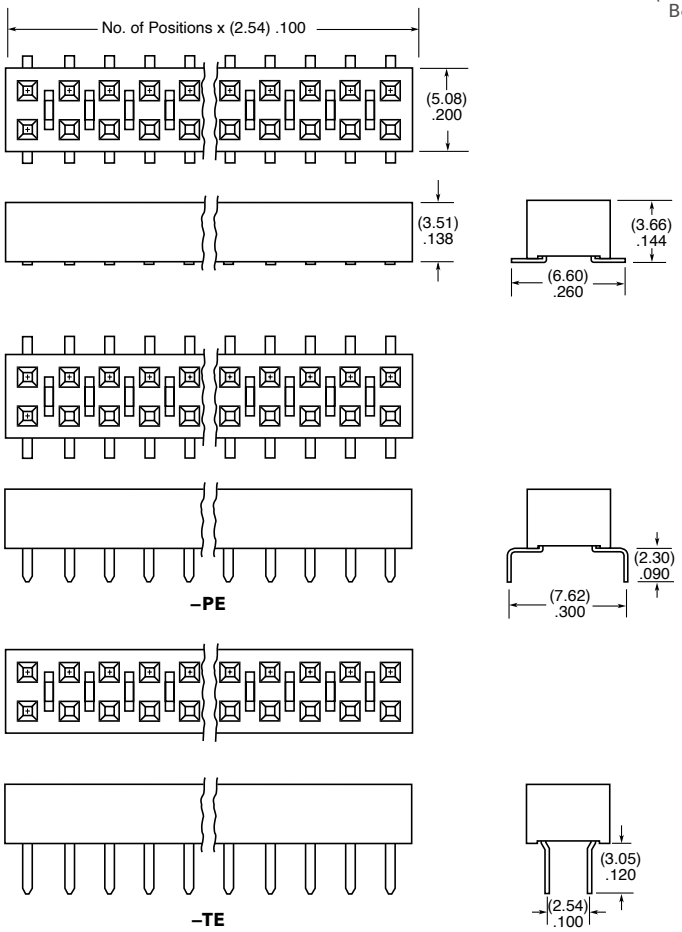
–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

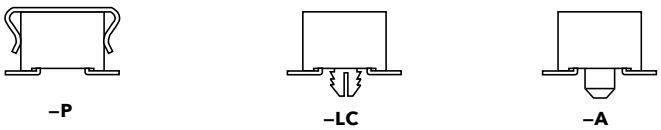
SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (HLE/TSM):
4.1 A per pin
(2 pins powered)
Voltage Rating:
400 VAC/566 VDC
Insertion Depth:
(1.78 mm) .070" to
(3.43 mm) .135", pass-through, or (2.59 mm) .102" min plus board thickness for bottom entry

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-20)
(0.15 mm) .006" max (21-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)





ALSO AVAILABLE
Contact Samtec

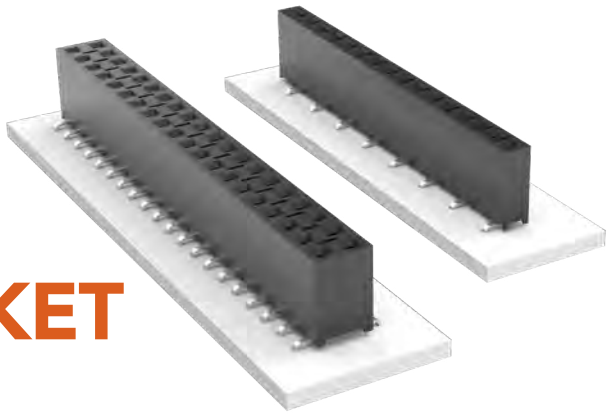
Other Platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ CLAW CONTACT

TIGER CLAW™ PASS-THROUGH SOCKET



(2.54 mm) .100" PITCH • BCS SERIES

BCS
Mates:
TSW, MTSW, HTSW, HMTSW, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, PHT

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
495 VAC/700 VDC
(-TE/-DE/-PE mated with TSM)
450 VAC/636 VDC
(-HE mated with TSW)
Insertion Depth:
(4.34 mm) .171" to
(7.24 mm) .285" from top,
(5.64 mm) .222" plus board thickness minimum from bottom.
–HE is (4.34 mm) .171" to (6.35 mm) .250"

PROCESSING

Lead–Free Solderable:
Yes

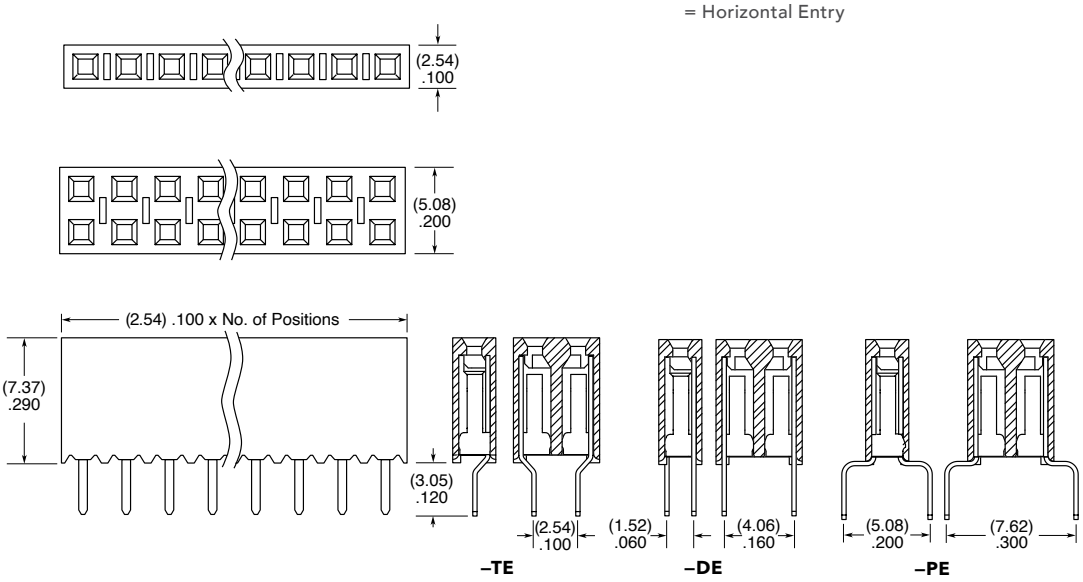
MATES	CURRENT RATING (PER PIN)
BCS/TSW	4.6 A
BCS/TSM	5.0 A

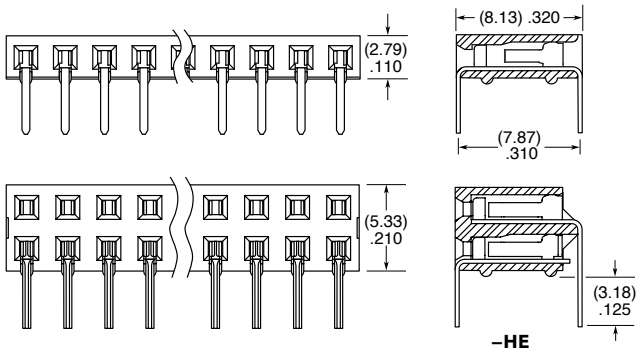
2 POSITIONS POWERED

ALSO AVAILABLE
Contact Samtec

Other Platings

BCS	–	1	NO. PINS PER ROW	–	PLATING OPTION	–	ROW OPTION	–	ENTRY OPTION	–	OTHER OPTION
			01 thru 50		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single –D = Double		–TE = Top Entry –DE = Top Entry (For Bottom Entry specify –DE–BE) Cannot be used with plated through-holes –PE = Pass-through Entry (For Bottom Entry specify –PE–BE) –HE = Horizontal Entry		–"XXX" = Polarized Position (–BE not available)





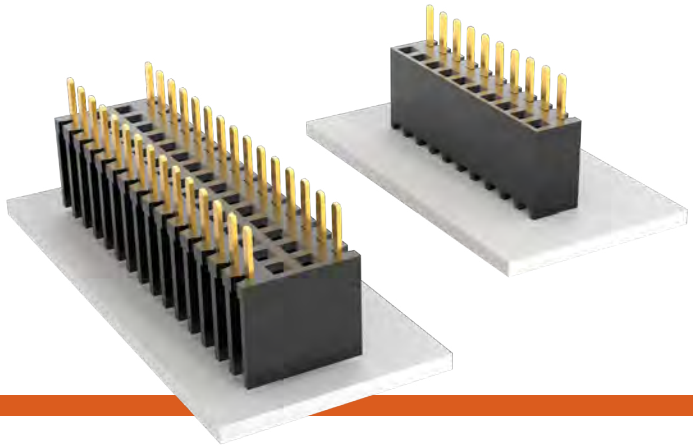
Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER BUY™ CONTACT

BOTTOM MOUNT SOCKET STRIPS

(2.54 mm) .100" PITCH • BSW SERIES



BSW
Mates:
TSW, MTSW, HTSW, MTLW, TSM, EW, ZW, HW, DW, PHT

FEATURES

- Bottom mount socket strips accept .025" SQ terminals.
- Ideal for soldering and plugging from the same side of the board.
- For low profile connections and high temperature soldering.

SPECIFICATIONS

Insulator Material:
Black Thermoplastic
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
plus board thickness

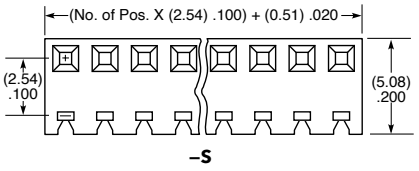
PROCESSING

Lead-Free Solderable:
Wave only

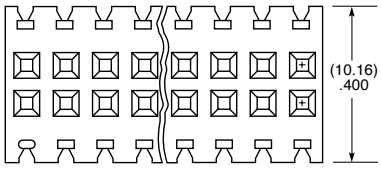
ALSO AVAILABLE
Contact Samtec

Other Platings

BSW	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	ROW OPTION
			02 thru 36		–04 = Standard Lead –24 = Low Insertion Force		–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail –G = 20 µ" (0.51 µm) Gold contact, Gold Flash on tail –T = Matte Tin (Not available with Low Insertion Force)		–S = Single Row –D = Double Row

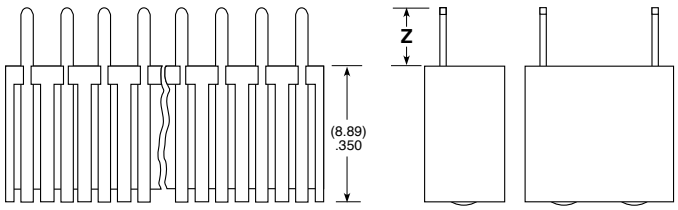


–S



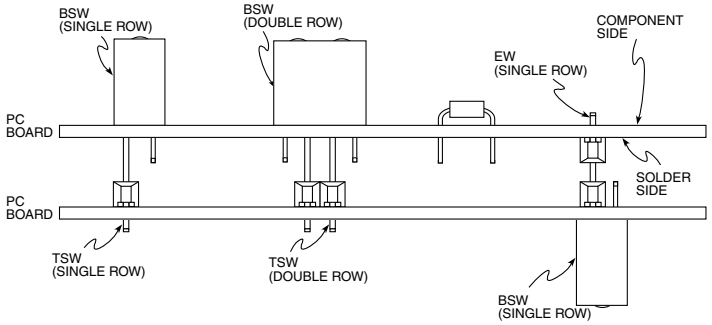
–D

ROW OPTION	Z
–S	(4.31) .170
–D	(4.32) .170



–S –D

APPLICATIONS

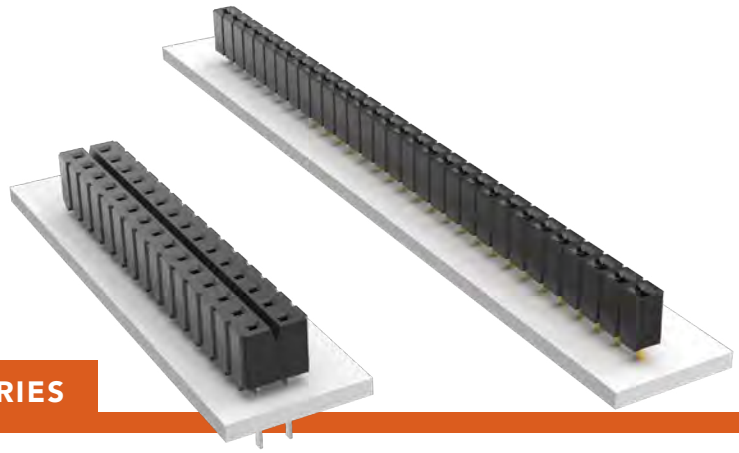


Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

LOW PROFILE SOCKET STRIPS

(2.54 mm) .100" PITCH • SLW/CES SERIES



SLW
Mates:
TLW, TSW, MTLW, MTSW, HW, EW, ZW, HTSW, HMTSW, TSM

CES
Mates:
TLW, TSW, MTLW, MTSW, HW, EW, ZW, DW, HTSW, PHT, HMTSW

SPECIFICATIONS

Insulator Material:
Black G.F. Polyester
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ"(1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating (SLW/TSW):
5.2 A per pin
(2 pins powered)
CES Current Rating (TSW/CES):
5.5 A per pin
(2 pins powered)
Voltage Rating:
SLW: 406 VAC/574 VDC
CES: 400 VAC/566 VDC
Insertion Depth:
SLW: (2.16 mm) .085" to (2.92 mm) .115"
CES: (2.62 mm) .103" to (4.06 mm) .160"
Lead-Free Solderable:
No, Lead Wave only

PROCESSING

Lead-Free Solderable:
No, Lead Wave only

ALSO AVAILABLE
Contact Samtec

Other Platings

SLW	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION

01 thru 50

TIGER BUY™ CONTACT

–F
= Gold flash on contact, Matte Tin on tail

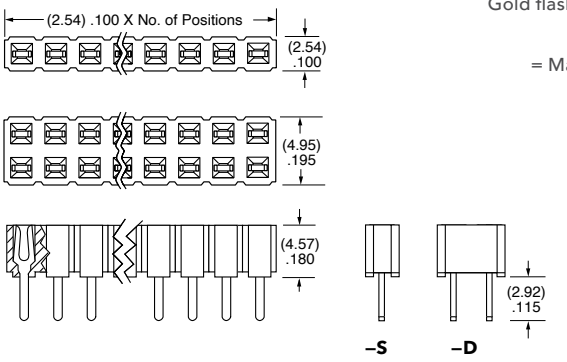
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

–T
= Matte Tin

– S
= Single Row

– D
= Double Row



CES	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	RA OPTION

01 thru 50

Specify LEAD STYLE from chart

–F
= Gold flash on contact, Matte Tin on tail

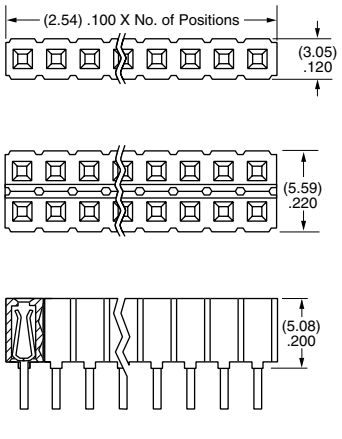
–L
= 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

–T
= Matte Tin

–S
= Single Row

–D
= Double Row

– RA
= Right-angle version (Style –02 only Single Row only)

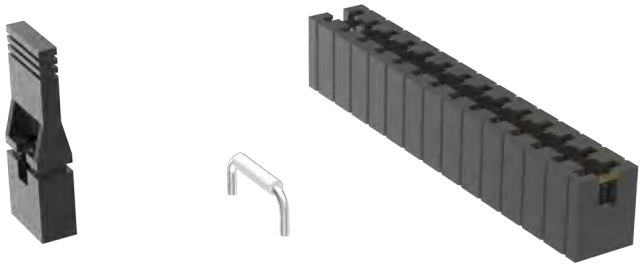


LEAD STYLE	A
–01	(3.25) .128
–02	(5.66) .223

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SHUNTS & JUMPERS



(2.54 mm) .100" PITCH • SNT/MNT/2SN/SNM/PK/JL SERIES

SNT/MNT
Mates:
TSW, HTSW, MTSW, HMTSW, TLW, DW, EW, ZW, HW, TSM, BST, PHT

2SN
Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH, EHT

SNM
Mates:
TMS, MTMS, DWM

SPECIFICATIONS

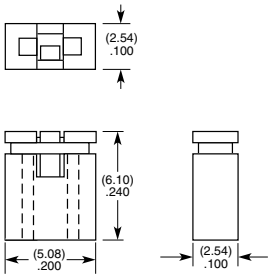
SNT
Insulator Material:
Glass Filled Polyester
Contact Material:
Phosphor Bronze
Current Rating (SNT/TSW):
4.3 A per pin
(1 pin powered per row)
Operating Temp Range:
-55 °C to +125 °C (Gold)
-55 °C to +105 °C (Tin)
Insertion Depth:
(4.32 mm) .170" minimum
Lead Size accepted:
(0.64 mm) .025" SQ

MNT
Same as SNT except:
Current Rating (MNT/TSM):
3.9 A per pin
(1 pin powered per row)
Working Voltage:
450 VAC

2SN
Same as SNT except:
Insertion Depth:
(2.29 mm) .090" minimum
Lead Size accepted:
(0.51 mm) .020" SQ

SNM
Same as SNT except:
Insertion Depth:
(3.43 mm) .135" minimum
Max Processing Temp:
Not recommended for IR/VP

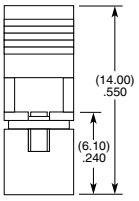
SNT – 100 – BODY COLOR – PLATING OPTION – HANDLE OPTION



BODY COLOR
–BK = Black
–RD = Red
–BL = Blue
–YW = Yellow

PLATING OPTION
–G = 10 µ" (0.25 µm) Gold
–T = Matte Tin

HANDLE OPTION
–H = Handle (Black Only)



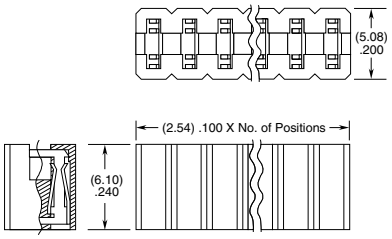
Note:
Other Gold plating options available.

MNT – 1 – NO. OF POSITIONS – BODY COLOR – PLATING OPTION

NO. OF POSITIONS
02 thru 20

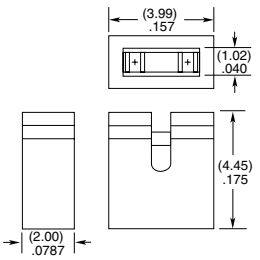
BODY COLOR
–BK = Black

PLATING OPTION
–F = Gold Flash
–G = 10 µ" (0.25 µm) Gold
–T = Matte Tin



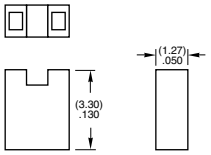
Note:
Some lengths, styles and options are non-standard, non-returnable.

2SN



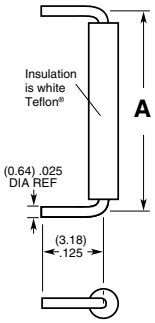
PART NO.
2SN-BK-G

SNM



PART NO.
SNM-100-BK-G

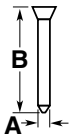
JL



PART NO.	A
JL–100–25–T	(2.54) .100
JL–250–25–T	(6.35) .250
JL–400–25–T	(10.16) .400

Note:
For complete specifications see www.samtec.com?JL

PK



PART NO.	A	B
PK–01–06	(0.64) .025 SQ	(5.84) .230
PK–01–07	(0.51) .020 SQ	(3.18) .125

Insulator Material:
Natural Thermoplastic

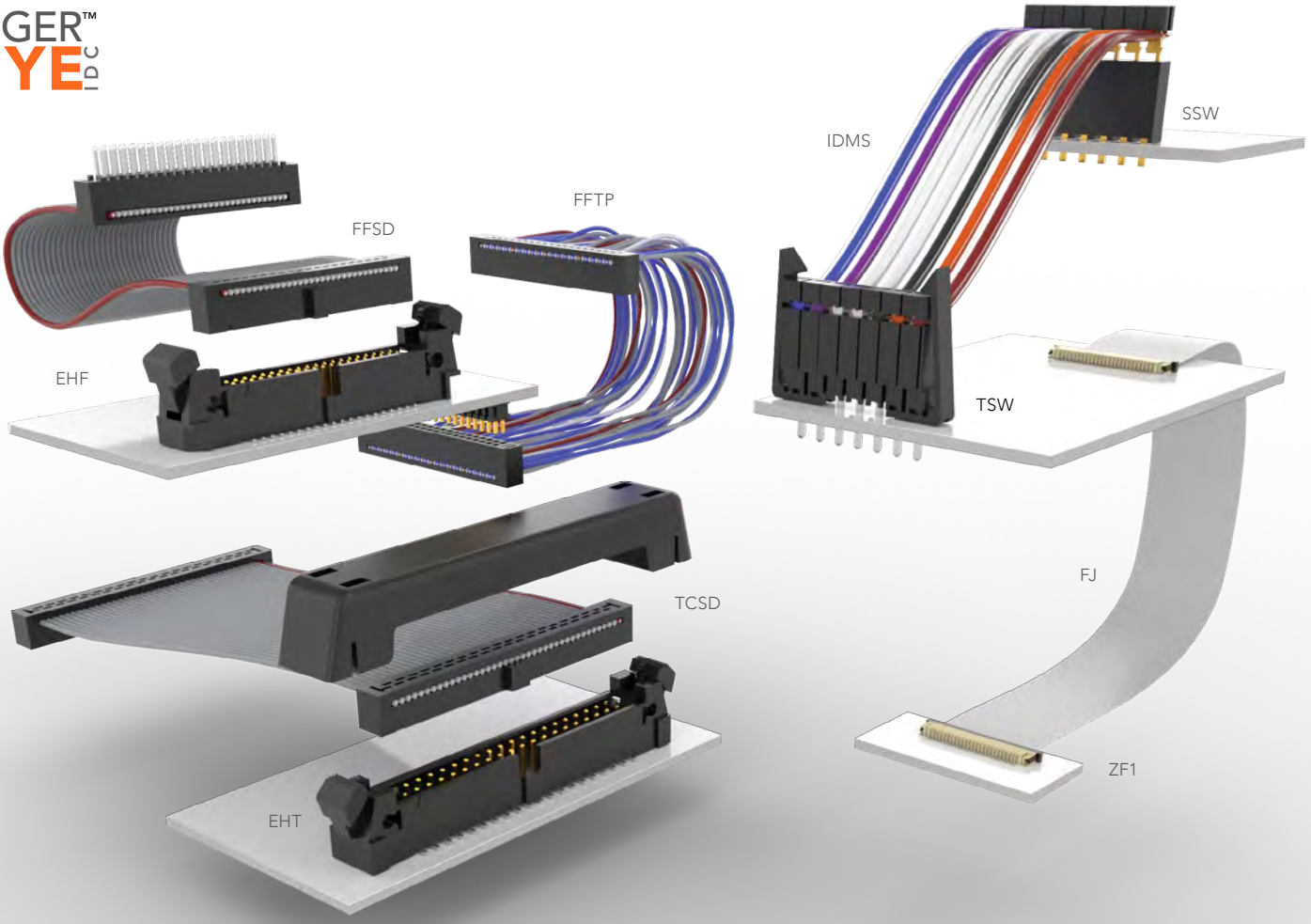
Note:
Order per wheel.
6 pins per wheel.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

IDC/FLAT FLEXIBLE CABLE SYSTEMS

TIGER EYE™ CONTACTS • MULTIPLE PITCHES • LOW PROFILE • SHROUDED EJECTOR TERMINALS

TIGER™ EYE IDC



330-341 **IDC ASSEMBLIES AND HEADERS**

.100" (2.54 mm) Pitch (IDSX, IDMX, EJH, TST, HTST, ZST) 330-333
2.00 mm (.0787") Pitch (TCSD, TCMD, EHT, EC2, STMM, ZSTMM, ETMM) 334-337
.050" (1.27 mm) Pitch (FFSD, FFMD, FFTP, FMTP, EHF, SHF, ESHF) 338-341

342 **FLEX JUMPERS**

0.50 mm (.0197") Pitch FFC Jumper & Sockets (FJH, ZF5S) 342



SLIM BODY FLAT RIBBON IDC CABLES

(2.54 mm) .100" PITCH • IDSS/IDSD/IDMS/IDMD SERIES

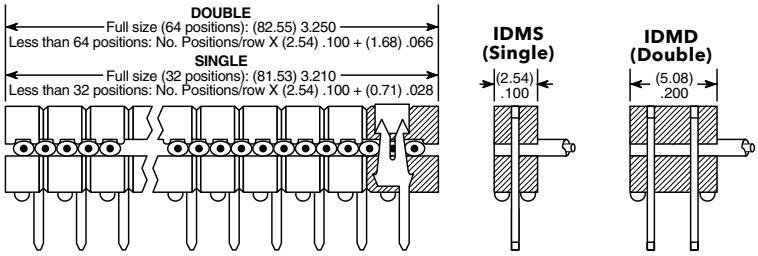
IDSS/IDMS/IDMD
Mates:
TSW, MTSW, TSM, EJH, PHT, HMTSW, HTSW, HW, DW, EW, ZW, MTLW

IDSD
Mates:
TST, HTST, ZST, EJH

SERIES	ROW OPTION	NO. PINS PER ROW
IDM = Standard Tail Male Plug	**S** = Single	**–02 thru –32** = IDMS/IDMD
IDS = Socket	**D** = Double (Color coded cable Not available for 31 thru 36 pins/row. See –G option.)	**–02 thru –36** = IDSS/IDSD

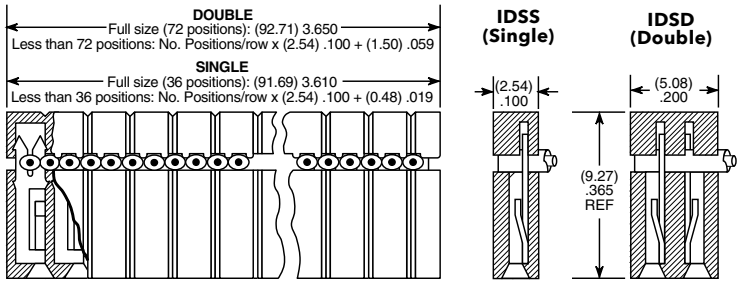
SPECIFICATIONS

Insulator Material:
Black Glass Filled Polyester
Contact (IDSS/IDSD):
BeCu
Terminal (IDMS/IDMD):
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 100 µ" (2.54 µm) Cu or 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 stranded Tinned Copper
Operating Temp Range:
-20 °C to +105 °C (Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Current Rating (IDMD):
3 A per pin (2 pins powered)
Voltage Rating:
425 VAC/600 VDC
Lead Size Range:
(0.56 mm) .022" SQ to (0.71 mm) .028" SQ
Lead Insertion Depth:
(5.59 mm) .220" to (6.22 mm) .245"



(For square or long tail see HCMX Series)

IDMX shown

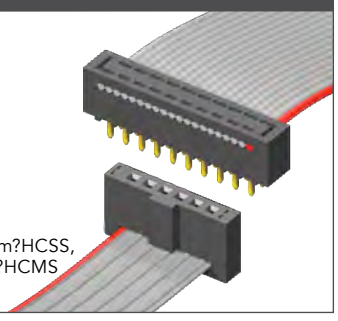


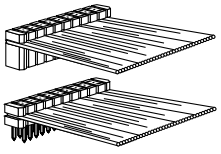
IDSX shown

ALSO AVAILABLE

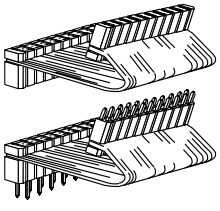
Molded-To-Position IDC Assembles

Low Profile
Skinny side locks
Dual beam contacts
Single and double row
(6.35mm) .025" square and (5.84mm) .230" length tail available
Visit samtec.com?HCSD, samtec.com?HCSS, samtec.com?HCMD or samtec.com?HCMS for more detailed information.





Single End (–S)



Double End (–D)



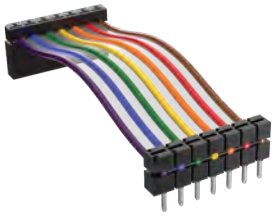
Transfer End (–T)

Note:
This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.







END ASSEMBLY

–S
= Single End
(Socket or Male Plug on one end)

–D
= Double End
(Socket or Male Plug on each end)

–T
= Transfer End
(Male Plug on one end with socket on other.
Begin part number with IDM)

ASSEMBLED LENGTH

–"XX.XX"
= Assembled Length

OPTION

–T
= Tin Plating
(Both Ends)

–C
= Tin IDM,
10 µ" (0.25 µm) Gold IDS
(-T End Assembly Required)

–A
= Tin IDS,
10 µ"(0.25 µm) Gold IDM
(-T End Assembly Required)

–P "XX"
=Polarized
Specify "XX" as position.
For Double the same position
will be polarized on both ends.
(Not available on IDM unless transfer,
then only the socket is polarized.)

–G
= Gray Cable
Specify –G for Gray cable.
Gray cable has one red edge.
IDSS and IDMS uses
(2.54 mm) .100" centerline cable.
IDSD and IDMD uses
(1.27 mm) .050" centerline cable.
Cable is 28 AWG 7/36 copper wire.
Standard cable is same as
above except color

–ST "X"
= Stripped & Tinned
(Specify Suffix from table)
(All dimensions are ± 1/16" (1.59 mm)
(Not available in 28 positions and higher)

–B "XX"
= Breakout
(Specify "XX" as number of
conductors to be broken out)
(Breakout starts with Number 1 lead
indicated by brown wire or red stripe.
Shown on top side)

–RW
= Reverse Wiring
(#1 wire opposite position #1)

–S "XX"
= Daisy Chain, Single
(When mating double row
connector with two single row
connectors, the outer most single will
be connected to Conductor #1 and
the inside single to Conductor #2)

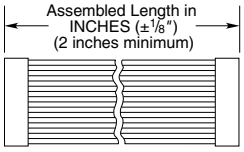
–D "XX"
= Daisy Chain, Double

–W "XX"
= Wiring Reverse Daisy Chain, Single
(Same as –S "XX" except outer strip
connected to Conductor #2 and inside
strip connected to Conductor #1)

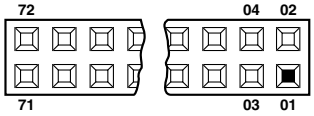
–R
= Reversed

–M
= Middle Reversed
(Requires –SXX, –WXX or –DXX)

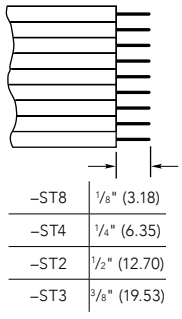
–O
= Outside Reversed
(Requires –SXX, –WXX or –DXX)



Assembled Length (–"XX.XX")

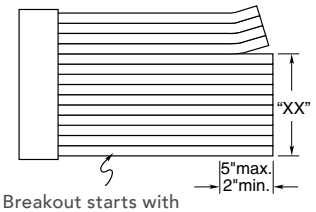


Polarized (–P "XX")



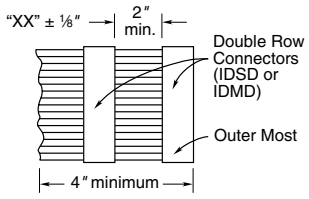
–ST8	1/8" (3.18)
–ST4	1/4" (6.35)
–ST2	1/2" (12.70)
–ST3	3/8" (19.53)

Stripped & Tinned (–ST "X")

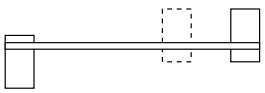


Breakout starts with
Number 1 lead indicated
by brown wire or red stripe.
Shown on top side.

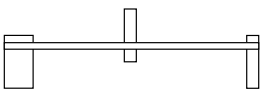
Breakout (–B "X")



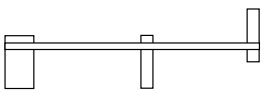
Daisy Chain SIngle (–S "XX")



Reversed (–R)



Middle Reversed (–M)

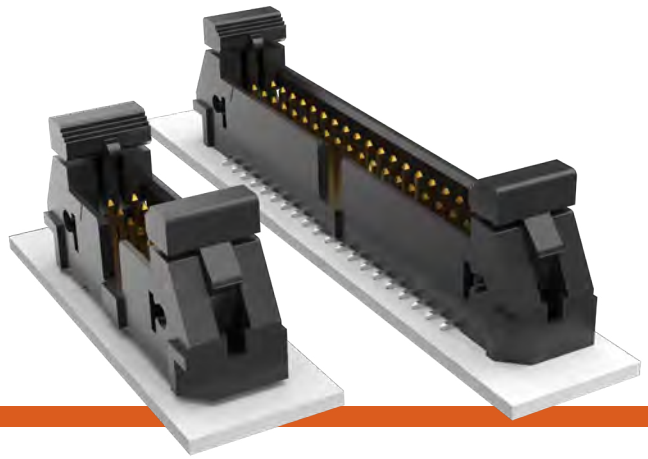


Outside Reversed (–O)

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SHROUDED IDC EJECTOR HEADERS

(2.54 mm) .100" PITCH • EJH SERIES



EJH
Mates:
IDSD (EJH-01 Required),
HCSD (EJH-02 Required)

SPECIFICATIONS

Insulator Material:
-01=Black LCP
-02=Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

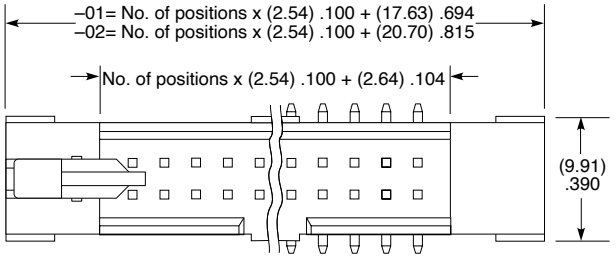
PROCESSING

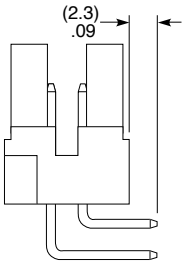
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

ALSO AVAILABLE
Contact Samtec

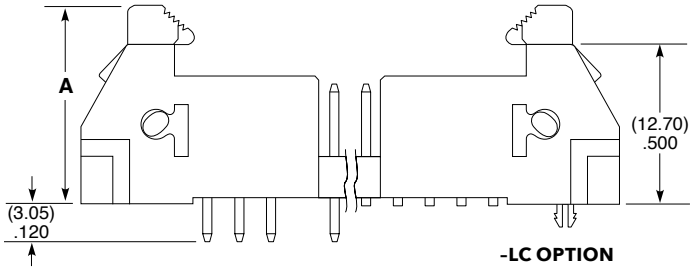
Other sizes
Other platings

EJH	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	D	-	TAIL OPTION	-	OTHER OPTION
			05, 07, 08, 10, 13, 15, 17, 20, 25 (Standard sizes)		**–01** = Standard (Mates to IDSD) **–02** = Extended (Mates to HCSD)		**–F** = Gold flash on post, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail				**–SM** = Surface Mount **–TH** = Through-hole **–RA** =Right-angle		**–"XX"** = Polarized Position **–LC** = Locking Clip (–SM only) (Manual placement required) **–K** = .475" (12.00 mm) DIA Polyimide Film Pick & Place Pad (–SM only) **–P** = Pick & Place Pad (–SM only) **–TR** = Tape & Reel (–SM only) (25 position not available) **–FR** = Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–SM only) (25 position not available)

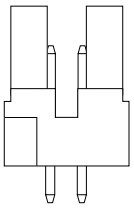




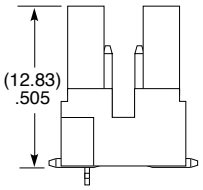
–RA OPTION



-LC OPTION



–TH OPTION



–SM OPTION

(Latch removed for clarity)

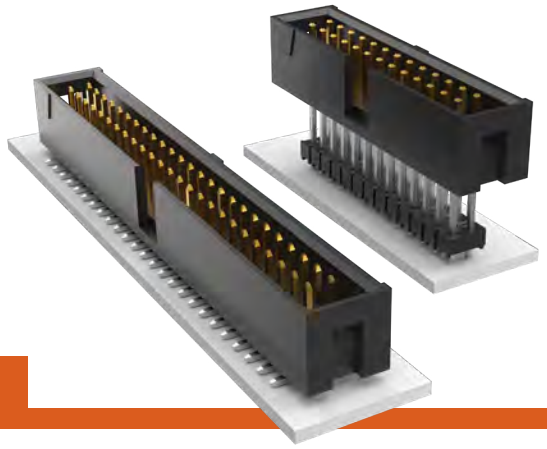
LEAD STYLE	A
–01	(16.88) .665
–02	(17.39) .685

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

SHROUDED .025" SQ POST IDC HEADERS



(2.54 mm) .100" PITCH • TST/HTST/ZST SERIES

TST/HTST/ZST
Mates:
IDSD, HCSD

SPECIFICATIONS

Insulator Material:
TST, ZST=Black Glass Filled Polyester
HTST=Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Current Rating:
3.4 A per pin (2 pins powered)
Voltage Rating::
425 VAC/600 VDC

PROCESSING

Lead–Free Solderable:
HTST=Yes
TST, ZST= No, Lead Wave only
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-15)
(0.15 mm) .006" max (17-36)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

SERIES	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

TST
= Cable Strip

HTST
= High Temp Cable Strip

05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36
(Standard sizes)

Specify LEAD STYLE from chart

–F
= Gold flash on post, Matte Tin on tail (Not available on –DV)

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–D
= Double Row Through-hole (lead style –01, –02 & –03 only)

–DV
= Double Row Surface Mount (lead style –01 only) (HTST only)

–D–RA
= Double Row Right-angle (lead style –04 & –05 only)

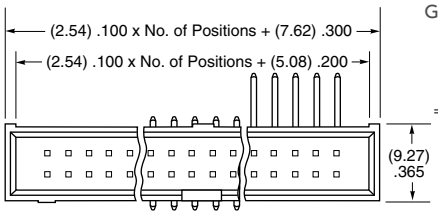
Surface Mount (lead style –01 only) (HTST only)

–P
= Pick & Place Pad

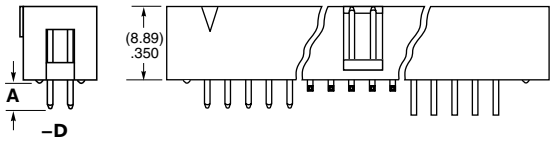
–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

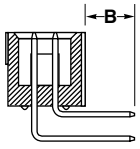
LEAD STYLE	THROUGH-HOLE (A)
–01	(2.92) .115
–02	(4.19) .165
–03	(14.35) .565



–D –DV –D–RA



–D –DV (HTST ONLY)



–D–RA

LEAD STYLE	RIGHT-ANGLE (B)
–04	(3.30) .130
–05	(5.84) .230

ZST	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	BODY HEIGHT

05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36
(Standard sizes)

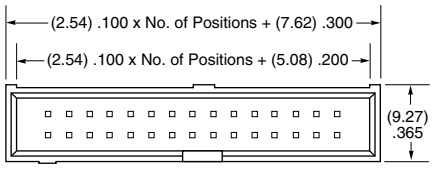
Specify LEAD STYLE from chart

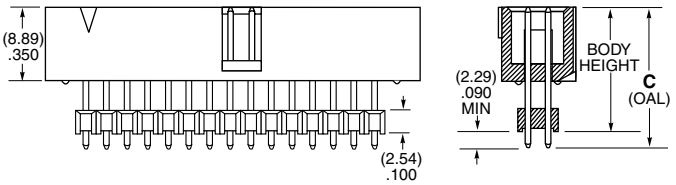
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–"XXXX"
= Body Height





LEAD STYLE	C (OAL)	MAX BODY HEIGHT
–01	(16.00) .630	(13.72) .540
–02	(18.54) .730	(16.26) .640
–03	(21.08) .830	(18.80) .740
–04	(23.62) .930	(21.34) .840
–05	(26.16) 1.030	(23.88) .940
–06	(28.70) 1.130	(26.42) 1.040
–07	(31.24) 1.230	(28.96) 1.140
–08	(33.78) 1.330	(31.50) 1.240
–09	(36.32) 1.430	34.04) 1.340

Note:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

ALSO AVAILABLE
Contact Samtec

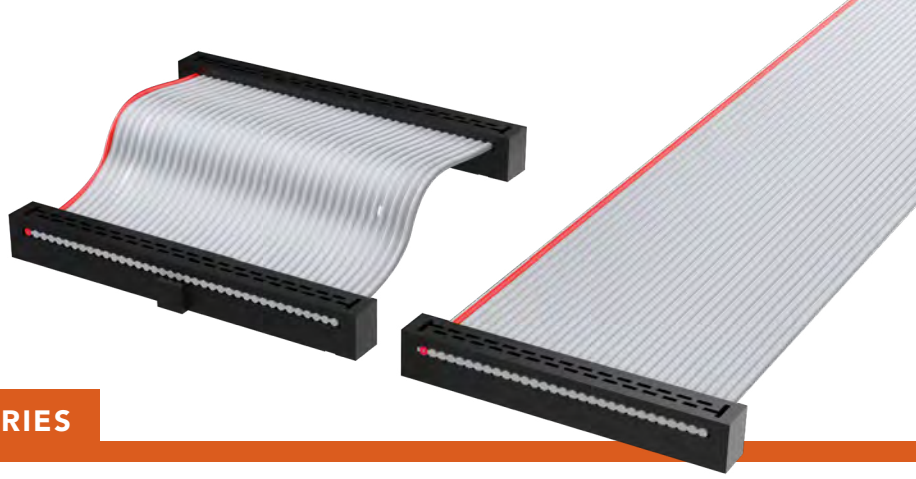
Other platings & sizes
Alignment Pins
Single Row
Locking Leads
Polarized

Note:
Some lengths, styles and options are non-standard, non-returnable. ZST is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE IDC

TIGER EYE™ IDC SOCKET CABLE



(2.00 mm) .0787" PITCH • TCSD SERIES

TCSD
Mates:
TMM, TMMH, STMM, MMT, TW, MTMM, EHT, ETMM (-SR), ZSTMM

SPECIFICATIONS

Insulator Material:
Black Glass Filled Polyester
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 Stranded,
Tinned, Copper with
Gray PVC Insulator
Operating Temp Range:
-40 °C to +105 °C
Current Rating (TCSD/STMM):
2.8 A per pin
(2 pins powered)
Voltage Rating:
300 VAC/424 VDC
Lead Size Accepted:
(0.48 mm) .019" to
(0.53 mm) .021"
Insertion Depth:
(2.87 mm) .113" to
(3.17 mm) .125"

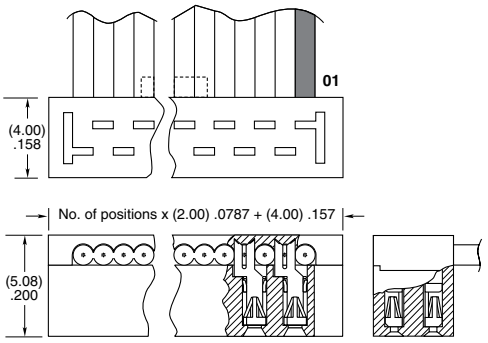
ALSO AVAILABLE
Contact Samtec

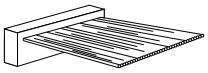
Other sizes
Other platings

POLARIZING KEY

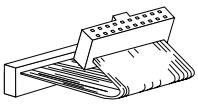
Specify PK-01-07 for polarizing key (Available in wheels of six each). Also polarizes SMM Series socket strips.

SERIES	NO. PINS PER ROW	END OPTION	OVERALL LENGTH	01	PLATING OPTION	N	OTHER OPTION
TCSD = Socket Strip	**–04, –05, –07, –08, –10, –12, –13, –15, –17, –20, –22, –25** (Standard sizes)	**–S** = Single End **–D** = Double End	**–"XX.XX"** = Assembled Length		**–F** = Gold flash on contact	**–N** = Notch Polarization	**–P "XX"** = Position Polarization (Specify "XX" as position number. Same position will be polarized on both ends) **–B "XX"** = Breakout (Specify "XX" as number of conductors to be broken out) **–RW** = Reverse Wiring (Blue or black wire opposite position #1) **–D "XX"** = Daisy Chain **–SR** = Strain Relief (Not available with –O, –M, –R, –DXX or –BXX) **–R** = Reversed **–M** = Middle Reversed (Requires –DXX) **–O** = Outside Reversed (Requires –DXX)

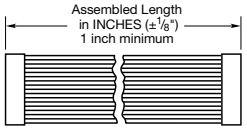




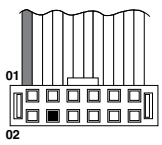
Single End (–S)



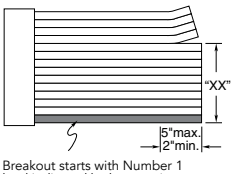
Double End (–D)



Assembled Length (–"XX.XX")

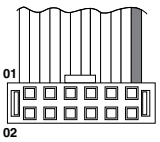


Position Polarization (–P "XX")

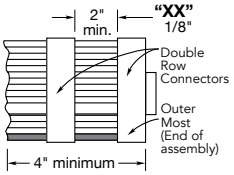


Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side.

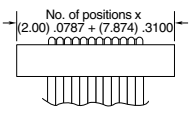
Breakout (–B "XX")



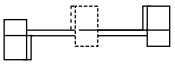
Reverse Wiring (–RW)



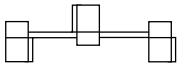
Daisy Chain (–D "XX")



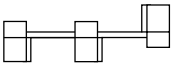
Strain Relief (–SR)



Reversed –R)



Middle Reversed (–M)



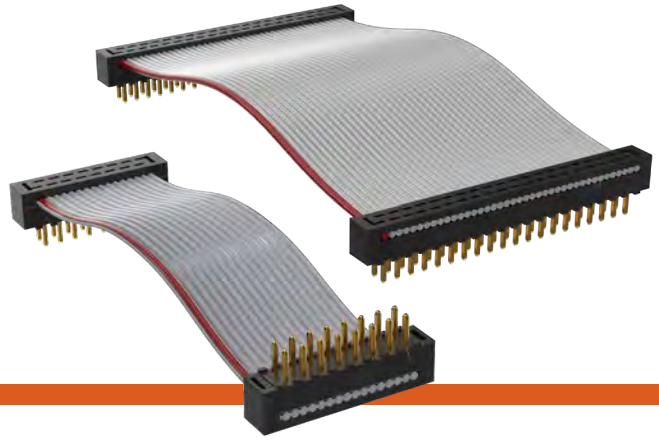
Outside Reversed (–O)

Note:
TCSD Series assemblies are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE IDC

HIGH-RELIABILITY IDC HEADER CABLE



(2.00 mm) .0787" PITCH • TCMD SERIES

TCMD
Mates:
SMM*, MMS*, ESQT, PTF, SQT, SQW, TLE

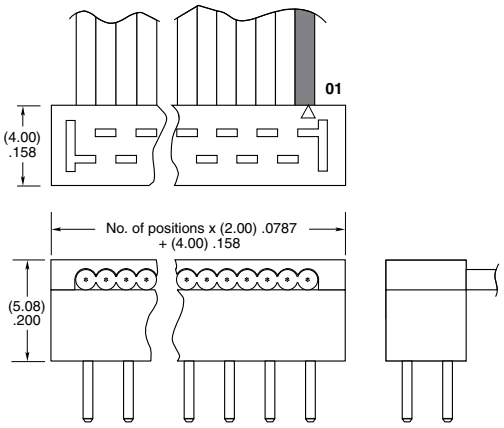
SPECIFICATIONS

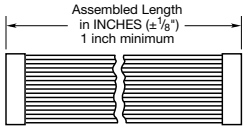
Insulator Material:
Black Glass Filled Polyester
Terminal:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 Stranded, Tinned, Copper with
Gray PVC Insulator
Operating Temp Range:
-40 °C to +105 °C
Current Rating:
2.6 A per pin
(2 pins powered)
Voltage Rating:
300 VAC/424 VDC

ALSO AVAILABLE
Contact Samtec

Other sizes

SERIES	NO. PINS PER ROW	END OPTION	OVERALL LENGTH	01	TRANSFER OPTION	OTHER OPTION
TCMD = Terminal Strip	**–04,–05, –07 –08, –10, –12, –13, –15, –17, –20, –22, –25** (Standard sizes)	**–S** = Single End **–D** = Double End **–T** = Transfer End	**–"XX.XX"** = Assembled Length		Leave blank for –S and –D End Options. For –T End Option Specify "–N" (Socket has notch polarization)	**–P "XX"** = Position Polarization (Specify "XX" as position number. Requires Transfer End. Only Socket is polarized.) **–B "XX"** = Breakout (Specify "XX" as number of conductors to be broken out) **–RW** = Reverse Wiring (Blue or black wire opposite position #1) **–D "XX"** = Daisy Chain **–SR** = Strain Relief (Not available with –O, –M, –R, –DXX or –BXX) **–R** = Reversed **–M** = Middle Reversed (Requires –DXX) **–O** = Outside Reversed (Requires –DXX)

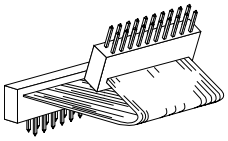




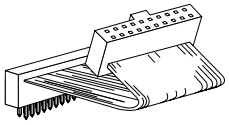
Assembled Length (-"XX.XX")



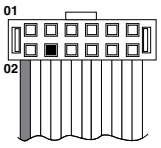
Single End (–S)



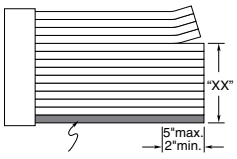
Double End (–D)



Transfer End (–T)

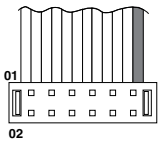


Position Polarization (–P "XX")

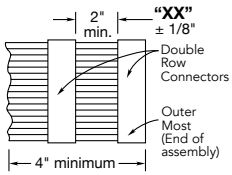


Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side.

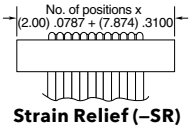
Breakout (–B "XX")



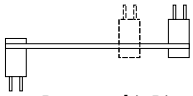
Reverse Wiring (–RW)



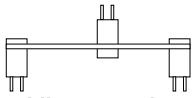
Daisy Chain (–D "XX")



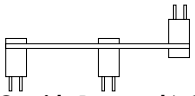
Strain Relief (–SR)



Reversed (–R)



Middle Reversed (–M)



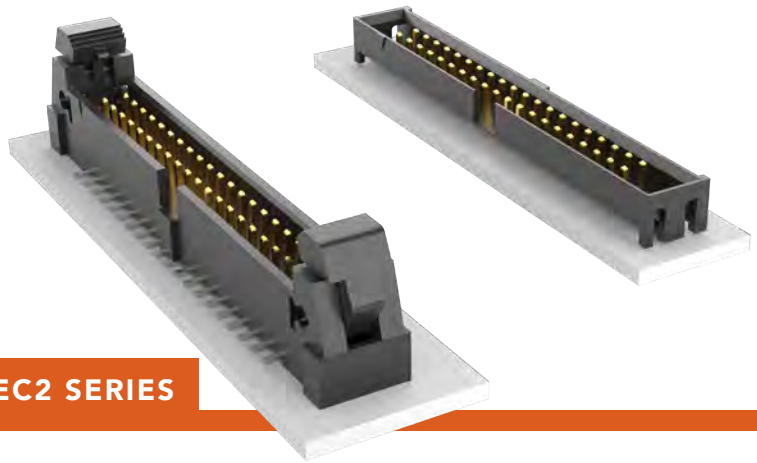
Outside Reversed (–O)

***Note:**
Standard TCMD callout will not mate with SMM, MMS. Must use gold plated callouts. (See drawing on web.)
When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

Note:
TCMD Series assemblies are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

SHROUDED IDC HEADERS



(2.00 mm) .0787" PITCH • ETMM/EHT/EC2 SERIES

ETMM
Mates:
TCSD, TCMD

EHT
Mates:
TCSD

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
EHT = (0.10 mm) .004" max
ETMM = (0.13 mm) .005" max*
*(.004" stencil solution may be available; contact ipg@samtec.com)

TYPE STRIP	1	NO. PINS PER ROW	02	PLATING OPTION	D	TAIL OPTION	OTHER OPTION

ETMM
= Mates with TCSD and TCMD with Strain Relief

05, 08, 10, 12, 13, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold Flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–TH
=Through-hole

–RA
= Right -angle

–SM
= Surface Mount

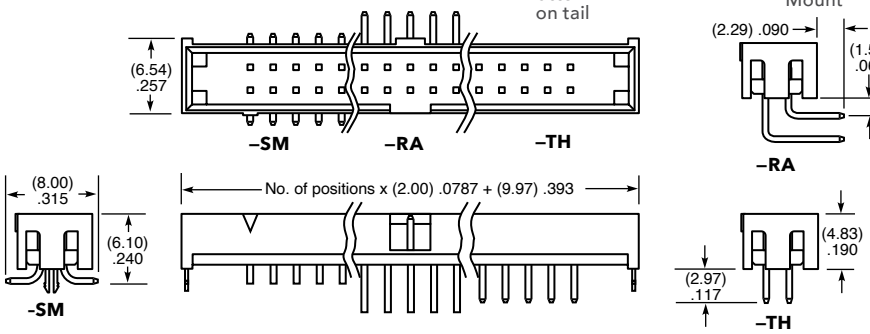
–"XX"
= Polarized Position

–LC
= Locking Clip (N/A with –RA) (Manual placement required)

–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad (–SM only)

–TR
= Tape & Reel (–SM only)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–SM only)



EHT	1	NO. PINS PER ROW	01	PLATING OPTION	D	TAIL OPTION	OTHER OPTION

05, 08, 10, 12, 13, 15, 17, 20, 22, 25

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

Leave blank for Through-hole

–RA
= Right-angle

–SM
= Surface Mount

–"XX"
= Polarized Position

–SR
= Strain Relief (Leave Blank for no strain relief)

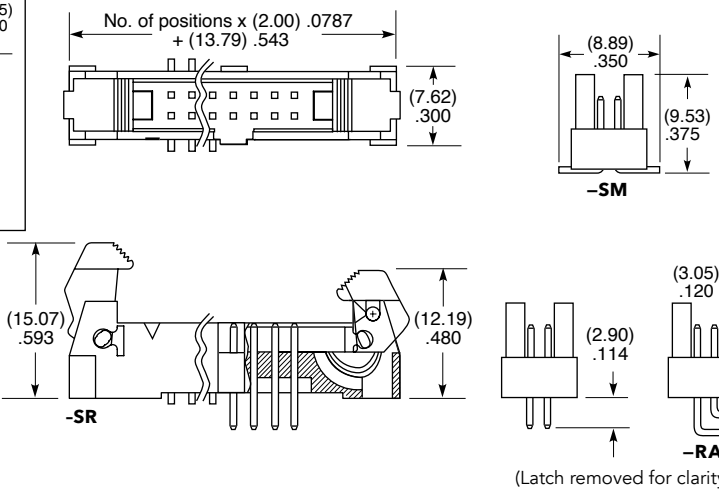
–LC
= Locking Clip (–SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad (–SM only)

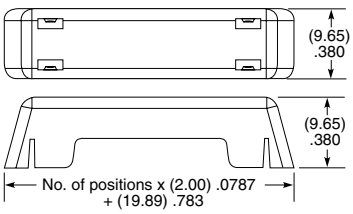
–P
= Pick & Place Pad (–SM only)

–TR
= Tape & Reel (–SM only)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–SM only)



EJECTOR HEADER CAP
(Locks TCSD cable to EHT header)



EC2	–	NO. PINS PER ROW

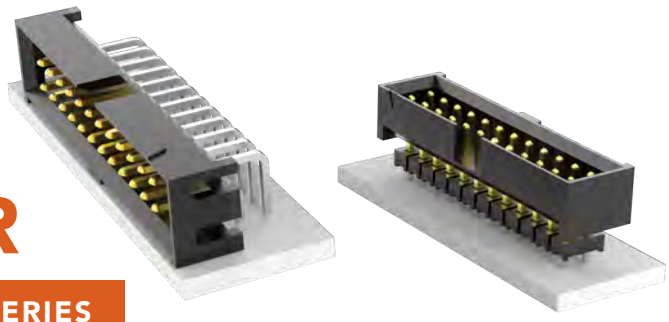
05, 08, 10, 12, 13, 15, 17, 20, 22, 25

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

FLEX STACK

SHROUDED IDC HEADER & STACKER



(2.00 mm) .0787" PITCH • STMM/ZSTMM SERIES

STMM/ZSTMM
Mates:
TCSD (except –SR)

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Current Rating (STMM/TCSD):
2.8 A per pin
(2 pins powered)
Voltage Rating:
300 VAC/424 VDC

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

STMM – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

Leave blank for Through-hole

–RA
= Right-angle

–SM
= Surface Mount

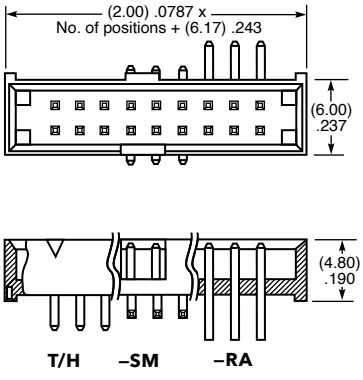
–"XX"
= Polarized Position

–LC
= Locking Clip (-SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Film Pick & Place Pad (-SM only)

–TR
= Tape & Reel (–SM only)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–SM only)



ZSTMM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – BODY HEIGHT – OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 17, 20, 22, 25
(Standard sizes)

Specify LEAD STYLE from chart

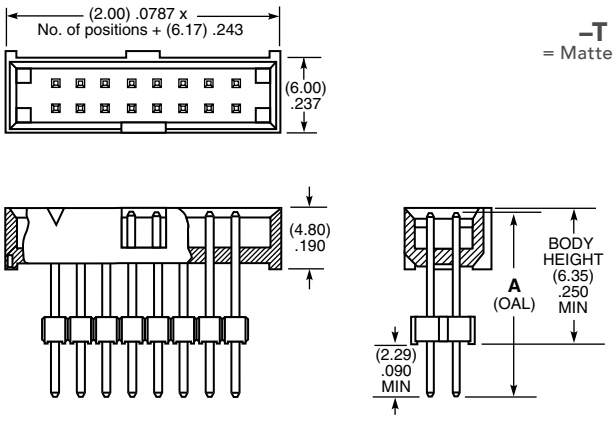
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–"XXX"
= Body Height

–"XX"
= Polarized Position



LEAD STYLE	A (OAL)	MAX BODY HEIGHT
–75	(9.58) 0.377	(7.42) 0.292
–62	(10.08) 0.397	(7.92) 0.312
–65	(10.49) 0.413	(8.33) 0.328
–73	(12.09) 0.476	(9.93) 0.391
–63	(14.10) 0.555	(11.94) 0.470
–66	(15.09) 0.594	(12.93) 0.509
–69	(15.60) 0.614	(13.44) 0.529
–74	(17.09) 0.673	(14.94) 0.588
–70	(17.60) 0.693	(15.44) 0.608
–71	(21.08) 0.830	(18.92) 0.745
–72	(21.62) 0.851	(19.46) 0.766

ALSO AVAILABLE
Contact Samtec

Other sizes
Other platings

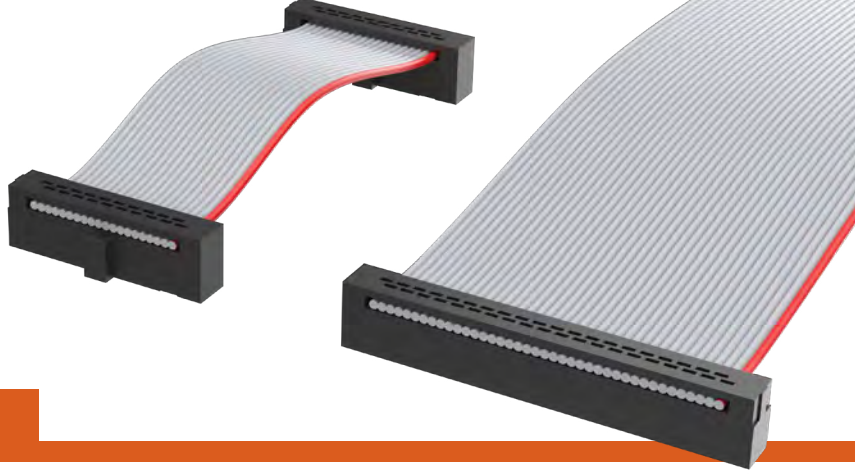
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE IDC

TIGER EYE™ FLAT IDC WIRE CABLES



(1.27 mm) .050" PITCH • FFSD SERIES

FFSD
Mates:
FTS, FTSH, EHF, SHF, ESHF

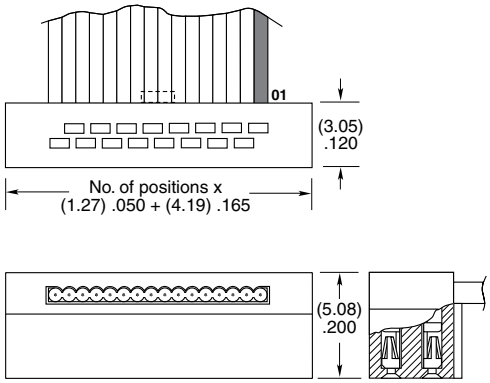
SPECIFICATIONS

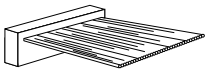
Insulator Material:
PBT
Contact:
BeCu
Plating:
10 µ" (0.25 µm) Au over 50 µ" (1.27 µm) Ni on contact area; Sn over 50 µ" (1.27 µm) Ni on balance
Wire:
30 AWG
Operating Temp Range:
-40 °C to +105 °C
Current Rating (FFSD/FTSH):
2.7 A per pin (2 pins powered)
Voltage Rating:
160 VAC/226 VDC
Lead Size Accepted:
(0.41 mm) .016" SQ
Insertion Depth:
(2.64 mm) .104" to (3.17 mm) .125"

ALSO AVAILABLE
Contact Samtec

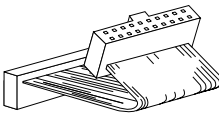
Other Sizes

SERIES	NO. PINS PER ROW	END OPTION	OVERALL LENGTH	01	N	OTHER OPTION
FFSD = Socket Strip	**–04, –05,–06, –08, –10, –11, –12, –13, –15, –17, –20, –25** (Standard sizes)	**–S** = Single End **–D** = Double End	**–"XX.XX"** = Assembled Length		**–N** = Notch Polarization (Notch option not available with -04 position)	**–RW** = Reverse Wiring (Red wire opposite position #1) **–D "XX"** = Daisy Chain **–SR** = Strain Relief (Mates only with ESHF Series) (Not available with –O, –M, –R or –DXX) **–R** = Reversed **–M** = Middle Reversed (Requires –DXX) **–O** = Outside Reversed (Requires –DXX)

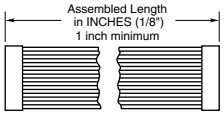




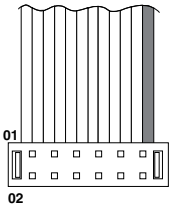
Single End (–S)



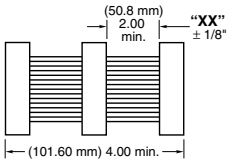
Double End (–D)



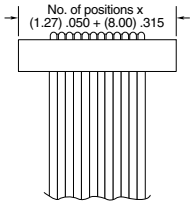
Assembled Length (–"XX.XX")



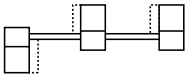
Reverse Wiring (–RW)



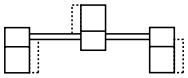
Daisy Chain (–D "XX")



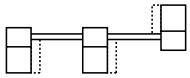
Strain Relief (–SR)



Reversed (–R)



Middle Reversed (–M)



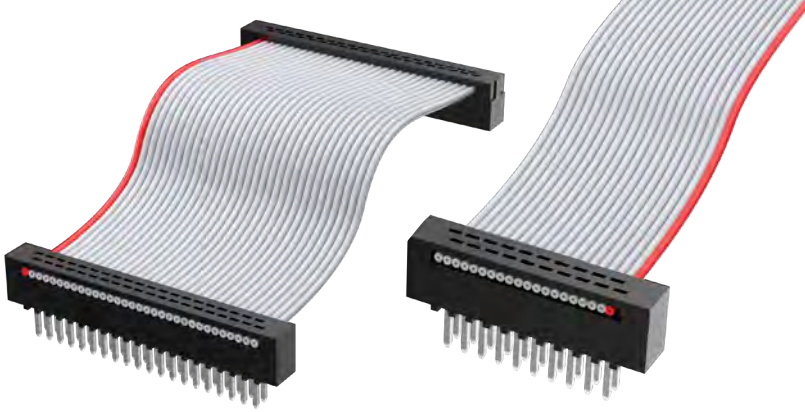
Outside Reversed (–O)

Note:
This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE IDC

TIGER EYE™ FLAT IDC WIRE CABLES



(1.27 mm) .050" PITCH • FFMD SERIES

FFMD
Mates:
FLE*, SFMC*

TRANSFER END
Mates:
FTS, FTSH, EHF, SHF, ESHF

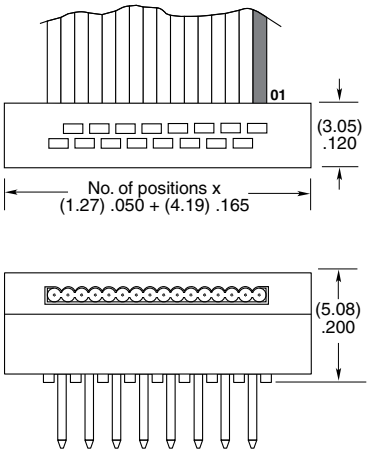
SPECIFICATIONS

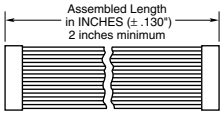
Insulator Material:
PBT
Terminal:
Phosphor Bronze
Contact:
BeCu (-T)
Plating:
Sn over 50 µ" (1.27 µm) Ni
Wire:
30 AWG
Operating Temp Range:
-40 °C to +105 °C
Current Rating (FFMD/SFMC):
2.5 A per pin
(2 pins powered)
Voltage Rating:
215 VAC/304 VDC

ALSO AVAILABLE
Contact Samtec

Other sizes

SERIES	NO. PINS PER ROW	END OPTION	OVERALL LENGTH	01	TRANSFER OPTION	OTHER OPTION
FFMD = Terminal Strip	**–04, –05, –08, –10, –13, –17, –20, –25** (Standard sizes)	**–S** = Single End **–D** = Double End **–T** = Transfer End	**–"XX.XX"** = Assembled Length		Leave blank for –S and –D End Options. **–N** = Notch Polarization on socket (-T end only) (Not available with -04 position)	**–RW** = Reverse Wiring (Red wire opposite position #1) **–D "XX"** = Daisy Chain **–SR** = Strain Relief (Mates only with ESHF Series) (Not available with –O, –M, –R or –DXX) **–R** = Reversed **–M** = Middle Reversed (Requires –DXX) **–O** = Outside Reversed (Requires –DXX)

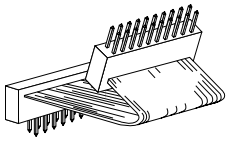




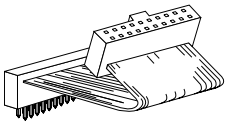
Assemble Length (-"XX.XX")



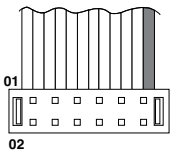
Single End (–S)



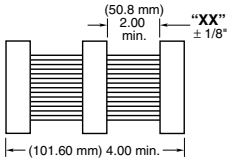
Double End (–D)



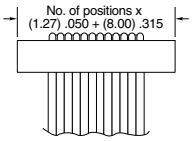
Transfer End (–T)



Reverse Wiring (–RW)



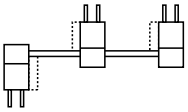
Daisy Chain (–D "XX")



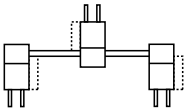
Strain Relief (–SR)

***Note:**
Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.) When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

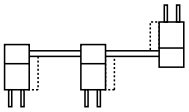
Note:
This Series is non-standard, non-returnable.



Reversed (–R)

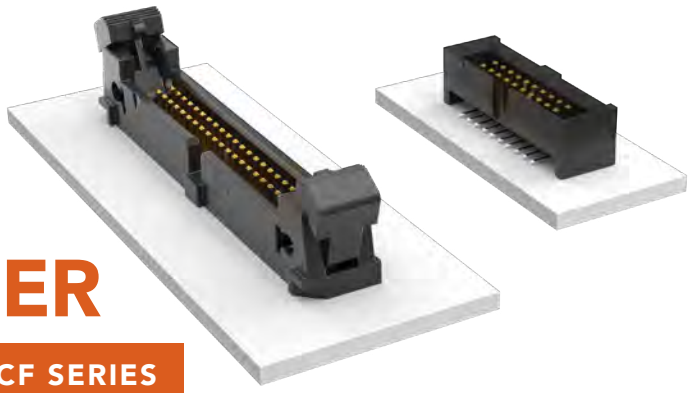


Middle Reversed (–M)



Outside Reversed (–O)

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



SHROUDED AND EJECTOR IDC HEADER

(1.27 mm) .050" PITCH • SHF/ESHF/EHF/ECF SERIES

SHF/ESHF
Mates:
FFSD, FFTP (SHF)

EHF
Mates:
FFSD*, FFTP

***Important Note:**
EHF will not mate to FFSD with strain relief (-SR option), see ESHF series.

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

SERIES	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

SHF
= Mates with FFSD without Strain Relief

ESHF
= Mates with FFSD with Strain Relief

04, 05, 06, 08, 10, 11, 12, 13, 15, 17, 20, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–TH
= Through-hole

–RA
= Right-angle

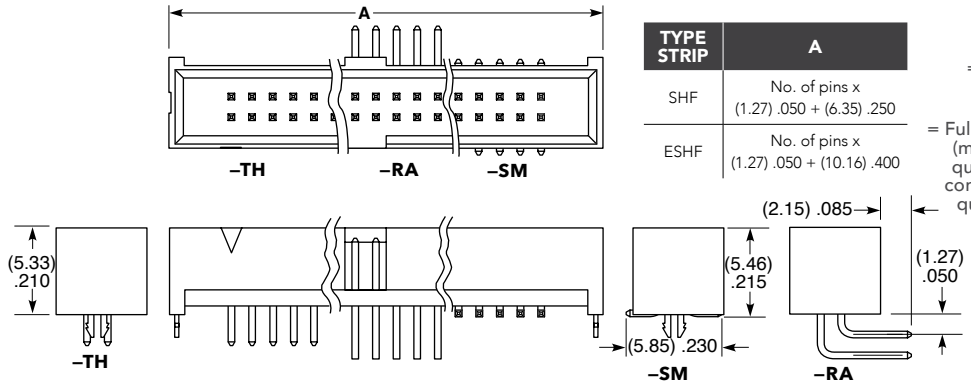
–SM
= Surface Mount

–LC
= Locking Clip (Not available with –RA) (Manual placement required)

–K
= (6.50 mm) .256" DIA Polyimide Film Pick& Place Pad (–SM only)

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



TYPE STRIP	A
SHF	No. of pins x (1.27) .050 + (6.35) .250
ESHF	No. of pins x (1.27) .050 + (10.16) .400

EHF	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

04, 05, 08, 10, 13, 17, 20, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tai

Leave blank for Through-hole version

–SM
= Surface Mount

–RA
= Right-angle

–"XX"
= Polarized Position (–RA not available)

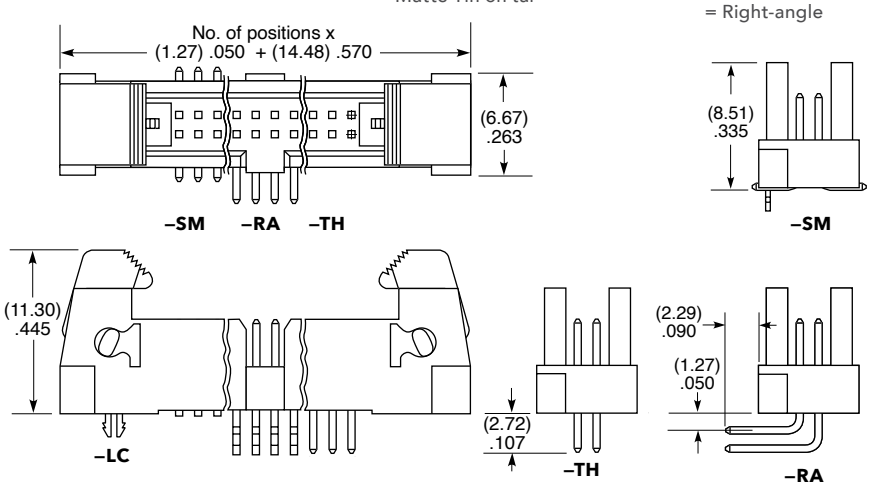
–LC
= Locking Clip (–SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad

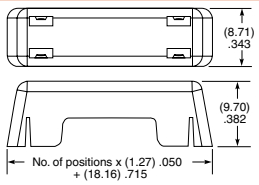
–P
= Pick & Place Pad (–SM only)

–TR
= Tape & Reel (–LC not available)

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks) (–LC not available)



EJECTOR HEADER CAP
(Locks FFSD cable to EHF header)



ECF	–	NO. PINS PER ROW

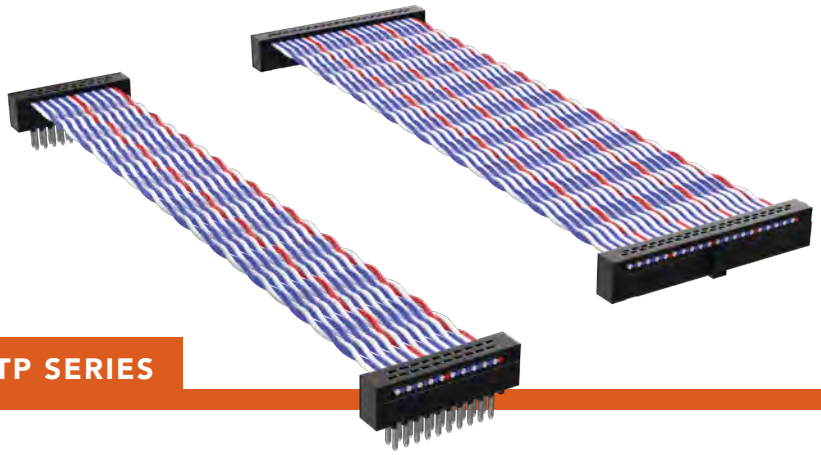
05, 08, 10, 13, 17, 20, 25

Note:
Some lengths, styles and options are non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

TIGER™ EYE IDC

TWISTED PAIR IDC CABLES



(1.27 mm) .050" PITCH • FFTP/FMTP SERIES

FFTP
Mates:
FTS, FTSH, EHF, SHF

FMTP
Mates:
FLE*, SFMC*

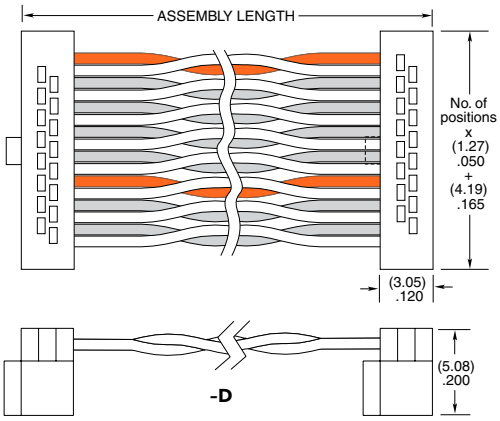
SPECIFICATIONS

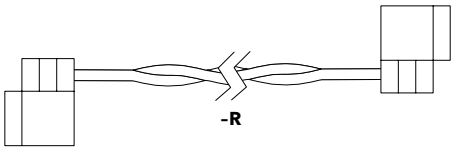
Insulator Material:
PBT
Contact:
FFTP=BeCu
Terminal:
FMPT=Phosphor Bronze
Plating (FFTP):
FFTP=10 µ" (0.25 µm)
Au over 50 µ" (1.27 µm)
Ni on contact area; Sn over
50 µ" (1.27 µm) Ni
FMTP=Sn over 50 µ"
(1.27 µm) Ni on balance
Wire:
30 AWG 7/38, Tinned,
Twisted Pair with PVC insulator
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.41 mm) .016" SQ
Insertion Depth (FFTP):
FFTP=(2.64 mm) .104" to
(3.17 mm) .125"

ALSO AVAILABLE
Contact Samtec

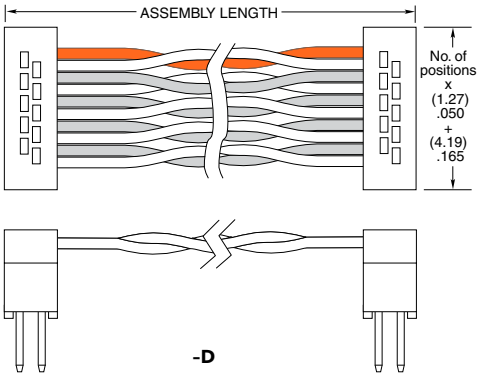
Other sizes

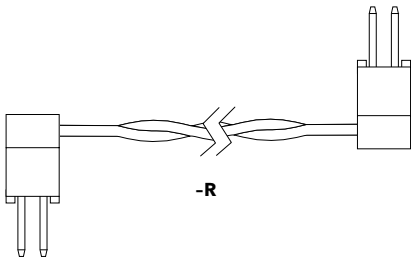
FFTP	-	NO. PINS PER ROW	-	END ASSEMBLY	-	ASSEMBLY LENGTH	-	01	-	N	-	OPTION
		–05, –08, –10, –13, –17, –20, –25 (Standard sizes)		**–D** = Double End		**–03.85** = (97.79 mm) 3.85" **–08.77** = (222.76 mm) 8.77" **–18.00** = (457.20 mm) 18.00" (Standard lengths)				**–N** = Notch Polarization (Standard)		**–R** = Reverse Connector

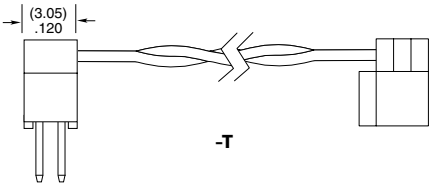




FMTP	-	NO. PINS PER ROW	-	END ASSEMBLY	-	ASSEMBLY LENGTH	-	01	-	TRANSFER OPTION	-	OPTION
		–05, –08, –10, –13, –17, –20, –25 (Standard sizes)		**–D** = Double End **–T** = Transfer End		**–03.85** = (97.79 mm) 3.85" **–08.77** = (222.76 mm) 8.77" **–18.00** = (457.20 mm) 18.00" (Standard lengths)				Leave blank for –D End Assembly. For –T End Assembly Specify "–N" (Sockethas notch polarization)		**–R** = Reverse Connector



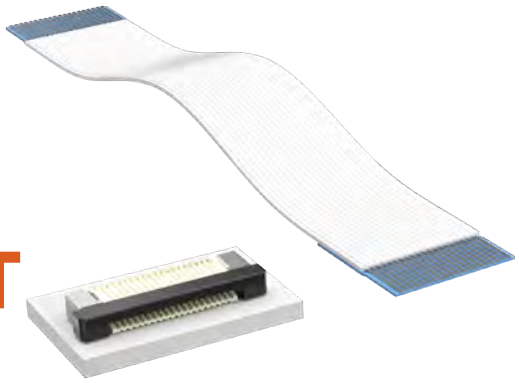




***Note:** Standard FMTP callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.) When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates wth Pin 1, etc.

Note:
This Series is non-standard, non-returnable.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.



FLAT FLEXIBLE CABLE (FFC) JUMPER & SOCKET

(0.50 mm) .0197" PITCH • FJH/ZF5S SERIES

FJH

Mates:
ZF5S

SPECIFICATIONS

Conductor:
Tin Plated Copper
Operating Temp Range:
-55 °C to +80 °C
Current Rating:
1.8 A per pin
(1 pin powered)
Voltage Rating:
195 VAC/276 VDC

OTHER SOLUTIONS

For 1.00 mm pitch flat flexible cable series, visit:
www.samtec.com?FJ
www.samtec.com?ZF1
www.samtec.com?FC1

Notes:
Stiffener color will be blue or black at Samtec's discretion.

Some sizes, styles and options are non-standard, non-returnable.

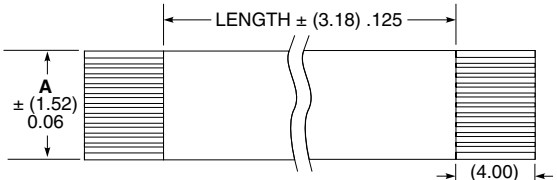
FJH	-	NO. OF POSITIONS	-	STYLE	-	LENGTH	-	STRIP LENGTH

NO. OF POSITIONS
–10, –15, –20, –25, –30, –40, –43, –50
(Standard sizes)

STYLE
–D
= Double End
–R
= Reversed End

LENGTH
Length in inches
–03.00
= (76.2 mm) 3.00"
–06.00
= (152.4 mm) 6.00"
–12.00
= (304.8 mm) 12.00"
–24.00
= (609.6 mm) 24.00"
(Standard Lengths)

STRIP LENGTH
–4
= (4.00 mm) .157"





–D STYLE

–R STYLE

NO. OF POSTIONS	A
–10	(5.50) .217
–15	(8.00) .315
–20	(10.50) .413
–25	(13.00) .512
–30	(15.50) .610
–40	(20.50) .807
–43	(22.00) .866
–50	(25.50) 1.00

ZF5S

Mates:
FJH

SPECIFICATIONS

Insulator Material:
Natural LCP
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Current Rating:
1.8 A per pin
(1 pin powered)
Voltage Rating:
195 VAC/276 VDC
Weld Tab:
Phosphor Bronze

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-30)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact ipg@samtec.com)

Note:
Some sizes, styles and options are non-standard, non-returnable.

ZF5S	-	NO. OF POSITIONS	-	LEAD STYLE	-	PLATING OPTION	-	WT	-	OPTION

NO. OF POSITIONS
–10, –15, –20, –25, –30, –40, –43, –50
(Standard sizes)

LEAD STYLE
–01
= Contact Bottom

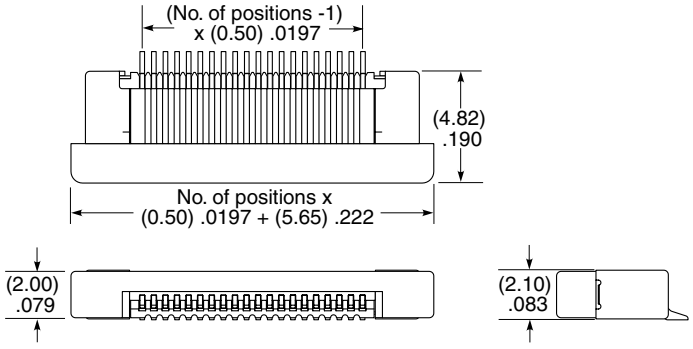
PLATING OPTION
–T
= Matte Tin

WT
–WT
= Weld Tab

OPTION
–K
= (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel

–FR
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)



ALSO AVAILABLE
Contact Samtec

Vertical
Contact top
Other positions

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RUGGED FEATURES

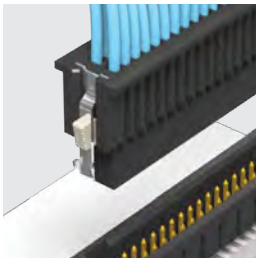
OPTIONS FOR HIGH-RELIABILITY, HIGH-RETENTION AND HIGH-CYCLE LIFE

RUGGEDIZING OPTIONS



JACK SCREWS

Ideal for high normal force, zippering and other rugged applications



POSITIVE LATCHING

Manually activated latches increase unmating force by up to 200%



FRICTION LOCKS

Metal or plastic friction locks increase retention/withdrawal force



RETENTION PINS

Increase unmating force by up to 50%



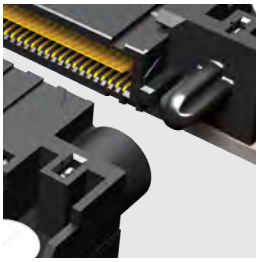
BOARD LOCKS

Boards are mechanically locked together



WELD TABS

Significantly increase shear resistance of connector to PCB



GUIDE POSTS

Easy and secure mating



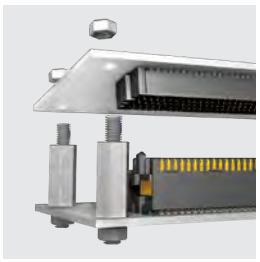
SHIELDING

360° shielding reduces EMI



SCREW DOWNS

Secure mechanical attachment to the board



BOARD STANDOFFS

Precision machined standoffs for 5 mm to 30 mm board spacing

CONTACT SYSTEMS

TIGER™ EYE CONTACT



High-reliability

High Mating Cycles

Multi-finger Contact

TIGER™ CLAW CONTACT



Dual Wipe Contact

Pass-through Applications

Ultra-low Profile

BLADE& BEAM CONTACT



Mating/Alignment "Friendly"

Cost-effective

Micro Pitch

TIGER™ BEAM CONTACT



Best Cost

Reliable Performance

Post & Beam Contact

EDGE® RATE CONTACT



Designed for Signal Integrity

Superior Impedance Control

Reduced Broadside Coupling

HYPER™ CLAW CONTACT



High-reliability

Four Points of Contact

Extreme Mating Cylces

INDUSTRY STANDARDS

PRODUCT SUPPORT & EXPERTISE

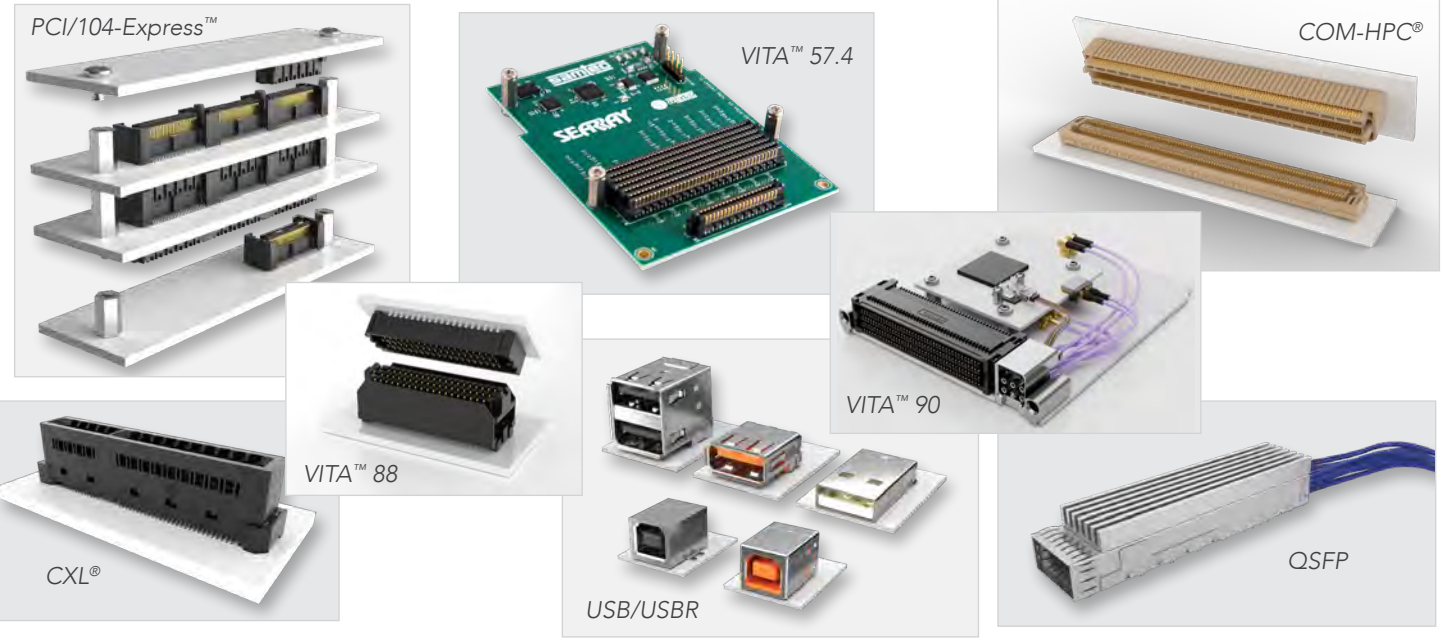
Samtec actively collaborates with leading Industry Standard groups to develop interconnect solutions that meet rigorous durability and performance requirements across a wide range of applications. The majority of Industry Standards we engage with address the following:

- Interconnection (cables & connectors)
- Sub-systems (typically daughter or carrier cards, which include functional compliance specifications defining electro-mechanicals and mechanicals)
- Transmission protocols (primarily software and firmware defining machine language to allow communication)
- Hardware (physical electro-mechanical devices)

Visit **samtec.com/standards** to learn more or contact **standards@samtec.com** to discuss your application.

STANDARD	PRODUCT	SERIES	PAGE
VITA™ 42 XMC™	SamArray®	YFS/YFT, JSOM	Contact Samtec.
VITA™ 88 XMC+™	SEARAY™	SEAM/SEAF, JSOM	25
VITA™ 57.1 FMC™	SEARAY™	SEAM/SEAF, JSOM	25
VITA™ 57.4 FMC+™	SEARAY™	SEAM/SEAF, JSOM	25
VITA™ 74 VNX™	SEARAY™	SEAM/SEAF, JSOM	25
VITA™ 90 VNX+™	SEARAY™	SEAM/SEAF-RA, VBM/GPCC	25-26, 178-179
VITA™ 93 QMC™	AcceleRate® HD	ADM6/ADF6	21
PICMG® COM-HPC®	AcceleRate® HP	APM6/APF6	19
SGET OHFM™	AcceleRate® HD/AcceleRate® HP	ADM6/ADF6, APM6/APF6, JSOM	19, 21
PCI/104-EXPRESS™ & PCI/104-EXPRESS™ ONEBANK	Q2™	QMS/QFS	42
COAXPRESS®	High-Density BNC/FireFly™	HDBNC-TH, HDBNC-BH, HDBNC-EM, ECUO-B04	137, 192
QSFP	QSFP	FQSFP/QSFPC	103
USB/USBR	USB/AccliMate™	USB/USBR/MUSB/MUSBS/SPM, BCU/BPCU/BRU/RCU/RPCU/RPBU/SCPU/SCRUS/SCRU	232-234, samtec.com/usb
COMPUTE EXPRESS LINK® (CXL®)	Generate®	HSEC6	63

For a quick reference to more industry standards and products that meet them, visit **samtec.com/standards-reference**.



V42 XMC™

Rugged Mezzanine System for High-Performance VPX™ Card Cages

- 3.125 Gbps performance rating
- 10 mm & 12 mm stack heights; 96 total pins (6 x 16 configuration)
- Drop-in ready JSOM ejector jackscrews and mating high-density array cable assemblies available
- SOSA™ aligned connectors

V88 XMC+™

Improved Mezzanine Connectors for XMC+™ Applications

- Compatible with VITA™ 42 footprints
- Improved mating/unmating forces
- PCIe® 5.0+ speeds; SOSA™ aligned connectors

V57.1 FMC™

Leading FMC™ Mezzanine System for Advanced FPGA Integration

- HPC & LPC versions; 8.5 mm & 10 mm stack heights; 10 Gbps
- Many high-speed cable & loopback card options available
- Optional JSOM ejector jackscrews available
- SOSA™ aligned connectors

V57.4 FMC+™

Advanced State-of-the-Art FPGA Mezzanine Integration

- HSPC Main Connector has 560 pins (14 x 40 configuration), 24 multi-gigabit interfaces, up to 28 Gbps
- HSPCe Extension Connector has 80 pins (4 x 20 configuration) adding 8 multi-gigabit interfaces, 32 in total
- 8.5, 10 and 15.5 mm stack heights; SOSA™ aligned connectors

V90 VNX+™

VNX+™ Small Form Factor Modules

- Rugged, high-performance, scalable, low power consumption embedded controllers
- 200, 240, 320 & 400 pin connector choices (Right-angle SEARAY™)
- Optimized pinout for improved SI performance and density
- VITA™ 90.2: Expanded optical and coaxial connectivity provides routing flexibility (FireFly™ and GPCC 50/75 Ω contacts)
- VITA™ 90.3: Specialized pinout for PSU and filter modules
- 13 mm & 19 mm stack heights; mating cable assemblies available
- SOSA™ aligned connectors

V93 QMC™

Small Form Factor I/O Mezzanine Modules

- Enables modular, scalable design with rugged and reliable mechanical features
- Supports 32 Gbps NRZ/64 Gbps PAM4 performance
- 80 total pins (4 x 20 configuration); 9, 11, 14 & 16 mm stack heights
- Supports single, dual and triple width modules

PICMG® COM-HPC®

Next Gen Embedded System Design Scalability & Performance

- Supports edge server & robust embedded computing design applications
- System based on Samtec's AcceleRate® HP high-performance arrays
- 5 mm and 10 mm stack heights; 400 pin count connectors
- Supports interfaces such as PCIe® 6.0 (64 GT/s) & up to 200 Gb Ethernet

SGET oHFM™

Mezzanine System for Standardized FPGA SoMs

- Mid- to high-mid-range FPGA support
- Simplifying evaluation, prototyping and stock management
- Cost effective FPGA prototype to production solution
- Supports PCIe® 6.0 (64 GT/s)

PCI/104-Express™ & PCI/104-Express™ OneBank

Rugged, Stackable & Scalable Embedded Computer Applications

- Q2™ connectors with ground planes; 2.5 Gbps performance
- 3-banks have 156 signal pins, OneBank has 52 pins
- 15.24 mm & 22 mm stack heights; mating cable assemblies available

COAXPRESS®

Industrial/Professional Application High-Speed Imaging Standard

- Coaxial cable combined with high-speed serial data technology
- Up to 12.5 Gbps data rate per cable; supports 12G-SDI protocol
- High-Density BNC 75 Ω connectors and components

QSFP

Compact, Hot-Pluggable Transceiver I/O Connector

- Flyover® solution for optimized signal integrity; 112 Gbps PAM4
- Cage and 38-pin connector
- 30 AWG 100 Ω ultra low skew twinax cable
- 4 high-speed Tx pairs, 4 high-speed Rx pairs
- Meets high-speed protocols including 40/200/400 Gb Ethernet, PCIe®, OIF-CEI-28G, SAS and SATA

USB/USBR

Standardized Connection, Communication & Power Supply

- Type A, Type B, Mini, high retention and sealed versions
- IP67/IP68 sealed circular and rectangular cable systems

COMPUTE EXPRESS LINK® (CXL®)

Open Systems Interconnect Offering Memory-Semantic Access to Data and Devices Via Multiple Network Topologies

- High-speed, low-latency access to memory across the data center
- 0.60 mm pitch Generate® high-speed edge card connectors

PCI-SIG®, PCI Express®, and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

VITA/VNX/VNX+/FMC/FMC+/XMC/XMC+/QMC are all respective trademarks of VITA

EVALUATION & DEVELOPMENT KITS

From concept and prototype to development and production, Samtec-designed Evaluation and Development Kits simplify the design process and reduce time to market. Kits are available for many of our high-performance connector sets, standard high-speed cable assemblies, and optical configurations. Custom kits are also available via our "mix-and-match" design approach.
Visit **samtec.com/kits** or contact **kitsandboards@samtec.com** for a current list of kit availability.

SI EVALUATION KITS: BOARD-TO-BOARD



Generate® 0.60 mm Pitch High-Speed Edge Card (HSEC6-DV)



Generate® Differential Pair Edge Card (HSEC8-DP)



Edge Rate® 0.635 mm Pitch High-Speed Strips (ERM6/ERF6)



AcceleRate® mP Signal/ Power Arrays (UDM6/UDF6)



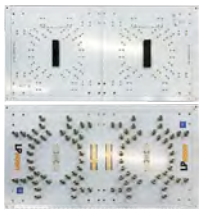
AcceleRate® HP High-Performance Arrays (APM6/APF6)



AcceleRate® HD High-Density Arrays (ADM6/ADF6)



NovaRay® Extreme Density Arrays (NVAM/NVAF)



LP Array™ Low Profile Arrays (LPAM/LPAF)



FireFly™ 20+ Gbps Edge Card Socket (UEC5-2)



SEARAY™ High-Density Arrays (SEAM/SEAM-RA & SEAF/SEAF-RA)



ExaMAX® High-Speed Backplane Traditional Connectors (EBTF/EBTM)

PRECISION RF/ANALOG OVER ARRAY™ EVALUATION KITS



Bulls Eye® 50 GHz High-Performance Test System (BE40A)



Bulls Eye® 70 GHz High-Performance Test System (BE70A)



Bulls Eye® ISI 70 GHz & 90 GHz Test Systems (BE70A, BE90A)



SEARAY™ Analog Over Array™ Digital/Analog/Power Connectors (SEAM/SEAF)



Vertical Compression Mount Precision RF Connectors (1.35/1.85/2.40/2.92 mm)

SI EVALUATION KITS: CABLE



Flyover® QSFP Cable System (FQSFP to ARC6 and other End 2 options)



Flyover® QSFP Double Density Cable System (FQSFP-DD to NVAC/ARC6)



Flyover® QSFP 800G Double Density Cable System (FQSFP-D8 to NVAC/CPC)



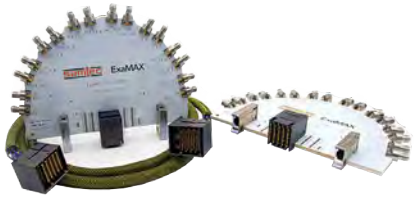
NovaRay® I/O Flyover® Panel Mount Cable Systems (NVACE/ NVAC & NVA3P/NVA3E)



NovaRay® Flyover® Extreme Performance Cable System (NVAC/NVAM-CT)



Si-Fly® LP Low Profile Cable System (CPC/CPI)



ExaMAX® Backplane Cable System (EBCM/EBTF-RA)



AcceleRate® Flyover® Slim Cable System (ARC6/ARF6)

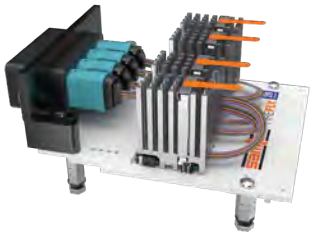


AcceleRate® HP Flyover® High-Performance Cable System (ARP6/APF6-L)



AcceleRate® Mini Flyover® Small Form Factor Cable System (ARM6/AMF6)

OPTICS/FPGA DEVELOPMENT KITS



25/28 Gbps FireFly™ FMC+™ Kit



14 Gbps FireFly™ FMC™ Kit



28 Gbps FireFly™ Kit



FireHawk® Evalulation Kits



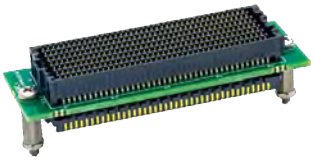
FireBlade™ FireFly™ OCP OAI EXP Module



PCIe®-Over-Fiber Adaptor Card (PCUO/PCOA)



VITA™ 57.4 FMC+™ HSPC & HSPC/HSPCe Loopback Cards



VITA™ 57.1 FMC™ & VITA™ 57.4 FMC+™ Extender Cards

HIGH-SPEED CHANNEL PERFORMANCE

CHARACTERIZATION THAT ACCOUNTS FOR THE ENTIRE SIGNAL PATH

Samtec uses a channel-based approach to estimate connector performance in a system. The result is a realistic one number designation for all of Samtec's high-speed interconnects, called **Channel Performance Metric (CPM)**.

This one number designation allows for a side-by-side comparison of Samtec components. Noise contributions from, and interactions with, other parts of a predefined channel are considered. An example of a predefined channel is shown below.

Samtec's CPM reports connector capability that is more representative of actual performance in a system, replacing the connector only data of the past.

This real-world approach factors in all impairments, such as the crosstalk and reflections, inherent in a complete channel. Through Samtec's use of a common set of channel assumptions, relative comparison can then be made across the entire Samtec offering which is practical and realizable. Because Samtec's CPM is a function of necessary channel assumptions made, it is important to note that Samtec's CPM can and will vary from a customer specific application.

Visit **samtec.com** or contact **SIG@samtec.com** for technical support prior to final connector selection in any specific application.

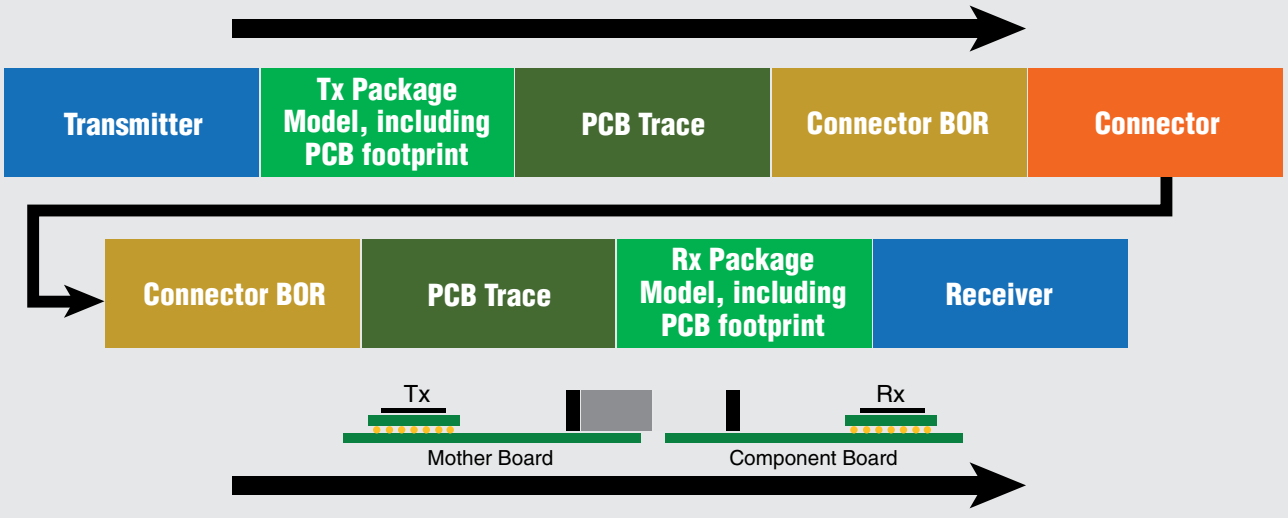
Throughout the high-speed sections of this catalog, look for badges indicating Samtec's CPM one number rating for specific product series, for example:

	NRZ	PAM4	PAM4
28 Gbps	56 Gbps	112 Gbps	224 Gbps

*Note: For speeds of 28 Gbps or less, NRZ encoding scheme is assumed.

Predefined Channel

Board-to-Board



*Moderate levels of equalization are applied.

SPECIFICATIONS & TESTING

SPECIFICATIONS & STANDARD TEST PROCEDURES

Samtec products are subject to the following general specifications and standard test procedures.*

QUALITY ASSURANCE	
Quality Program Certifications	ISO-9001 and/or IATF 16949
UL File Number	Visit **samtec.com/quality**
Sampling Procedures	ANSI/ASQ Z1.4
Calibration System Requirements	Per IATF 16949

INSULATOR	
Specifications	
Molding Plastics, Thermoplastic Polyesters	MIL-M-24519 Rev E
Applied Tests***	
Dielectric Breakdown Voltage	ASTM/ISO
AC Loss Characteristics	ASTM/ISO
Impact Resistance of Plastics	ASTM/ISO
DC Resistance	ASTM/ISO
High-Voltage, Low-Current Arc Resistance	ASTM/ISO
Water Absorption of Plastics	ASTM/ISO
Test for Tensile Properties of Plastics	ASTM/ISO
Deflection Temperature of Plastics	ASTM/ISO
Compressive Properties of Plastics	ASTM/ISO
Coefficient of Linear Thermal Expansion	ASTM/ISO
Shear Strength of Plastics	ASTM/ISO
Rockwell Hardness of Plastics	ASTM/ISO
Flexural Properties of Plastics	ASTM/ISO
Specific Gravity and Density of Plastics	ASTM/ISO

PLATING	
Specifications	
Gold	ASTM-B488
Tin	ASTM-B545**
Under Plating Specifications	
Nickel	QQ-N-290**
Copper	AMS 2418
Applied Tests	
Coating thickness (X-Ray Fluorescence)	ASTM-A-754-79

CONTACT & TERMINAL	
Specifications***	
Brass	ASTM/ISO
Phosphor Bronze	ASTM/ISO
Beryllium Copper	ASTM/ISO

ASSEMBLY	
Testing Specifications	
Test Methods for Electrical Connectors	EIA-364
Test Methods for Electronic/Electrical Components	EIA-364
Connections, Electrical, Solderless, Wrapped	EIA-364
Environmental Test Methods	EIA-364
Sockets (Lead, Electronic Components), General	EIA-364
Sockets, Plug-in Electronic Components, General	EIA-364
Packaging Specifications	
Tape and Reel Packaging of Connectors	Visit **samtec.com/packaging**
Tray Packaging of Connectors	ANSI/EIA-960
Packaging Materials for ESD Sensitive Items	ANSI/ESD S541
Package Testing Procedures	ISTA-3A

OTHER SPECIFICATIONS	
Insulation Resistance	5000 MΩ min
Flammability Rating	UL 94V-0 **** (Typically)

PRODUCT ENVIRONMENTAL COMPLIANCE

Product environmental compliance is a part specific issue for Samtec. To confirm the environmental compliance status of any Samtec product please contact the Product Environmental Compliance Group at **PEC@samtec.com** and/or visit **samtec.com/quality**.

Samtec has offered both lead-bearing and lead-free products for many years and will continue to support customers requiring products not compliant with the EU Directives, such as those specified for military, aerospace and specialty applications.

Proposition 65 statement: These products could expose you to chemicals which are known to the State of California to cause birth defects or other reproductive harm. For more information, visit **P65Warnings.ca.gov**.

LEAD FREE PROCESSING GUIDELINES	
Lead-Free Wave Solderable	This product is compatible with wave solder pot temperatures between 260 °C and 270 °C with maximum exposure of the termination pins to the solder wave for 4 seconds.
Lead-Free Reflow Solderable	This product can withstand a maximum peak temperature of 260 °C; 255 °C for up to 30 seconds, and the longer dwell times required for lead-free reflow processing.

AUTOMOTIVE CERTIFICATION (ACD SERIES)

Samtec offers design and manufacture of electronic connectors, marketed as "ACD Series" (Automotive Certified Designs) for printed circuit boards. Samtec shall only comport with ISO/IATF 16949 on products it certifies as Automotive Custom Design ("ACD") or those designated with "A-" in the Samtec part number preface of the Automotive Solutions Catalog.

Download the Automotive Solutions catalog at **samtec.com/catalog**, or contact **AutoSalesGroup@samtec.com** for qualifying products and alternative automotive application solutions.

Notes:
*Products with specifications other than those listed above are noted on the product's website page.
**With the exception of thickness.
***As dictated by material grade.
****Contact **UL@samtec.com** for additional flammability ratings.

INDEX BY BRAND NAME

AcceleRate®, AcceleRate® HD, AcceleRate® HP, AcceleRate® Mini & AcceleRate® mP

APF6	0.635 mm AcceleRate® HP High-Performance Socket	19
APM6	0.635 mm AcceleRate® HP High-Performance Header	19
ADF6	0.635 mm AcceleRate® HD High-Density Socket	21
ADM6	0.635 mm AcceleRate® HD High-Density Header	21
UDF6	0.635 mm AcceleRate® mP Power/Signal Socket	23
UDM6	0.635 mm AcceleRate® mP Power/Signal Terminal	23
APF6-L	0.635 mm AcceleRate® HP High-Performance Socket	115
ARP6	0.635 mm AcceleRate® HP High-Performance Cable	115
ARC6	0.635 mm AcceleRate® Slim Cable	117
ARF6	0.635 mm AcceleRate® Slim Socket	117
AMF6	0.635 mm AcceleRate® Mini Small Form Factor Cable Socket	119
ARM6	0.635 mm AcceleRate® Mini Small Form Factor Cable	119

AccliMate™

ACX	AccliMate™ IP68 Sealed 12, 16 & 22 mm Assemblies	233
MCX	AccliMate™ IP67 Mini Push-Pull Cable Assemblies	233
BCU/BPCU	AccliMate™ IP67 USB-C Cable Assemblies	234
BRU	AccliMate™ IP67 USB-C Board Mount Socket	234
RPXX	AccliMate™ IP68 Ethernet/USB Panel Mount Socket & Cable	234
SCRXS	AccliMate™ IP68 Sealed Circular USB/Ethernet Socket Cables	234

Edge Rate®

ERF5	0.50 mm Edge Rate® Rugged High-Speed Socket	49
ERM5	0.50 mm Edge Rate® Rugged High-Speed Header	49
ERF6	0.635 mm Edge Rate® Rugged High-Speed Socket	50
ERM6	0.635 mm Edge Rate® Rugged High-Speed Header	50
ERF8	0.80 mm Edge Rate® Rugged High-Speed Socket	51, 53, 54
ERM8	0.80 mm Edge Rate® Rugged High-Speed Header	51, 52, 54
ECDP	0.80 mm Edge Card Twinax Cable Assembly	134
ERCD	0.80 mm Edge Rate® Coax Cable Assembly	134

ExaMAX®, ExaMAX® I/O

EBTM	2 mm ExaMAX® Backplane Header	87
EBDM-RA	2 mm ExaMAX® Direct Mate Orthogonal Header	88
EBTF-RA	2 mm ExaMAX® Backplane Socket, Right-Angle	88
EBCM	2 mm ExaMAX® Backplane Cable Header	89
EBCF	2 mm ExaMAX® Backplane Cable Socket	90
EBCE/EBTC	2 mm ExaMAX® I/O Shielded Panel Mount Cable & Cage	109

FireFly™ & Flyover®

FSFP	Flyover® SFP Cable System	99
FOSFP-X	Flyover® OSFP Cable System	100
FQSFP-D8	Flyover® QSFP 800G Double Density Cable System	102
FQSFP-DD	Flyover® QSFP Double Density Cable System	102
FQSFP	Flyover® QSFP Cable System	103
ECUO	FireFly™ Optical Micro Flyover System™	137
ETUO	FireFly™ Extended Temp Optical Micro Flyover System™	138
ETMO	FireFly™ Extreme Environment Optical Micro Flyover System™	139
PCUO	PCIe®-Over-Fiber FireFly™ Cable	140
PTUO	PCIe®-Over-Fiber FireFly™ Extended Temp Cable	140
UCC8/UEC5	FireFly™ Positive Latching Receptacle & Edge Card Socket	141
PCOA	PCIe®-Over-Fiber FireFly™ Adaptor Card	142

Flex Stack

AW	0.80 mm Flex Stack, Surface Mount Micro Board Stacker	279
MW	1 mm Flex Stack, Surface Mount Micro Board Header	281
FW	1.27 mm Flex Stack, Micro Board Stacker	287
ZML	1.27 mm Flex Stack, Shrouded Elevated Stacker	291
DWM	1.27 mm Flex Stack, Flexible Micro Board Stacker	292
HDWM	1.27 mm Flex Stack, High Temp Micro Board Stacker	292
LTMM	2 mm Flex Stack, Shrouded Terminal Strip	300
ZLTMM	2 mm Flex Stack, Shrouded Elevated Terminal Strip	300
TW-SM	2 mm Flex Stack, Flexible Board Stacker, SMT	302
HMTSW	2.54 mm Flex Stack, High Temp Modified SQ Post Header	314, 315
MTSW	2.54 mm Flex Stack, Modified SQ Post Header	314, 315
MTLW	2.54 mm Flex Stack, Low Profile .025" SQ Post Header	316
TLW	2.54 mm Flex Stack, Low Profile .025" SQ Post Header	316
HW	2.54 mm Flex Stack, Flexible Board Stacker	317
DW	2.54 mm Flex Stack, Flexible Board Stacker, .110" Tail	318
EW	2.54 mm Flex Stack, Flexible .025" SQ Board Stacker	318
ZW	2.54 mm Flex Stack, Flexible .025" SQ Board Stacker	318
HTSS	2.54 mm High Temp Shrouded Terminal	319
TSS	2.54 mm Flex Stack, Shrouded Header	319
ZSS	2.54 mm Flex Stack, Elevated Shrouded Header	319
HTST	2.54 mm High Temp Shrouded Cable Terminal	333
TST	2.54 mm Flex Stack, Shrouded Cable Header	333
ZST	2.54 mm Flex Stack, Elevated Shrouded Cable Header	333
STMM	2 mm Flex Stack, Shrouded Terminal Cable Strip	337
ZSTMM	2 mm Flex Stack, Shrouded Elevated Cable Header	337

FleXYZ™

TMM-TH	2 mm FleXYZ™ Low Profile Through-Hole Header	296
MTMM	2 mm FleXYZ™ Modified Through-Hole Header	297
TMMH-TH	2 mm FleXYZ™ Flexible Through-Hole Header	299
TW-TH	2 mm FleXYZ™ Flexible Board Stacker, Through-Hole	302
ESQT	2 mm FleXYZ™ Flexible Elevated Socket Strip	304
SQT	2 mm FleXYZ™ Cost-Effective Rugged Socket, Square Tail	305
SQW	2 mm FleXYZ™ Cost-Effective Rugged Socket, Solder Tail	305

FOURRAY™

FOLC	1.27 mm FOURRAY™ High-Density Tiger Eye™ Socket	240
MOLC	1.27 mm FOURRAY™ High-Density High-Reliability Header	240
SOLC	0.635 mm FOURRAY™ Quad Row SMT Socket	283
TOLC	0.635 mm FOURRAY™ Quad Row SMT Terminal	283

Generate®

HSEC6	0.60 mm Generate® Vertical Card Socket	63
HTEC8	0.80 mm Generate® Rugged Card Socket	64
HSEC8	0.80 mm Generate® Card Socket	65, 66, 67, 68
HSEC1	1.00 mm Generate® Vertical Card Socket	69
GC6	0.60 mm Generate® Edge Card Cable Assembly	125
GC6RF	Generate® High-Speed Test Cable Assembly	126

Halo®

HLF6	Halo® Rugged High-Density Socket	144
HALO-C	Halo® Next Gen Mid-Board Optical Transceiver	145

LP Array™

LPAF	1.27 mm LP Array™ High-Speed Open-Pin-Field Socket	31
LPAM	1.27 mm LP Array™ High-Speed Open-Pin-Field Terminal	31

Micro Mate™

S1SS(T)	1 mm Micro Mate™ Socket Assembly, Single Row	250
S1SD(T)	1 mm Micro Mate™ Socket Assembly, Double Row	251
T1PS(T)	1 mm Micro Mate™ Panel Mount Terminal, Single Row	252
T1SS(T)	1 mm Micro Mate™ Terminal Assembly, Single Row	252
T1PD(T)	1 mm Micro Mate™ Panel Mount Terminal, Double Row	253
T1SD(T)	1 mm Micro Mate™ Terminal Assembly, Double Row	253

Mini Mate®

IPS1	2.54 mm Mini Mate® Isolated Power Connector Socket	223
IPT1	2.54 mm Mini Mate® Isolated Power Connector Terminal	223
MMSX(T)	2.54 mm Mini Mate® Wire to Board Cable	260
IPL1	2.54 mm Mini Mate® Shrouded Power Cable Terminal	261

mPOWER®

UMPS	mPOWER® Ultra Micro Power Socket	207
UMPT	mPOWER® Ultra Micro Power Terminal	208
UMPC(T)	mPOWER® Ultra Micro Power Cable-to-Board Assembly, Socket	209
UMPE(T)	mPOWER® Ultra Micro Power Cable-to-Cable Assembly, Terminal	210
UMPI(T)	mPOWER® Ultra Micro Power Cable-to-Cable Assembly, Socket	211

NovaRay®, NovaRay® I/O

NVAF	NovaRay® Extreme Density & Performance Socket	17
NVAM	NovaRay® Extreme Density & Performance Terminal	17
NVBF	NovaRay® Micro Rugged Backplane Socket	83
NVBM-RA	NovaRay® Micro Rugged Backplane Right-Angle Terminal	83
NVCF	NovaRay® Micro Rugged Backplane Cable, Socket	84
NVCM-RA	NovaRay® Micro Rugged Backplane Cable, Terminal	85
NVACP	NovaRay® I/O Extreme Performance Panel Mount Cable	105
NVACE	NovaRay® I/O Extreme Performance Cable Assembly	106
NVA3E	NovaRay® I/O Rugged 38999 Cable Assembly	107
NVA3P	NovaRay® I/O Rugged 38999 Panel Mount Cable Assembly	107
NVAC	NovaRay® Extreme Density & Performance Cable Assembly	113
NVAM-CT	NovaRay® Terminal for NVAC Series	113

PowerStrip™

LPHS	PowerStrip™ EXTreme LPHPower™ Socket	213
LPHT	PowerStrip™ EXTreme LPHPower™ Terminal	213
ET60S	PowerStrip™EXTreme Ten60Power™ Socket	215
ET60T	PowerStrip™ EXTreme Ten60Power™ Terminal	215
UPPT	3.81 mm PowerStrip™/20 Amp Hermaphroditic Power System	217
UPS/UPT	3.81 mm PowerStrip™/20 Amp Power Socket & Terminal	217
MPS/MPT	5 mm PowerStrip™/30 Amp Power Socket & Terminal	218
MPSC/MPTC	PowerStrip™/30 Amp Signal/Power Combo Socket & Terminal	219
PES/PET	6.35 mm PowerStrip™/40 Amp High Power Socket & Terminal	220
PESC/PETC	PowerStrip™/40 Amp Signal/Power Socket & Terminal	221
MPSS	5 mm PowerStrip™/30 Amp Power Cable Assembly	262
MPCC	PowerStrip™/30 Amp Combo Cable Assembly	263
PESS	6.35 mm PowerStrip™/40 Amp Cable Assembly	264

Power Mate®

IPBS	4.19 mm Power Mate® Isolated Power Socket	224
IPBT	4.19 mm Power Mate® Isolated Power Terminal	224
PMSX(T)	4.19 mm Power Mate® Wire to Board Power Cable	259

Q Strip®, Q Pairs®, Q2™, Q Rate®

QSH	0.50 mm Q Strip® High-Speed Ground Plane Socket	39, 46
QTH	0.50 mm Q Strip® High-Speed Ground Plane Header	39, 46
QSE	0.80 mm Q Strip® High-Speed Ground Plane Socket	40
QTE	0.80 mm Q Strip® High-Speed Ground Plane Header	40
QSS	0.635 mm Q Strip® High-Speed Ground Plane Socket	41, 46
QTS	0.635 mm Q Strip® High-Speed Ground Plane Header	41, 46
QFS	0.635 mm Q2™ Rugged Ground Plane Socket	42, 47
QMS	0.635 mm Q2™ Rugged Ground Plane Header	42, 47
QFSS	0.635 mm Q2™ Shielded Ground Plane Socket	43
QMSS	0.635 mm Q2™ Shielded Ground Plane Header	43
QRF8	0.80 mm Q Rate® Slim Body Ground Plane Socket	44, 47
QRM8	0.80 mm Q Rate® Slim Body Ground Plane Header	44, 47
EQCD	0.80 mm Q Strip® Coax Cable Assembly	134
EQRD	0.80 mm Q Rate® Coax Cable Assembly	134
HQCD	0.50 mm Q Strip® Coax Cable Assembly	134

Razor Beam™

LSHM	0.50 mm Razor Beam™ High-Speed Hermaphroditic Strip	57
LSEM	0.80 mm Razor Beam™ High-Speed Hermaphroditic Strip	58
LSS	0.635 mm Razor Beam™ High-Speed Hermaphroditic Strip	58
HLCD	0.50 mm Razor Beam™ High-Speed Cable Assembly	134

SEARAY™, SEARAY™ 0.80 mm

SEAF	1.27 mm SEARAY™ High-Density Open-Pin-Field, Socket	25, 26
SEAM	1.27 mm SEARAY™ High-Density Open-Pin-Field, Terminal	25, 26
SEAFP	1.27 mm SEARAY™ Press-Fit High-Density Array, Socket	27
SEAMI	1.27 mm SEARAY™ 85 Ω tuned High-Density Array, Terminal	27
SEAMP	1.27 mm SEARAY™ Press-Fit High-Density Array, Terminal	27
SEAR	1.27 mm SEARAY™ High-Density Riser, 85 Ω	27
SEAF8	0.80 mm SEARAY™ Ultra-High Density Open-Pin-Field Socket	29
SEAM8	0.80 mm SEARAY™ Ultra-High Density Open-Pin-Field Terminal	29
SEAC	1.27 mm SEARAY™ High-Speed/High-Density Jumper	131

Si-Fly® LP, Si-Fly® HD

CPC	Si-Fly® LP Low Profile High-Density Cable Assembly	121
CPI	Si-Fly® LP Low Profile High-Density Interconnect	121
SFCC	Si-Fly® HD Co-Packaged Cable Assembly	123
SFCM	Si-Fly® HD Co-Packaged Substrate Connector	123
SFNC	Si-Fly® HD Near-Chip Cable Assembly	124
SFNM	Si-Fly® HD Near-Chip Board Connector	124

Tiger Beam™

CLE	0.80 mm Tiger Beam™ Cost-Effective Micro Socket	278
MLE	1 mm Tiger Beam™ Cost-Effective Micro Socket	282
FLE	1.27 mm Tiger Beam™ Cost-Effective Reliable Socket	289
TLE	2 mm Tiger Beam™ Cost-Effective Reliable Socket	307
HLE	2.54 mm Tiger Beam™ Cost-Effective Reliable Socket	324

Tiger Buy™

SLM	1.27 mm Tiger Buy™ Low Profile Through-Hole Micro Socket	294
SMS	1.27 mm Tiger Buy™ Through-Hole Micro Socket	294
LS2	2 mm Self-Mating Hermaphroditic Strip	308
SSQ	2.54 mm Tiger Buy™ Socket .025" SQ Post	320
SSW	2.54 mm Tiger Buy™ Socket	320, 321
ESQ	2.54 mm PC/104™ Elevated Socket	323
ESW	2.54 mm PC/104™ Elevated Socket	323
BSW	2.54 mm Bottom Mount Socket Strip	326
SLW	2.54 mm Tiger Buy™ Low Profile Socket Strip	327

Tiger Claw™

CLM	1 mm Tiger Claw™ Rugged Reliable Micro Socket	282
CLP	1.27 mm Tiger Claw™ Low Profile Dual Wipe Socket	288
MMS	2 mm Tiger Claw™ Socket Strip	306
CLT	2 mm Tiger Claw™ Low Profile Dual Wipe Socket	307
SSM	2.54 mm Tiger Claw™ Pass-Through SMT Socket	322
BCS	2.54 mm Tiger Claw™ Pass-Through, Through-Hole Socket	325

Tiger Eye™

SFM	1.27 mm Tiger Eye™ High-Reliability Socket	237
SFML	1.27 mm Tiger Eye™ High-Reliability Locking Socket	237
SFC	1.27 mm Tiger Eye™ Cost-Effective Reliable Socket	239
SFMC	1.27 mm Tiger Eye™ Flexible Pin Count Socket	241
SEM	0.80 mm Tiger Eye™ Micro Socket	243
S2M	2 mm Tiger Eye™ Wire to Board Cable Socket	245
SMM	2 mm Tiger Eye™ High-Reliability Socket	246
SFSX(T)	1.27 mm Tiger Eye™ Wire to Board Cable	254, 255
S2SX(T)	2 mm Tiger Eye™ Wire to Board Socket Cable	256
SESDT	0.80 mm Tiger Eye™ Wire to Board Socket Cable	257
TCXD	2 mm Tiger Eye™ IDC High-Reliability Cables	334, 335
FFXD	1.27 mm Tiger Eye™ IDC Ribbon Cable Assemblies	338, 339
FXTP	1.27 mm Tiger Eye™ IDC Twisted Pair Cables	341

URSA® I/O

B1SD(T)	URSA® I/O Ultra Rugged Socket Cable Assembly	227
P1PD(T)	URSA® I/O Ultra Rugged Panel Mount Terminal Cable	228
P1M	URSA® I/O Ultra Rugged Board Mount I/O Connector	229
B1SM	URSA® I/O Panel Mount Jack Cable with SMPM Contacts	230
P1SM	URSA® I/O Panel Mount Plug Cable with SMPM Contacts	230

XCede® HD

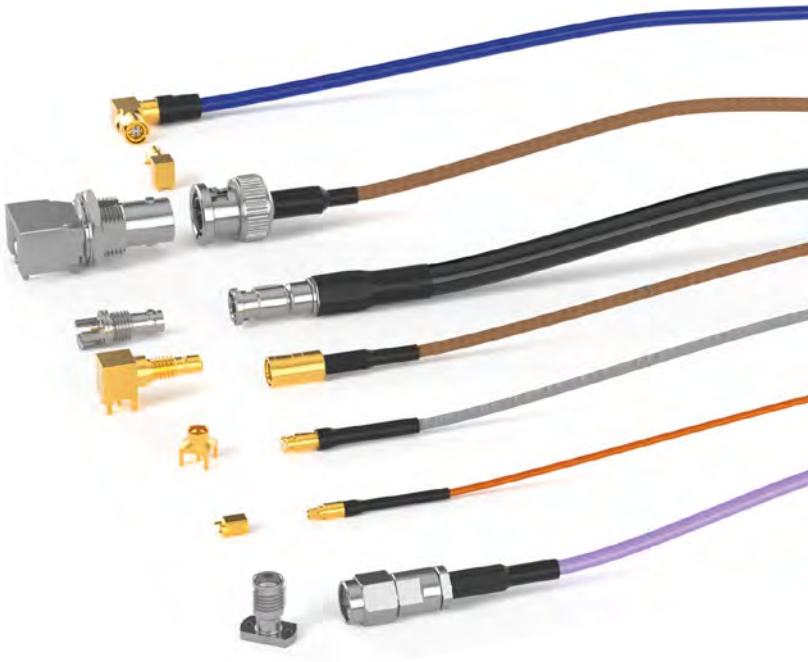
HDTM	1.80 mm XCede® HD Vertical Backplane Header	93
HDTF	1.80 mm XCede® HD Right-Angle Backplane Receptacle	94

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

RF PRODUCT INDEX

Precision RF products highlighted in bold.

Series	Description	Page
75T	**V-Band Threaded Flexible Waveguide Board Connector**	**180**
100	**50 Ω Precision 1.00 mm Compression Jacks**	**157**
135	**50 Ω Precision 1.35 mm Compression Jacks**	**158**
185	**50 Ω Precision 1.85 mm Compression Jacks**	**159**
240	**50 Ω Precision 2.40 mm Compression Jacks**	**160**
292	**50 Ω Precision 2.92 mm Compression Jacks**	**161**
BE40A	**50 GHz & 40 GHz Bulls Eye® Assembly, Double Row**	**177**
BE70A	**70 GHz Bulls Eye® Assembly, Single or Double Row**	**177**
BE71A	**71 GHz Bulls Eye® Assembly, Single or Double Row, Nitrowave™ Cable**	**175**
BE90A	**90 GHz Bulls Eye® Assembly, Single or Double Row**	**176**
BNC5-CA	50 Ω BNC Cable Connectors	188
BNC7T	75 Ω 12G-SDI BNC Jacks	191
BNC7T-CA	75 Ω 12G-SDI BNC Cable Connectors	190
C28S	100 Ω Shielded Twisted Pair Twinax Cable Assembly	195
CJT	100 Ω Twinax Jacks	195
DIN7A	75 Ω, 12G-SDI DIN 1.0/2.3 Jacks	193
DIN7A-CA	75 Ω, 12G-SDI DIN 1.0/2.3 Cable Connectors	193
GC47	**50 Ω Precision Ganged SMPM Assembly, .047" Cable**	**164**
GC86	**50 Ω Precision Ganged SMPM Assembly, .086" Cable**	**164**
GPCC-16	**75 Ω RF Size 16 Coaxial Contact**	**179**
GPCC-20	**50 Ω RF Size 20 Coaxial Contact**	**179**
GPPB	**50 Ω Precision Ganged SMPM Block, Board-to-Board**	**164**
GPPC	**50 Ω Ganged SMPM Cable Board Mates**	**165**
GRF1-C	5.00 mm 50 Ω Ganged Micro-Mini RF Plugs, Cable	195
GRF1H-C	5.00 mm 50 Ω Ganged Hybrid Micro-Mini RF Cable	195
GRF1-J	5.00 mm 50 Ω Ganged Micro-Mini RF Jacks, PCB Mount	195
GRF1-P	5.00 mm 50 Ω Ganged Micro-Mini RF Plugs, PCB Mount	195
GRF7-C	5.00 mm 75 Ω Ganged Micro-Mini RF Plugs, Cable	195
GRF7H-C	5.00 mm 75 Ω Ganged Hybrid Micro-Mini RF Cable	195
GRF7-J	5.00 mm 75 Ω Ganged Micro-Mini RF Jacks, PCB Mount	195
GRF7-P	5.00 mm 75 Ω Ganged Micro-Mini RF Plugs, PCB Mount	195
HDBNC	75 Ω, 12G-SDI High-Density BNC Jacks	192
HDBNC-CA	75 Ω, 12G-SDI High-Density BNC Cable Connectors	192
IJ5	4.00 mm IsoRate® 50 Ω High Isolation RF Jack Strip	195
IJ5C	4.00 mm IsoRate® 50 Ω High Isolation RF Cable	195
IJ5H	4.00 mm IsoRate® 50 Ω High Isolation Hybrid RF Cable	195
IP5	4.00 mm IsoRate® 50 Ω High Isolation RF Plug Strip	195
LL018	**18 GHz Nitrowave™ High-Performance µWave Cable**	**154**
LL032	**32 GHz Nitrowave™ High-Performance µWave Cable**	**154**
LL043	**43.5 GHz Nitrowave™ High-Performance µWave Cable**	**153**
LL071	**71 GHz Nitrowave™ High-Performance µWave Cable**	**153**
LL095	**95 GHz Nitrowave™ High-Performance µWave Cable**	**152**
LL110	**110 GHz Nitrowave™ High-Performance µWave Cable**	**152**
MCX	50 Ω MCX Jacks & Plugs	185
MCX-CA	50 Ω MCX Cable Connectors	185
MCX7	75 Ω MCX Jacks & Plugs	195
MCX7-CA	75 Ω MCX Cable Connectors	195
MH081	50 Ω Micro High Frequency RF Cable, 0.81 mm DIA	183
MH113	50 Ω Micro High Frequency RF Cable, 1.13 mm DIA	183
MMCX	50 Ω MMCX Jacks & Plugs	186
MMCX-CA	50 Ω MMCX Cable Connectors	186
MMCX7	75 Ω MMCX Jacks & Plugs	195
MMCXV	50 Ω MMCX High-Vibration Jacks & Plugs	195
MMCXV-CA	50 Ω MMCX High-Vibration Cable Connectors	195
PRF00	**Precision SMP Cable Connectors, 40 GHz**	**168**
PRF01	**Precision SMA Cable Connectors, 18 GHz**	**163**
PRF04	**Precision TNCA Cable Connectors, 18 GHz**	**171**
PRF06	**Precision N Type Cable Connectors, 18 GHz**	**170**
PRF10	**Precision 1.00 mm Cable Connectors, 110 GHz**	**157**
PRF13	**Precision 1.35 mm Cable Connectors, 90 GHz**	**158**
PRF18	**Precision 1.85 mm Cable Connectors, 65 GHz**	**159**
PRF24	**Precision 2.40 mm Cable Connectors, 50 GHz**	**160**
PRF35	**Precision 3.50 mm Cable Connectors, 34 GHz**	**162**
PRF92	**Precision 2.92 mm Cable Connectors, 40 GHz**	**161**
PRFBA	**Precision 50 Ω Between-Series Bullet Adaptors**	**173**
PRFIA	**Precision 50 Ω In-Series Bullet Adaptors**	**172**
PRFM0	**Precision SMPM Cable Connectors, 65 GHz**	**166**
PRFS1	**Precision SSMA Cable Connectors, 34 GHz**	**162**
RF047-A	**50 Ω .047" Overshield DIA 29 AWG mmWave Cable**	**157-161, 163, 166, 168, 179, 182, 195**
RF058	50 Ω RF Cable Assembly, RG 58 Cable	184-187
RF085	**50 Ω .085" Overshield DIA 24 AWG mmWave Cable**	**160-161**
RF086	**50 Ω .086" Overshield DIA 23 AWG mmWave Cable**	**159-161, 163, 166, 168**
RF174	50 Ω RF Cable Assembly, RG 174 Cable	184-189
RF178	50 Ω RF Cable Assembly, RG 178 Cable	184-189
RF179	75 Ω RF Cable Assembly, RG 179 Cable	190, 193-194
RF180	**50 Ω .178" Overshield DIA, 16 AWG µWave Cable**	**163, 170-171**
RF23C	**50 Ω mmWave Cable, 23 AWG, Copper Shield**	**160-161, 163, 166, 168**
RF23S	**50 Ω µWave Cable, 23 AWG Solid FEP Dielectric**	**162**
RF25S	**50 Ω µWave Cable, 25 AWG Solid FEP Dielectric**	**163, 168**
RF280	**50 Ω .277" Overshield DIA, 11 AWG µWave Cable**	**163, 170-171**
RF316	50 Ω RF Cable Assembly, RG 316 Cable	184-189
RF402	**50 Ω RG 402 19 AWG Semi-Flexible µWave Cable**	**163**
RF405	**50 Ω RG 405 24 AWG Semi-Flexible µWave Cable**	**163, 168**
RFA6T	75 Ω RF Cable Assembly, RG 6 Cable	190, 192-193
RFB6T	75 Ω RF Cable Assembly, 1694A Cable	190, 192-193
RFB8T	75 Ω RF Cable Assembly, 1855A Cable	192-193
RFC6T	75 Ω RF Cable Assembly, Belden 4694R Cable	190, 192-193
RFC8T	75 Ω RF Cable Assembly, Belden 4855R Cable	192-193
RS316	50 Ω RF Cable Assembly, Double-Shielded RG 316 Cable	184-188
SMA	**50 Ω Precision SMA Jacks**	**163**
SMA-CA	50 Ω SMA Low Frequency Cable Connectors	184
SMB5	50 Ω SMB Jacks	189
SMB5-CA	50 Ω SMB Cable Connectors	189
SMB7H	75 Ω SMB Jacks	194
SMB7H-CA	75 Ω SMB Cable Connectors	194
SMP	**50 Ω Precision SMP Plugs**	**169**
SMP-B	**50 Ω Precision SMP Bullet Adaptors**	**169**
SMPM	**50 Ω Precision SMPM Plugs**	**167**
SMPMT	**50 Ω Precision SMPM Threaded Plugs**	**167**
TNC	50 Ω TNC Jacks	187
TNC-CA	50 Ω TNC Cable Connectors	187
VBM	**Rugged, Blind Mate Block Module**	**178**
WF15	**V-Band Flexible Waveguide Assembly**	**180**
WGBA	**Between-Series Waveguide Flange Adaptor**	**180**



Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

INDEX BY SERIES

Series	Description	Page
ACD	Automotive Certified Design	349
ACP-12	AccliMate™ IP68 Sealed 12 mm Cable Assembly	233
ACP-16	AccliMate™ IP68 Sealed 16 mm Cable Assembly	233
ACP-22	AccliMate™ IP68 Sealed 22 mm Cable Assembly	233
ACR-12	AccliMate™ IP68 Sealed 12 mm Panel Assembly	233
ACR-16	AccliMate™ IP68 Sealed 16 mm Panel Assembly	233
ACR-22	AccliMate™ IP68 Sealed 22 mm Panel Assembly	233
ADF6	0.635 mm AcceleRate® HD High-Density Socket	21
ADM6	0.635 mm AcceleRate® HD High-Density Header	21
AMF6	**AcceleRate® Mini Small Form Factor Cable Socket**	**119**
APF6	0.635 mm AcceleRate® HP High-Performance Socket	19
APF6-L	**0.635 mm AcceleRate® HP Cable Assembly Socket**	**115**
APM6	0.635 mm AcceleRate® HP High-Performance Header	19
ARC6	0.635 mm AcceleRate® Slim Cable	117
ARF6	0.635 mm AcceleRate® Slim Socket	117
ARM6	**AcceleRate® Mini Small Form Factor Cable**	**119**
ARP6	**0.635 mm AcceleRate® HP High-Performance Cable**	**115**
ASP	Application Specific Product	14
AW	0.80 mm Flex Stack, Surface Mount Micro Board Stacker	279
B1SD(T)	URSA® I/O Ultra Rugged Socket Cable Assembly	227
B1SDS	URSA® I/O Metal Shell for Cable Socket Housing	227
B1SM	**URSA® I/O Jack Cable with SMPM Contacts**	**230**
BCS	2.54 mm Tiger Claw™ Pass-through, Through-Hole Socket	325
BCU	AccliMate™ IP67 Sealed USB-C Cable Plug	234
BPCU	AccliMate™ IP67 Sealed USB-C Cable Receptacle	234
BRU	AccliMate™ IP67 Sealed USB-C Board Mount Receptacle	234
BSE	0.80 mm Basic Blade & Beam Socket	277
BSH	0.50 mm Basic Blade & Beam Socket	275
BSS	0.635 mm Basic Blade & Beam Socket	276
BSW	2.54 mm Bottom Mount Socket Strip	326
BTE	0.80 mm Basic Blade & Beam Header	277
BTH	0.50 mm Basic Blade & Beam Header	274
BTS	0.635 mm Basic Blade & Beam Header	276
CC03	Tiger Eye™ Contact for ISDF	254
CC09	Micro Mate™ Contact for ISS1/ISD1	250
CC10	PowerStrip™ Contact for IPS6	264
CC396	Tiger Eye™ Contact for ISDE	257
CC46	PowerStrip™ Contact for IMS5 and IMSC5	262
CC489	mPOWER® Crimp Contact	209
CC508	URSA® I/O Crimp Contact	227
CC69	Power Mate® Contact for IPBD	259
CC79	Mini Mate® Contact for IPD1	260
CC81	Tiger Eye™ Contact for ISD2 and IMSC5	256
CES	2.54 mm Closed Entry Low Profile Socket Strip	327
CLE	0.80 mm Tiger Beam™ Cost-Effective Micro Socket	278
CLM	1 mm Tiger Claw™ Rugged Reliable Micro Socket	282
CLP	1.27 mm Low Profile Dual Wipe Socket	288
CLT	2 mm Low Profile Dual Wipe Socket	307
CPC	Si-Fly® LP Low Profile High-Density Copper Cable	121
CPI	Si-Fly® LP Low Profile High-Density Interconnect	121
CSSO	FireHawk™ Optical Transceiver for Space	145
DW	2.54 mm Flex Stack, Flexible Board Stacker, .110" Tail	318
DWM	1.27 mm Flex Stack, Flexible Micro Board Stacker	292
EBCB	ExaMAX® Panel Retention Bracket	91
EBCE	**2 mm ExaMAX® I/O Shielded Panel Mount Cable**	**109**
EBCF	2 mm ExaMAX® Backplane Cable Socket	90
EBCL	ExaMAX® Vertical Latching Shroud	91
EBCM	2 mm ExaMAX® Backplane Cable Header	89
EBDM-RA	2 mm ExaMAX® Direct Mate Orthogonal Header	88
EBTC	**ExaMAX® I/O Shielded Right-Angle Cage for EBTM-RA**	**109**
EBTF-RA	2 mm ExaMAX® Backplane Socket, Right-Angle	88
EBTM	2 mm ExaMAX® Backplane Header	87
EC2	2 mm Shrouded IDC Ejector Header Cap	336
ECDP	0.80 mm Twinax Edge Card Cable Assembly	134
ECUE	FireFly™ Copper Micro Flyover System™	136
ECUO	FireFly™ Optical Micro Flyover System™	137
EGBF	ExaMAX® Socket Guide Module	91
EGBM	ExaMAX® Terminal Guide Module	91
EHF	1.27 mm Shrouded IDC Ejector Header	340
EHT	2 mm Shrouded IDC Ejector Header	336
EJH	2.54 mm Shrouded IDC Ejector Header	332
EPTS	ExaMAX® Socket Power Module	91
EPTT	ExaMAX® Terminal Power Module	91
EQCD	0.80 mm Q Strip® Coax Cable Assembly	134
EQDP	0.80 mm Q Pairs® Twinax Cable Assembly	134
EQRD	0.80 mm Q Rate® Coax Cable Assembly	134
ERCD	0.80 mm Edge Rate® Coax Cable Assembly	134
ERDP	0.80 mm Edge Rate® Twinax Cable Assembly	134
ERF5	0.50 mm Edge Rate® Rugged High-Speed Socket	49
ERF6	0.635 mm Edge Rate® Rugged High-Speed Socket	50
ERF8	0.80 mm Edge Rate® Rugged High-Speed Socket	51
ERF8-EM	0.80 mm Edge Rate® Rugged Edge Mount Socket	53
ERF8-RA	0.80 mm Edge Rate® Rugged Right-Angle Socket	53
ERM5	0.50 mm Edge Rate® Rugged High-Speed Header	49
ERM6	0.635 mm Edge Rate® Rugged High-Speed Header	50
ERM8	0.80 mm Edge Rate® Rugged High-Speed Header	51
ERM8-EM	0.80 mm Edge Rate® Rugged Edge Mount Header	52
ERM8-RA	0.80 mm Edge Rate® Rugged Right-Angle Header	52
ESCA	0.80 mm SEARAY™ High-Speed Cable Assembly	131
ESHF	1.27 mm Shrouded IDC Header	340
ESQ	2.54 mm PC/104™ Elevated Socket	323
ESQT	2 mm FleXYZ™ Flexible Elevated Socket Strip	304
ESQT-368	2 mm PC/104-*Plus*™ Self-Nesting Socket	304
ESW	2.54 mm PC/104™ Elevated Socket	323
ET60S	2.54 mm PowerStrip™ EXTreme Ten60Power™ Socket	215
ET60T	2.54 mm PowerStrip™ EXTreme Ten60Power™ Terminal	215
ETMM	2 mm Shrouded Strain Relief IDC Header	336
ETMO	**FireFly™ Extreme Environment Optical System**	**139**
ETUO	FireFly™ Extended Temp Optical Micro Flyover System™	138
EW	2.54 mm Flex Stack, Flexible .025" SQ Board Stacker	318
FC1	1 mm Flat Flexible Cable (FFC) Socket	342
FCDP	0.50 mm High-Speed Edge Card Socket for FEDP	134
FEDP	0.50 mm High-Speed Edge Card Cable Assembly	134
FCF8	0.80 mm High-Speed Cost-Effective Coax Cable Assembly	134
FCS8	0.80 mm High-Speed Cost-Effective Coax Cable Socket	134
FFMD	1.27 mm Tiger Eye™ IDC Ribbon Cable Assembly, Male	339
FFSD	1.27 mm Tiger Eye™ IDC Ribbon Cable Assembly, Female	338
FFTP	1.27 mm Tiger Eye™ IDC Twisted Pair Cable, Female	341
FJ	1 mm Flat Flexible Cable (FFC) Jumper	342
FJH	0.50 mm Flat Flexible Cable (FFC) Jumper	342
FLE	1.27 mm Tiger Beam™ Cost-Effective Reliable Socket	289
FMPS	5 mm PowerStrip™/30 Amp "Hinging" Power Socket	216
FMPT	5 mm PowerStrip™/30 Amp "Hinging" Power Header	216
FMTP	1.27 mm Tiger Eye™ IDC Twisted Pair Cable, Male	341
FOLC	1.27 mm FOURRAY™ High-Density Tiger Eye™ Socket	240
FOPC	Fiber Optic Patch Cable	143
FOSFP-1	**Flyover® OSFP Cable System, 112 Gbps PAM4**	**100**
FOSFP-2	**Flyover® OSFP Cable System, 224 Gbps PAM4**	**100**
FQSFP	Flyover® QSFP Cable System	103
FQSFP-D8	Flyover® QSFP 800G Double Density Cable System	102
FQSFP-DD	Flyover® QSFP Double Density Cable System	102
FS5	0.50 mm High-Speed Floating Contact Socket	273
FSFP	**Flyover® SFP Cable System**	**99**
FSI	1 mm One-Piece Interface	270
FT5	0.50 mm High-Speed Floating Contact Terminal	273
FTE	0.80 mm SMT Micro Header	278
FTM	1 mm SMT Micro Low Profile Terminal Strip	280
FTMH	1 mm SMT Micro Terminal Strip	280
FTR	1.27 mm SMT Micro Terminal Strip	293
FTS	1.27 mm Micro Low Profile Terminal Strip	286
FTSH-SM	1.27 mm SMT Micro Terminal Strip	284
FTSH-TH	1.27 mm Through-Hole Micro Terminal Strip	285
FW-SM	1.27 mm Flex Stack, SMT Micro Board Stacker	287
FW-TH	1.27 mm Flex Stack, Through-Hole Micro Board Stacker	287
GC6	0.60 mm Generate® Edge Card Cable Assembly	125
GC6RF	Generate® High-Speed Test Cable	126
GMI	SUPERNOVA® One-Piece Compression Interposer	32
GPSO	SureWare™ Ultra Rugged Guide Post Standoffs	34
GPSOM	SureWare™ Ultra Rugged Micro Guide Post Standoffs	34
HALO-C	**Halo® Next Gen Mid-Board Optical Transceiver**	**145**
HALO-PE	**Halo Cu™ Copper Mid-Board Cable System**	**144**
HCMX	2.54 mm IDC Assembly, Terminal	330
HCSX	2.54 mm IDC Assembly, Socket	330
HDWM	1.27 mm Flex Stack, High Temp Micro Board Stacker	292
HDTF	1.80 mm XCede® HD Right-Angle Backplane Receptacle	94
HDTM	1.80 mm XCede® HD Vertical Backplane Header	93
HLCD	0.50 mm Razor Beam™ High-Speed Cable Assembly	134
HLE	2.54 mm Tiger Beam™ Cost-Effective Reliable Socket	324
HLF6	**Halo® Rugged High-Density Socket**	**144**
HMTSW	2.54 mm Flex Stack, High Temp Modified SQ Post Header	314
HPTS	XCede® HD Power Module Socket	94
HPTT	XCede® HD Power Module Terminal	94
HQCD	0.50 mm Q Strip® Coax Cable Assembly	134
HQDP	0.50 mm Q Pairs® Twinax Cable Assembly	134
HSC8	0.80 mm High-Speed Riser Card	65
HSEC1-DV	1 mm Generate® Vertical Card Socket	69
HSEC6-DV	0.60 mm Generate® Vertical Card Socket	63
HSEC8-DP	0.80 mm Generate® Differential Pair Card Socket	68
HSEC8-DV	0.80 mm Generate® Vertical Card Socket	65
HSEC8-EM	0.80 mm Generate® Edge Mount Card Socket	66
HSEC8-PE	0.80 mm Generate® Pass-Through Card Socket	67
HSEC8-PV	0.80 mm Generate® Power/Signal Combo Socket	67
HSEC8-RA	0.80 mm Generate® Right-Angle Card Socket	66
HS-OSFP	**Heat Sink for OSFPC**	**101**
HS-QSFP	Heat Sink for QSFPC	103
HS-QSFP-D8	Heat Sink for QSFPC-D8	102
HS-SFP	**Heat Sink for SFPC-F**	**99**
HTEC8	0.80 mm Generate® Rugged Card Socket	64
HTMS	1.27 mm High Temp Through-Hole Micro Terminal	290
HTSS	2.54 mm High Temp Shrouded Terminal	319
HTST	2.54 mm High Temp Shrouded Cable Terminal	333
HTSW	2.54 mm High Temp Terminal	310
HW-SM	2.54 mm Flex Stack, Board Stacker, Surface Mount	317
HW-TH	2.54 mm Flex Stack, Board Stacker, Through-Hole	317
IBT1	URSA® I/O Ultra Rugged Cable Socket Housing	227
IDMX	2.54 mm Slim IDC Ribbon Cable, Terminal	330
IDP1	1 mm Micro Mate™ Double Row Panel Mount Housing	253
IDSX	2.54 mm Slim IDC Ribbon Cable, Socket	330
IDT1	1 mm Micro Mate™ Double Row Terminal Housing	253
IMPC	mPOWER® Wire to Board Socket Housing	209
IMPE	mPOWER® Wire to Board Terminal Housing	210
IMS5	PowerStrip™/30 Amp Wire to Board Socket Housing	262
IMSC5	PowerStrip™/30 Amp Wire to Board Combo Housing	263
IPBD	4.19 mm Power Mate® Wire to Board Socket Housing	259
IPBS	4.19 mm Power Mate® Isolated Power Socket	224
IPBT	4.19 mm Power Mate® Isolated Power Terminal	224
IPD1	2.54 mm Mini Mate® Wire to Board Socket Housing	260
IPL1	2.54 mm Mini Mate® Shrouded Power Cable Terminal	261
IPP1	URSA® I/O Ultra Rugged Cable Terminal Housing	228
IPS1	2.54 mm Mini Mate® Isolated Power Connector Socket	223
IPS6	PowerStrip™/40 Amp Wire to Board Socket Housing	264
IPT1	2.54 mm Mini Mate® Isolated Power Connector Terminal	223
ISD1	1 mm Micro Mate™ Double Row Socket Housing	251
ISD2	2 mm Tiger Eye™ Wire to Board Socket Housing	256
ISDE	0.80 mm Tiger Eye™ Wire to Board Socket Housing	257
ISDF	1.27 mm Tiger Eye™ Wire to Board Socket Housing	254
ISP1	1 mm Micro Mate™ Single Row Panel Mount Housing	252
ISS1	1 mm Micro Mate™ Single Row Socket Housing	250
IST1	1 mm Micro Mate™ Single Row Terminal Housing	252
JL	2.54 mm Jumper Link	328
JSO	Jack Screw Precision Board Stacking Standoff	35
JSOM	Micro Jack Screw Precision Board Stacking Standoff	36
LPAF	1.27 mm LP Array™ High-Speed Open-Pin-Field Array	31
LPAM	1.27 mm LP Array™ High-Speed Open-Pin-Field Array	31
LPHS	PowerStrip™ EXTreme LPHPower™ Socket	213
LPHT	PowerStrip™ EXTreme LPHPower™ Terminal	213
LP-FQSFP	Light Pipe for QSFPC and HS-QSFP	103
LS2	2 mm Self-Mating Hermaphroditic Strip	308
LSEM	0.80 mm Razor Beam™ Hermaphroditic Strip	58
LSH	0.50 mm Low Profile Blade & Beam Socket	272
LSHM-DH	0.50 mm Razor Beam™ Right-Angle Hermaphroditic Strip	57
LSHM-DV	0.50 mm Razor Beam™ Hermaphroditic Strip	57
LSHM-RH	0.50 mm Razor Beam™ Reversed -RA Hermaphroditic Strip	57
LSS	0.635 mm Razor Beam™ Hermaphroditic Strip	58
LTH	0.50 mm Low Profile Blade & Beam Terminal	272
LTMM	2 mm Shrouded Terminal Strip	300
MCP	AccliMate™ IP67 Mini Push-Pull Cable Assembly	233
MCR	AccliMate™ IP67 Mini Push-Pull Panel Assembly	233
MEC1-DV	1 mm Mini Edge Card Socket, Vertical	75
MEC1-EM	1 mm Mini Edge Card Socket, Edge Mount	76
MEC1-RA	1 mm Mini Edge Card Socket, Right-Angle	76
MEC2-DV	2 mm Mini Edge Card Socket, Vertical Surface Mount	77
MEC2-TH	2 mm Mini Edge Card Socket, Vertical Through-Hole	77
MEC5-DV	0.50 mm Micro Edge Card Socket, Vertical	71
MEC5-RA	0.50 mm Micro Edge Card Socket, Right-Angle	71
MEC6-DV	0.635 mm Micro Edge Card Socket, Vertical	72
MEC6-RA	0.635 mm Micro Edge Card Socket, Right-Angle	72
MEC8-DV	0.80 mm Micro Edge Card Socket, Vertical	73
MEC8-RA	0.80 mm Micro Edge Card Socket, Right-Angle	74
MEC8-EM	0.80 mm Micro Edge Card Socket, Edge Mount	74
MEC8-VP	0.80 mm Micro Edge Card Socket, Press-Fit	73
MECF	1.27 mm Mini Edge Card Socket, Vertical	77
MLE	1 mm Tiger Beam™ Cost-Effective Micro Socket	282
MMS	2 mm Tiger Claw™ Socket Strip	306
MMSD(T)	2.54 mm Mini Mate® Wire to Board Cable, Double Row	260

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

INDEX BY SERIES

Series	Description	Page
MMSS(T)	2.54 mm Mini Mate® Wire to Board Cable, Single Row	260
MMT	2 mm Horizontal Surface Mount Terminal	297
MNT	2.54 mm Multi-Position Shunt	328
MOLC	1.27 mm FOURRAY™ High-Density High-Reliability Header	240
MPCC	PowerStrip™/30 Amp Power/Signal Combo Assembly	263
MPPT	5 mm PowerStrip™/30 Amp Hermaphroditic Power System	216
MPS	5 mm PowerStrip™/30 Amp Dual Leaf Socket	218
MPS-RA	5 mm PowerStrip™/30 Amp Right-Angle Power Socket	218
MPSC	PowerStrip™/30 Amp Signal/Power Combo Socket	219
MPSC-RA	PowerStrip™/30 Amp Right-Angle Signal/Power Socket	219
MPSS	5 mm PowerStrip™/30 Amp Power Cable	262
MPT	5 mm PowerStrip™/30 Amp Dual Blade Terminal	218
MPT-RA	5 mm PowerStrip™/30 Amp Right-Angle Power Terminal	218
MPTC	PowerStrip™/30 Amp Signal/Power Combo Terminal	219
MPTC-RA	PowerStrip™/30 Amp Right-Angle Signal/Power Terminal	219
MTLW	2.54 mm Flex Stack, Low Profile .025" SQ Post Header	316
MTMM	2 mm FleXYZ™ Modified Through-Hole Header	297
MTSW	2.54 mm Flex Stack, Modified SQ Post Header	314
MW	1 mm Flex Stack, Surface Mount Micro Board Header	281
NVA3E	**NovaRay® I/O 38999 Ultra Rugged Cable**	**107**
NVA3P	**NovaRay® I/O 38999 Ultra Rugged Panel Mount Cable**	**107**
NVAC	NovaRay® Extreme Density & Performance Cable	113
NVACE	**NovaRay® I/O Extreme Performance Cable**	**106**
NVACP	**NovaRay® I/O Panel Mount Cable Assembly**	**105**
NVAF	NovaRay® Extreme Density & Performance Socket	17
NVAM	NovaRay® Extreme Density & Performance Terminal	17
NVAM-CT	NovaRay® Terminal for NVAC Series	113
NVBF	**NovaRay® Backplane Socket**	**83**
NVBM-RA	**NovaRay® Backplane Right-Angle Terminal**	**83**
NVC	**NovaRay® I/O Die Cast Panel Cage for NVACP**	**105**
NVCF	**NovaRay® Micro Rugged Backplane Cable, Socket**	**84**
NVCM-RA	**NovaRay® Micro Rugged Backplane Cable, Terminal**	**85**
OPA	Optical Patch Adaptor	143
OSFPC	**Cage for FOSFP-1 & FOSFP-2**	**101**
P1M	URSA® I/O Ultra Rugged Board Mount Connector	229
P1PD(T)	URSA® I/O Ultra Rugged Panel Mount Terminal Cable	228
P1PDS	URSA® I/O Metal Shell for Cable Terminal Housing	228
P1SM	**URSA® I/O Plug Cable with SMPM Contacts**	**230**
PCIE	1 mm PCI Express® 3.0 Edge Card Socket	79
PCIE-G4	1 mm PCI Express® 4.0 Edge Card Socket	80
PCIE-G5	1 mm PCI Express® 5.0 Edge Card Socket	80
PCIE-LP	1 mm PCI Express® Low Profile Edge Card Socket	79
PCIEC	1 mm PCI Express® 3.0 Internal Cable Assembly	132
PCIEC-G4	1 mm PCI Express® 4.0 Internal Cable Assembly	132
PCIEC-G5	1 mm PCI Express® 5.0 Internal Cable Assembly	132
PCOA	PCIe®-Over-Fiber FireFly™ Adaptor Card	142
PCRF-G4	PCI Express® 4.0 High-Speed Test Cable	133
PCRF-G5	PCI Express® 5.0 High-Speed Test Cable	133
PCUE	PCIe®-Over-FireFly™ Copper Flyover® Cable	136
PCUO	PCIe®-Over-Fiber FireFly™ Optical Flyover® Cable	140
PES	6.35 mm PowerStrip™/40 Amp High Power Socket	220
PESC	PowerStrip™/40 Amp Signal/Power Socket	221
PESS	6.35 mm PowerStrip™/40 Amp Cable Assembly	264
PET	6.35 mm PowerStrip™/40 Amp High Power Terminal	220
PETC	PowerStrip™/40 Amp Signal/Power Terminal	221
PHF	2.54 mm Press-Fit Socket	309
PHT	2.54 mm Press-Fit Terminal	309
PMSD(T)	4.19 mm Power Mate® Wire to Board Cable, Double Row	259
PMSS(T)	4.19 mm Power Mate® Wire to Board Cable, Single Row	259
PTF	2 mm Press-Fit Socket	303
PTHF	2 mm PC/104-*Plus*™ Self-Nesting Socket	304
PTT	2 mm Press-Fit Terminal	303
PTUO	**PCIe®-Over-Fiber FireFly™ Extended Temp Optical Cable**	**140**
QFS	0.635 mm Q2™ Rugged Ground Plane Socket	42
QFS-EM	0.635 mm Q2™ Ground Plane Socket, Edge Mount	47
QFS-RA	0.635 mm Q2™ Ground Plane Socket, Right-Angle	47
QFSS	0.635 mm Q2™ Shielded Ground Plane Socket	43
QMS	0.635 mm Q2™ Rugged Ground Plane Header	42
QMS-EM	0.635 mm Q2™ Ground Plane Header, Edge Mount	47
QMS-RA	0.635 mm Q2™ Ground Plane Header, Right-Angle	47
QMSS	0.635 mm Q2™ Shielded Ground Plane Header	43
QRF8	0.80 mm Q Rate® Slim Body Ground Plane Socket	44
QRF8-RA	0.80 mm Q Rate® Slim Body Socket, Right-Angle	47
QRM8	0.80 mm Q Rate® Slim Body Ground Plane Header	44
QRM8-RA	0.80 mm Q Rate® Slim Body Header, Right-Angle	47
QSE	0.80 mm Q Strip® High-Speed Ground Plane Socket	40
QSFPC	Cage for FQSFP	103
QSFPC-D8	Cage for FQSFP-D8	102
QSH	0.50 mm Q Strip® High-Speed Ground Plane Socket	39
QSH-RA	0.50 mm Q Strip® High-Speed Socket, Right-Angle	46
QSS	0.635 mm Q Strip® High-Speed Ground Plane Socket	41
QSS-RA	0.635 mm Q Strip® Ground Plane Socket, Right-Angle	46
QTE	0.80 mm Q Strip® High-Speed Ground Plane Header	40
QTH	0.50 mm Q Strip® High-Speed Ground Plane Header	39
QTH-RA	0.50 mm Q Strip® High-Speed Header, Right-Angle	46
QTS	0.635 mm Q Strip® High-Speed Ground Plane Header	41
QTS-RA	0.635 mm Q Strip® Ground Plane Header, Right-Angle	46
RPBE	AccliMate™ IP68 Sealed Ethernet Panel Mount Socket	234
RPBU	AccliMate™ IP68 Sealed USB Panel Mount Socket	234
RPCE	AccliMate™ IP68 Sealed Ethernet Panel Mount Socket Cable	234
RPCU	AccliMate™ IP68 Sealed USB Panel Mount Cable	234
RSM	1.27 mm Surface Mount Micro Socket	293
RU8	0.80 mm High-Speed Edge Card Riser Kit	65
S1SD(T)	1 mm Micro Mate™ Socket Assembly, Double Row	251
S1SS(T)	1 mm Micro Mate™ Socket Assembly, Single Row	250
S2M	2 mm Tiger Eye™ Wire to Board Cable Socket	245
S2SD(T)	2 mm Tiger Eye™ Wire to Board Socket Cable, Double Row	256
S2SS(T)	**2 mm Tiger Eye™ Wire to Board Socket Cable, Single Row**	**256**
SAL1	1 mm High-Speed Micro Plane Socket	67
SCRES	AccliMate™ IP68 Sealed Circular Ethernet Cable Socket	234
SCRUS	AccliMate™ IP68 Sealed Circular USB 2.0 Panel Mount Socket	234
SEAC	1.27 mm SEARAY™ High-Speed/High-Density Jumper	131
SEAF	1.27 mm SEARAY™ High-Density Open-Pin-Field, Socket	25
SEAF-RA	1.27 mm SEARAY™ Right-Angle Open-Pin-Field, Socket	26
SEAF8	0.80 mm SEARAY™ Ultra-High-Density Array, Socket	29
SEAF8-RA	0.80 mm SEARAY™ Right-Angle Open-Pin-Field, Socket	29
SEAFP	1.27 mm SEARAY™ Press-Fit High-Density Array, Socket	27
SEAM	1.27 mm SEARAY™ High-Density Open-Pin-Field, Terminal	25
SEAM-GP	1.27 mm SEARAY™ High-Density Guide Post Array, Terminal	26
SEAM-RA	1.27 mm SEARAY™ Right-Angle Open-Pin-Field, Terminal	26
SEAM8	0.80 mm SEARAY™ Ultra-High-Density Array, Terminal	29
SEAMI	1.27 mm SEARAY™ 85 Ω High-Density Array, Terminal	27
SEAMP	1.27 mm SEARAY™ Press-Fit High-Density Array, Terminal	27
SEAR	1.27 mm SEARAY™ High-Density Riser, 85 Ω	27
SEI	1 mm Single Row One-Piece Interface	270
SEM	0.80 mm Tiger Eye™ Micro Socket	243
SEMS	0.80 mm Tiger Eye™ Slim Micro Socket	243
SESDT	0.80 mm Tiger Eye™ Wire to Board Socket Cable Assembly	257
SFC	1.27 mm Tiger Eye™ Cost-Efficient Reliable Socket	239
SFCC	**Si-Fly® HD Co-Packaged Cable Assembly**	**123**
SFCM	**Si-Fly® HD Co-Packaged Substrate Connector**	**123**
SFM	1.27 mm Tiger Eye™ High-Reliability Socket	237
SFMC	1.27 mm Tiger Eye™ Flexible Pin Count Socket	241
SFML	1.27 mm Tiger Eye™ High-Reliability Locking Socket	237
SFNC	**Si-Fly® HD Near-Chip Cable Assembly**	**124**
SFNM	**Si-Fly® HD Near-Chip Board Connector**	**124**
SFPC-F	**Cage for FSFP**	**99**
SFSD(T)	1.27 mm Tiger Eye™ Wire to Board Cable, Double Row	255
SFSS(T)	1.27 mm Tiger Eye™ Wire to Board Cable, Single Row	254
SHF	1.27 mm Shrouded IDC Header	340
SIB	2.54 mm One-Piece Interfaces	271
SIBF	1.27 mm One-Piece Interfaces	270
SIR1	2.54 mm One-Piece Right-Angle Interfaces	271
SLH	0.50 mm Micro Blade & Beam Ultra Low Profile Socket	60
SLM	1.27 mm Tiger Buy™ Low Profile Micro Socket	294
SLW	2.54 mm Tiger Buy™ Low Profile Socket Strip	327
SMM	2 mm Tiger Eye™ High-Reliability Socket	246
SMS	1.27 mm Through-Hole Micro Socket	294
SNM	2.54 mm Micro Shunt	328
SNT	2.54 mm Shunt	328
SO	Precision Board Stacking Standoff	36
SOLC	0.635 mm FOURRAY™ Quad Row SMT Socket	283
SQT	2 mm FleXYZ™ Cost-Effective Rugged Socket, Square Tail	305
SQW	2 mm FleXYZ™ Cost-Effective Rugged Socket, Solder Tail	305
SS4	0.40 mm Micro Blade & Beam Ultra-Fine Pitch Socket	59
SS5	0.50 mm Micro Blade & Beam Low Profile Socket	60
SSM	2.54 mm Tiger Claw™ Pass-Through SMT Socket	322
SSQ	2.54 mm Tiger Buy™ Socket .025" SQ Post	320
SSW	2.54 mm Tiger Buy™ Through-Hole Socket	320
SSW-SM	2.54 mm Tiger Buy™ SMT Socket	321
ST4	0.40 mm Micro Blade & Beam Ultra Fine Pitch Header	59
ST5	0.50 mm Micro Blade & Beam Low Profile Header	60
STMM	2 mm Flex Stack, Shrouded Terminal Cable Strip	337
T1M	1 mm Micro Mate™ Wire to Board Terminal	249
T2M	2 mm Tiger Eye™ High-Reliability Wire to Board Cable Header	245
TC145	URSA® I/O Crimp Terminal	228
TC146	mPOWER® Crimp Terminal	210
TC37	Micro Mate™ Crimp Terminal	252
TCMD	2 mm Tiger Eye™ IDC High-Reliability Header Cable	335
TCSD	2 mm Tiger Eye™ IDC Socket Cable	334
TEM	0.80 mm Tiger Eye™ Micro Header	243
TEMS	0.80 mm Tiger Eye™ Micro Header, Slim	243
TFC	1.27 mm Tiger Eye™ Cost-Effective Reliable Header	239
TFM	1.27 mm Tiger Eye™ High-Reliability Header	238
TFML	1.27 mm Tiger Eye™ High-Reliability Locking Header	238
TLE	2 mm Tiger Beam™ Cost-Effective Reliable Socket	307
TLH	0.50 mm Micro Blade & Beam Ultra Low Profile Header	60
TLW	2.54 mm Flex Stack, Low Profile .025" SQ Post Header	316
TML	1.27 mm Shrouded Micro Header	291
TMM-SM	2 mm Low Profile SMT Header	295
TMM-TH	2 mm FleXYZ™ Low Profile Through-Hole Header	296
TMMH-SM	2 mm Flexible SMT Header	298
TMMH-TH	2 mm FleXYZ™ Flexible Through-Hole Header	299
TMMS	2 mm Shrouded Quad Row Header	301
TMS	1.27 mm Through-Hole Micro Header	290
TOLC	0.635 mm FOURRAY™ Quad Row SMT Terminal	283
TSH	2 mm Shrouded Header	301
TSM	2.54 mm SMT .025" SQ Post Header	312
TSS	2.54 mm Flex Stack, Shrouded Header	319
TST	2.54 mm Flex Stack, Shrouded Cable Header	333
TSW	2.54 mm Through-Hole .025" SQ Post Header	310
T1PD(T)	1 mm Micro Mate™ Panel Mount Terminal, Double Row	253
T1PS(T)	1 mm Micro Mate™ Panel Mount Terminal, Single Row	252
T1SD(T)	1 mm Micro Mate™ Terminal Assembly, Double Row	253
T1SS(T)	1 mm Micro Mate™ Terminal Assembly, Single Row	252
TW-SM	2 mm Flex Stack, Flexible Board Stacker, SMT	302
TW-TH	2 mm FleXYZ™ Flexible Board Stacker, Through-Hole	302
2SN	2 mm Shunt	328
UCC8	FireFly™ Positive Latching Receptacle	141
UDF6	**AcceleRate® mP Signal/Power Combo Socket**	**23**
UDM6	**AcceleRate® mP Signal/Power Combo Terminal**	**23**
UEC5	FireFly™ Edge Card Socket	141
UMPC(T)	mPOWER® Ultra Micro Power Cable	209
UMPE(T)	**mPOWER® Cable-to-Cable Assembly, Terminal**	**210**
UMPI(T)	**mPOWER® Cable-to-Cable Panel Mount Assembly, Socket**	**211**
UMPS	2 mm mPOWER® Ultra Micro Power Socket	207
UMPT	2 mm mPOWER® Ultra Micro Power Terminal	208
UPPT	PowerStrip™/20 Amp Hermaphroditic Power System	217
UPS	3.81 mm PowerStrip™/20 Amp Dual Leaf Power Socket	217
UPT	3.81 mm PowerStrip™/20 Amp Dual Blade Power Terminal	217
ZF1	1 mm Flat Flexible Cable (FFC) Socket	342
ZF5S	0.50 mm Flat Flexible Cable (FFC) Socket	342
ZLTMM	2 mm Flex Stack, Shrouded Elevated Terminal Strip	300
ZML	1.27 mm Flex Stack, Shrouded Elevated Stacker	291
ZSS	2.54 mm Flex Stack, Elevated Shrouded Header	319
ZST	2.54 mm Flex Stack, Elevated Shrouded Cable Header	333
ZSTMM	2 mm Flex Stack, Shrouded Elevated Cable Header	337
ZW	2.54 mm Flex Stack, Flexible .025" SQ Board Stacker	318

RF PRODUCTS

See page 351 for available RF Solutions.

GENERAL POLICY INFORMATION

Unless otherwise agreed by Samtec in writing, all sales of Samtec products are subject to Samtec's Terms and Conditions of Sale located at **https://www.samtec.com/about/legal#samtecterms**

Federal Supply Code: 55322

Notes:
New products highlighted in bold.
Most older products not shown in the catalog are still available. Visit www.samtec.com and the homepage search bar for availability and specifications.

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

High-Speed Board-to-Board

High-Speed Cables

Optics

RF

Rugged/Power

Flexible Stacking

Powell Electronics
(800) 235-7880
www.powell.com
samtecinfo@Powell.com

Scan the Code to Find Your Powell Location.

SUDDEN SERVICE®

www.samtec.com

© DECEMBER 2025, SAMTEC INC.

50 YEARS OF SUDDEN SERVICE 1976-2026