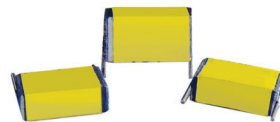


# ***New CDE Type RA 125 °C Radial, Multilayer Film Capacitors***

***For high-frequency RFI/EMI  
suppression, ignition pulse forming  
and motor controllers.***



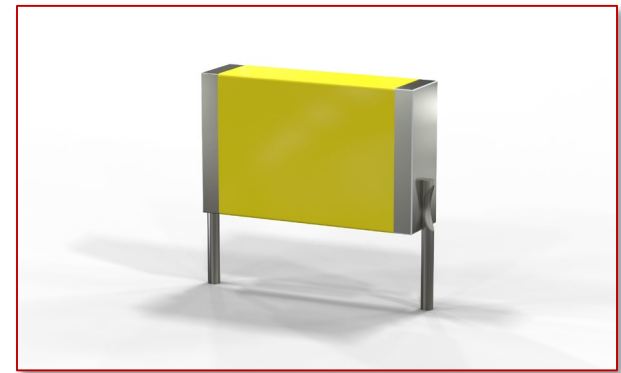
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# RA Multilayer Film Capacitors

*High-performance step-up from multilayer ceramic capacitors.*

- Small size/shape allows dense circuitry design
- Rugged, self-encased construction
- High-reliability design:
  - Assembled with a high laminating pressure to prevent air gaps between Polyester film layers.
  - Self-healing, with “no-short” failure mode
  - Impregnated with a microcrystalline polymer sealant, under vacuum, for resistance to moisture.



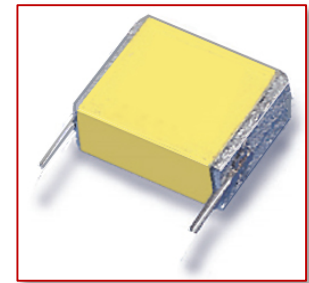
# RA Multilayer Film Capacitors

- High frequency response is similar to MLCCs, with better performance
  - Capacitance is unaffected by applied bias voltage
  - Resists damage from pulses
  - No Piezoelectric effect
  - No cracking
  - Greater lifespan
- Very low ESR/ESL and high  $dv/dt$
- Meets MIL Std 202 Method 204D for vibration
- RoHS Compliant and wave-solderable
- Made in USA



# RA Series key ratings

- Capacitance Range 0.1 to 10  $\mu\text{F}$
- Voltage Range: 100, 250, 400, 500 Vdc
- Operating Temp:  $-55\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$ ;
- Moisture Resistance:  $+85\text{ }^{\circ}\text{C}$  / 85% RH / 21 days
- Dissipation Factor:  $\leq 1.0\%$  @  $25\text{ }^{\circ}\text{C}$ , 1 kHz
- Self inductance is only 2-6 nh (typical)



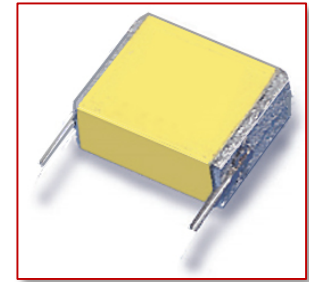
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# RA Series key performance parameters.

In comparison to most wound film capacitors, the RA Series offers:

- Higher capacitance per unit volume
- More efficient use of PCB space
- Lower self-inductance compared to conventional wound film capacitors
- High self-resonant frequency (exceeding 10MHz) allows higher frequency operation

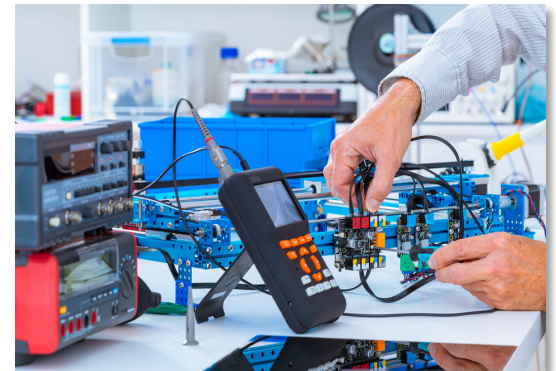
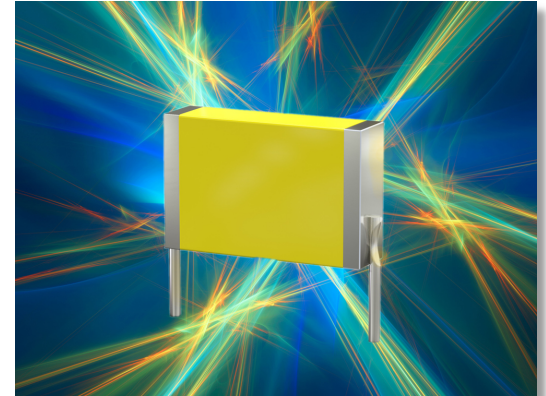


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# Applications match today's hottest power topologies.

- In-circuit applications include:
  - EMI/RFI suppression
  - Board-level power conversion
  - Pulse generation
  - Any circuit requiring low ESR/ESL, high  $dv/dt$ ; long life
- Input/output filtering in 48 volt telecom bus power applications (on-board or dc/dc modules)
- High reliability, “no-fail” applications

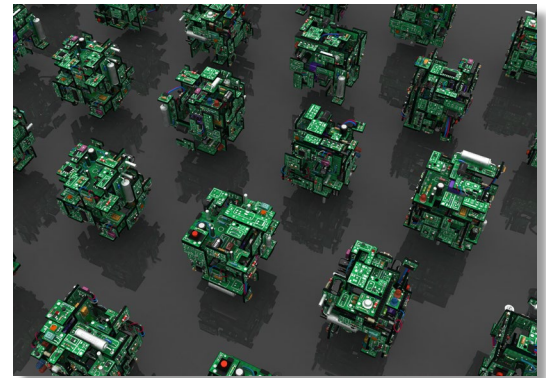
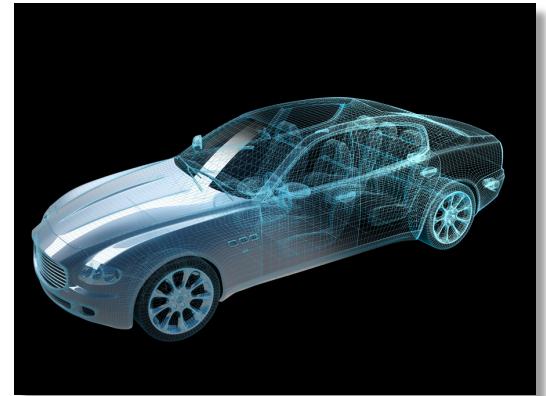


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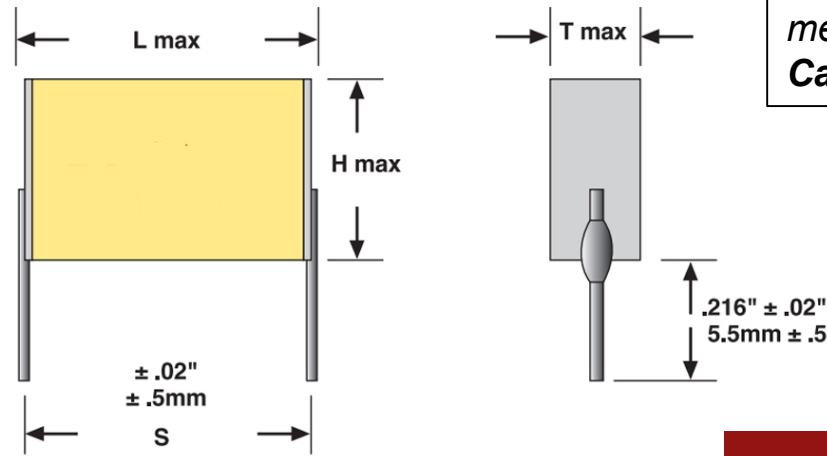
# Applications in hot markets.

- Pulse generation in solid state ignition circuitry for small engines
- Automotive fuel pump circuitry
- Brushless DC motor driver circuits
- Provides ultra-reliable filtering and smoothing for applications in:
  - UPS systems
  - High-frequency switching power supplies
  - Inverters and micro-inverters
  - DC output power conditioning



# RA Design Characteristics

- Welded radial-leads, slim rectangular package
- Durable non-inductive construction
- Sizes vary based on values/ratings, ranging from 8.9 x 3.9 x 7.1mm to 16.5 x 6.6 x 11.7mm
- RoHS certified (non-RoHS version available)

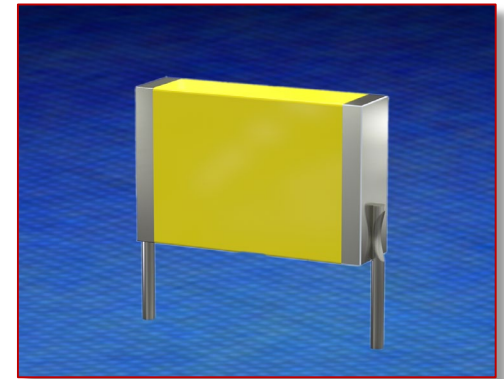


*Electrode: Aluminum metallization*  
*Case: Polyester tape wrap*



# RA Series 125° High-Density, Stacked Film Capacitor Summary

- Designed to maintain performance over a long life!
- Outperforms MLCC devices
- Ideal for high-rel, no-fail applications
- Compact, with high energy density
- Excellent high-frequency performance
- Rugged, self-encased construction
- Moisture Resistance: +85 °C / 85% RH
- Broad range of capacitance values
- -55 °C to 125 °C operation



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