

## Stacked, Multilayer Polymer (MLP) Film Capacitors for Mission-Critical Applications

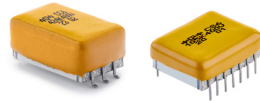
Quantic™ Paktron stands out as a pioneer in capacitor technology with its innovative stacked, multilayer polymer (MLP) construction. This advanced design offers significant advantages over conventional wound film capacitors, making Quantic™ Paktron a preferred choice across diverse markets including automotive, commercial, high-reliability, military, space, and telecommunications sectors. These stacked, multilayer polymer (MLP) film capacitors serve as an excellent alternative to ceramic capacitors in critical “cannot fail” applications that require robust mechanical and electrical performance.

**All Quantic™ Paktron products are design registrable.**



### Angstor

- › 0.10uF – 10uF
- › 100VDC – 1200VDC
- › 7.5mm – 15mm lead spacing



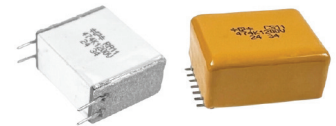
### Capstick

- › 0.33uF – 20uF
- › 50VDC – 1200VDC
- › 10mm – 15mm lead spacing
- › SMD versions available



### Quencharc RC-Snubber

- › 200VDC – 1600VDC
- › up to 2W power ratings
- › UL/CSA versions available



### New High Voltage MLP

- › <2uF typical values available
- › 1000VDC-1200VDC
- › 27.5mm lead spacing
- › SMD and thru-hole options

## Advantages

### Unique advantages over conventional wound film capacitors

- › higher frequency operation
- › lower ESR and ESL
- › High dV/dT

### Self -Encased Design

- › volumetrically efficient square shape
- › lightweight, higher capacitance density compared to boxed, wound capacitors
- › mechanically resilient body

### Ultra-High ripple current ratings

- › ultra-low D.F. due to stacked construction, specialty dielectrics
- › unique design improves heat dissipation

### High stability

- › zero DC-bias derating
- › low temperature coefficients
- › 20+ year life expectancy without significant cap degradation

### Wide Operating Temperature range

- › -55°C to +125°C, vs polypropylene [-55°C to 85°C [105°C]]: stable parameters across this range

### Self Healing

- › during a fault condition, the affected area of the capacitor is “cleared”, isolating the fault and allowing the capacitor to continue to operate as normal
- › mechanically flexible, no susceptibility to piezoelectric effect, surge cracking

### Standard values

- › corresponding to the needs of wide bandgap switching applications
- › custom values available

### Lead Times 8-10 weeks, less in some cases

### Manufactured in USA

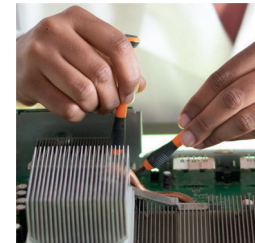
## Applications

- EMI filtering
- VPX Systems
- L-C filtering (power converters, power amplifiers, etc.)
- Low energy pulse applications (ignition, systems, etc)
- Boost converters
- Switched mode power supplies
- DC Block Applications (HF, plasma amplifiers, etc)
- DC link applications, (low energy)
- Voltage smoothing,
- Coupling and de-coupling
- Timing/tuning



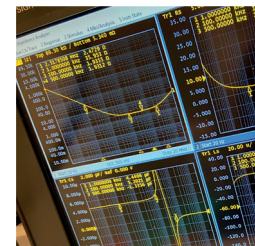
## Quantic Paktron MLP Design vs XR7 MLCC

XR7 MLCC Constraints	Quantic Paktron PET MLP Advantages
Capacitance Drops 40% at 100VDC Bias	Stable under Bias Voltage
D.F. Increases with AC Voltage	Stable under AC Voltage
D.F. Increases at Lower Temper	Stable over Temperature
Ceramic body susceptible to cracking	Mechanically Flexible (doesn't crack)
Requires derating	Little to no derating required
Fails short	Self Healing - Does not fail short



## Construction

Quantic Paktron specializes in Ultra Low ESR multilayer polymer film capacitors and leads in Film-Chip and SMT designs. The metallized electrode used in Quantic Paktron's proprietary Interleaf® Technology process assures reliable performance. Multilayer Polymer (MLP) surface mount, chip and lead framed capacitors are replacing MLC (ceramic) capacitors in higher voltage and reliability-sensitive equipment. This includes mobile and airborne power bus, server, PFC, renewable energy, inverter, and motor drive applications. Quantic Paktron holds in excess of seventy-five patents for film capacitors and machine design.



## Quality

Quantic Paktron's unique approach to quality assurance sets us apart in the multiindustry sales markets. Since 1953, we have crafted and refined our own documented quality system tailored specifically to the capacitor industry. This system not only meets but exceeds the requirements of standardized systems in various markets, allowing us to deliver unrivaled products unrestricted by market limitations. At Quantic Paktron, our relentless focus on quality assurance drives us to consistently produce the finest products in the industry. Our manufacturing facility is ISO 9001:2015 certified.



**Quantic™ Paktron**



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