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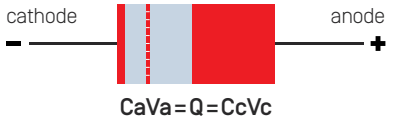
quanticinfo@powell.com

Application Sheet



HyCap-HT [High Temperature] Series Capacitors

for Oil & Gas Downhole Wireline, Drilling, MWD, and Completion Services



Key Features

- The high dielectric constant of the Ta₂O₅ anode allows the capacitor to withstand high voltages
- The RuO₂ cathode has great capacity to store charge, increasing volumetric efficiency
- Unlimited shelf life

Environment and Export

- Standard terminations are 60/40 SnPb nickel "wire per N32 of MIL:STD:1276
- Lead-free RoHS compliant options available
- HyCap-HT capacitors are ECCN EAR99
- Environment—Finish of Terminations
 - Standard leads Sn/Pb per N32 of MIL:STD:1276
 - For RoHS compliant leads add "-LF" at the end of the complete part number

Capacitor Life

HyCap-HT capacitors can withstand either 175°C or 200°C life test with appropriate voltage [see table next page] for durations of 500–2000 hours dependent on P/N. Details available upon request.

Design Challenge

In specific disciplines of downhole instrumentation, high-energy capacitors are essential to achieve optimal energy density, endure intense shock and vibration, and ensure reliable, long-lasting performance even in extreme temperatures ranging from -20°C to 150°C, 175°C, and 200°C.

Our Solution

Quantic™ Evans HyCap-HT capacitors integrate the exceptional performance of a ruthenium oxide cathode, tantalum anode, and tantalum pentoxide dielectric. These capacitors excel in energy storage, offering the utmost energy density per unit volume. They are particularly well-suited for oil and gas applications, as they can reliably operate in temperatures reaching 200°C, even in harsh conditions involving intense shock and vibration.

HyCap-HTX

For extreme shock and vibration environments our HyCap-HTX series offers a robust construction in the largest traditional D(T4) case style. Information on the HyCap-HTX is available upon request.

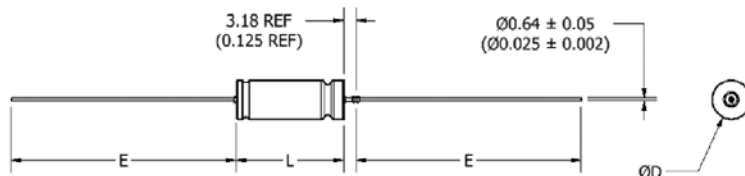
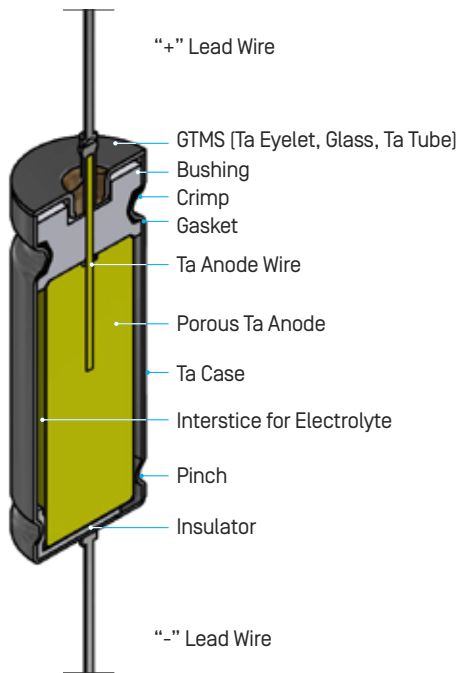


About Quantic Evans—Quantic Evans, a Quantic® Electronics company since 2020, is an AS9100/ISO 9001 certified developer and manufacturer of high-reliability, power dense capacitors. Its products provide superior size, weight, power, and reliability, enabling customers to develop next-generation electronic systems for aerospace, defense, and industrial applications.

Contact us for more information: quantic-evans.com / +1 (401) 435-3555 / info@quantic-evans.com



Download the HyCap-HT datasheet



Case Size	Dimensions mm [in]			
	Basic Case		Insulated Case	
	L	D	D	E
	+0.079 [0.031]	±0.41 [0.016]	MAX	±6.35 [0.250]
B	16.28 [0.641]	7.14 [0.281]	7.92 [0.312]	57.15 [2.250]
D	26.97 [1.062]	9.52 [0.375]	10.31 [0.406]	57.15 [2.250]
B-LF	16.28 [0.641]	7.14 [0.281]	7.92 [0.312]	25.40 [1.000]
D-LF	26.97 [1.062]	9.52 [0.375]	10.31 [0.406]	25.40 [1.000]

Ratings Table

Part Number	Voltage [175°C]	Voltage [200°C]	Capacitance [µF]	ESR [mΩ]	Length [in]	Mass [g]
HCD050681HT	35	30	680	700	1.062	15
HC2D050152HT	30	25	1,500	500	1.062	15
HCD060561HT	42	36	560	800	1.062	15
HC2D060122HT	36	30	1,200	500	1.062	15
HC3D060182HT	36	30	1,800	600	1.062	15.5
HCD075471HT	50	45	470	900	1.062	15
HC2D075941HT	45	37	940	600	1.062	15
HC3D075122HT	45	37	1,200	800	1.062	15.5
HC4D075152HT	60	50	1,500	600	1.062	15.5
HCD100221HT	70	60	220	1200	1.062	18
HC2D100471HT	60	50	470	700	1.062	15
HC3D100681HT	60	50	680	500	1.062	15.5
HC4D100881HT	60	50	880	600	1.062	15.5
HCD125151HT	85	75	150	1600	1.062	18
HC2D125331HT	75	62	330	800	1.062	15.5
HC3D125471HT	75	62	470	600	1.062	15.5
HC4D125561HT	75	62	560	700	1.062	15.5
HC2B050471HT	30	25	470	900	0.641	5.25
HC2B060331HT	36	30	330	900	0.641	5.25
HC3B060561HT	36	30	560	1300	0.641	5.75
HCB075111HT	50	45	110	1300	0.641	6
HC2B075221HT	45	37	220	1000	0.641	5.25
HC3B075331HT	45	37	330	1500	0.641	5.75
HC4B075391HT	45	37	390	800	0.641	5.75
HCB100680HT	70	60	68	2100	0.641	6
HC2B100151HT	60	50	150	1200	0.641	5.25
HC3B100221HT	60	50	220	1200	0.641	5.75
HC4B100271HT	60	50	270	1400	0.641	5.75
HC2B125101HT	75	62	100	1800	0.641	5.25
HC3B125151HT	75	62	150	1400	0.641	5.75
HC4B125181HT	75	62	180	1800	0.641	5.75



Request free samples
(Limit 2-3 part numbers)



Need help selecting or ordering the right capacitor for your application? Speak with an expert.

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