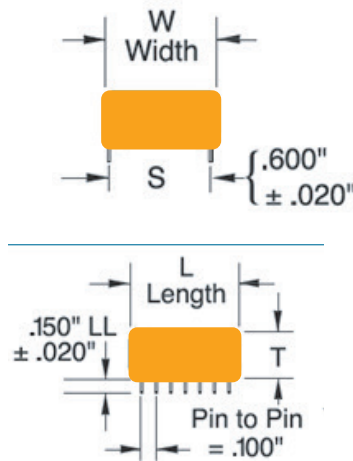


Capstick® Capacitor  
Metallized Polymer Dielectric

# CC

Stacked Metallized polymer capacitor  
With -55 to +150C operating temperature range



- Highest ripple current x capacitance density ratings in the industry
- Novel Dielectric Material: Ultra low D.F, high operating temperature, self-healing properties
- Ultra low ESR/ESL
- Lightweight <25% of equivalent MLCC
- Low losses at high frequency
- Excellent for resonant circuits
- High dv/dt
- Efficient size
- Rugged construction
- Made in U.S.A

## 200 VDC / 140 VAC

| PF Code | Value $\mu\text{F}$ | W Max        | T Max       | L Maz        | S   | Typical ESR 500kHz m $\Omega$ | Max Ripple current 85C 500kHz [ARMS] | SRF(MHz) | Part Number   |
|---------|---------------------|--------------|-------------|--------------|-----|-------------------------------|--------------------------------------|----------|---------------|
| 844     | 0.84                | 0.700 (17.8) | 0.320 (8.1) | 0.460 (11.7) | 0.6 | 23                            | 6.5                                  | 1.75     | 844K200CC6 __ |
| 185     | 1.8                 | 0.700 (17.8) | 0.320 (8.1) | 0.880 (22.4) | 0.6 | 13                            | 12.6                                 | 1.4      | 185K200CC6 __ |

## 400 VDC / 280 VAC

|     |      |              |             |              |     |    |     |      |               |
|-----|------|--------------|-------------|--------------|-----|----|-----|------|---------------|
| 424 | 0.42 | 0.700 (17.8) | 0.320 (8.1) | 0.460 (11.7) | 0.6 | 23 | 6.5 | 3.6  | 424K400CC6 __ |
| 894 | 0.89 | 0.700 (17.8) | 0.320 (8.1) | 0.880 (22.4) | 0.6 | 22 | 9.6 | 1.75 | 894K400CC6 __ |

Dimensions in inches, metric (mm) in parenthesis

Tolerance: K ( $\pm 10\%$ ) standard, J ( $\pm 5\%$ ) available

RoHS part number information

No suffix indicates RoHS-5 compliant standard part number. RoHS-5 product does not contain five of the RoHS banned materials (Hg, CrVI, Cd, PBB and PBDE) in levels exceeding the industry defined limits. Component lead wires are plated with Sn / Pb and match conventional SnPb 1 assembly requirements

For a RoHS-6 compliant part, add a -FA suffix. RoHS-6 product does not contain any of the six RoHS banned materials (Hg, CrVI, Cd, PBB, PBDE and Pb) in levels exceeding

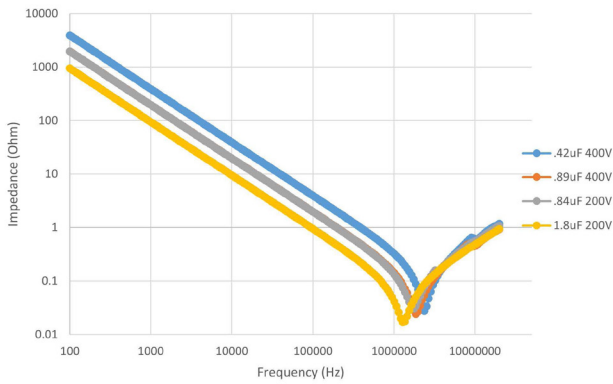
| Electrical  | Performance   | Physical   |
|---|---|--|
| <p><b>Capacitance Range:</b><br/>0.42 <math>\mu\text{F}</math> to 1.8 <math>\mu\text{F}</math> @ 1KHz</p> <p><b>Tolerance:</b><br/>Available in <math>\pm 5\%</math>, 10% (standard), 20%</p> <p><b>Voltage Range:</b><br/>200, 400, VDC</p> <p><b>Dissipation Factor:</b><br/><math>\leq 0.1\%</math> @ 25°C, 1KHz</p> <p><b>Insulation Resistance:</b><br/>100<math>\Omega\text{F}</math> or 10G<math>\Omega</math>, whichever is less at Rated voltage and 25C</p> <p><b>Dielectric Strength:</b><br/>1.3 x RVDC, 2 seconds max.</p> <p><b>Self Inductance:</b><br/>2 to 6nh typical</p> <p><b>Temperature Range:</b><br/>-55°C to 150°C operating<br/>-55°C to 105°C @ rated DC voltage derate voltage 1.66% / °C above 105°C max operating temperature; 150C</p> | <p><b>Accelerated DC Voltage Life Test:</b><br/>1,000 Hours, 85°C, 1.25 x Rated VDC<br/><math>\Delta C/C \leq 5\%</math><br/>DF <math>\leq 1.0\%</math>, 1KHz, 25°C<br/>IR <math>\geq 1,000</math> Megohm x <math>\mu\text{F}</math><br/>Need not exceed 1,000 Megohms</p> <p><b>Moisture Test:</b><br/>85°C / 85% RH / 21 days Applied Voltage: zero bias<br/><math>\Delta C/C \leq 7\%</math><br/>DF <math>\leq 0.1\%</math>, 1KHz, 25°C<br/>IR <math>\geq 30\%</math> of initial limit</p> <p><b>Long Term Stability:</b><br/>After 2 years storage, standard environment<br/><math>\Delta C/C \leq 2\%</math></p> | <p><b>Vibration:</b><br/>Mil Std 202 Method 204D</p> <p><b>Solder Resistance:</b><br/>Thru-hole wave: 260°C, 5 Sec. <math>\Delta C/C \leq 2\%</math><br/>SMD reflow: 220°C, 30 Sec. <math>\Delta C/C 2\%</math></p> <p><b>Construction:</b><br/>Non-inductively constructed with metallized polymer dielectric. Parallel plate-multilayer polymer (MLP) design.</p> <p><b>Electrode:</b><br/>Aluminum metallization</p> <p><b>Case:</b><br/>UL94V-0 rated epoxy coating</p> <p><b>Lead Frame Material:</b><br/>Tinned Cu Alloy Lead Frame</p> <p><b>Lead Spacing:</b><br/>.600" (15.0mm) nominal</p> <p><b>Marking:</b><br/>⊕P⊕ type capacitance code, tolerance code, Anti-static tube. SMD units dry packed with desiccant</p> |

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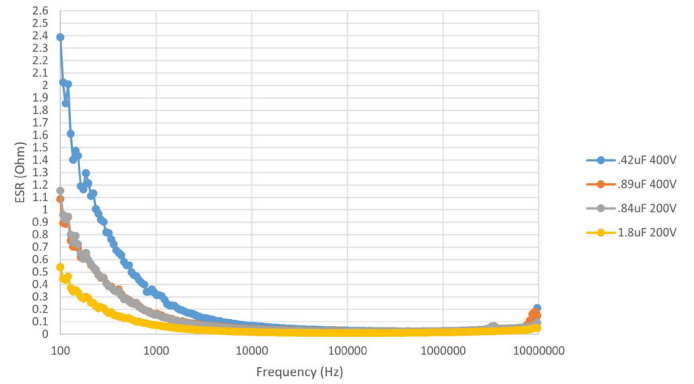
# CC

## Electrical Characteristics

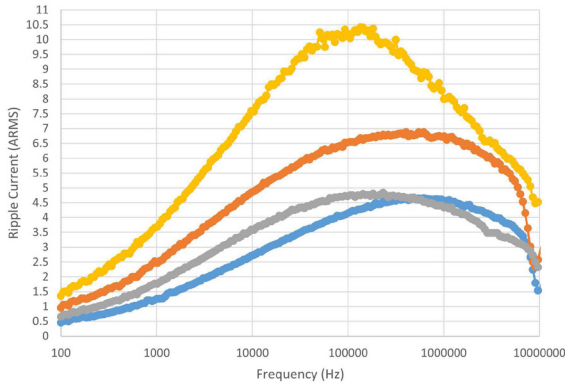
Impedance Vs Frequency



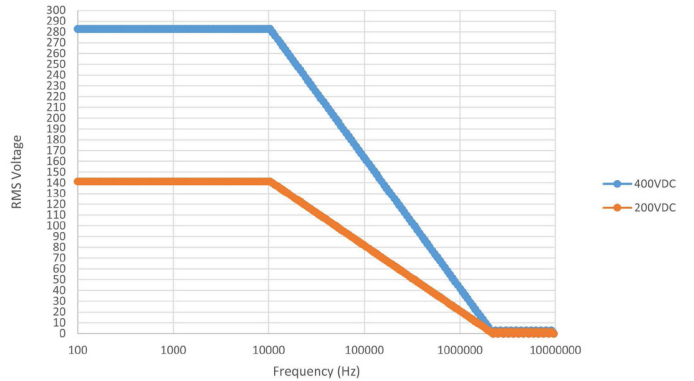
ESR Vs Frequency



Ripple Current limit Vs Frequency -55 to +85C



Maximum RMS Voltage vs frequency

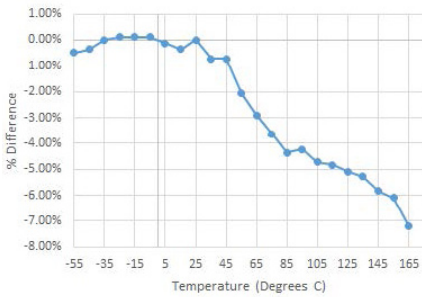


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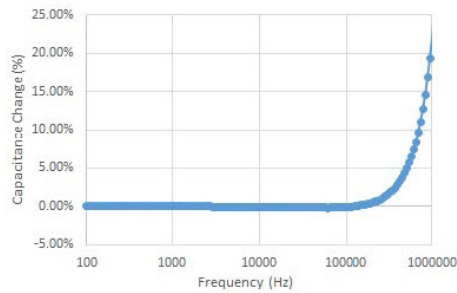
# CC

## Electrical Characteristics 200V and 400V Ratings

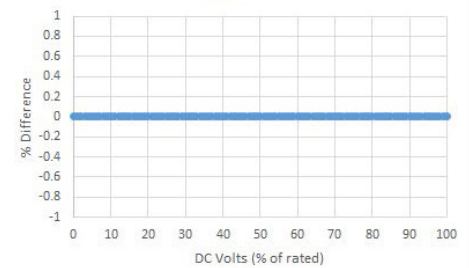
Capacitance Change (%) Vs. Temperature



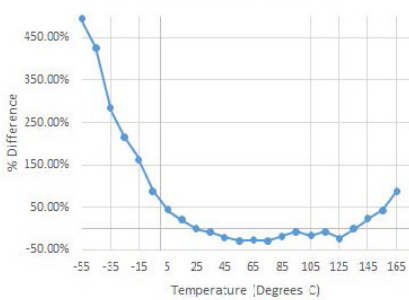
Capacitance (%) Vs. Frequency



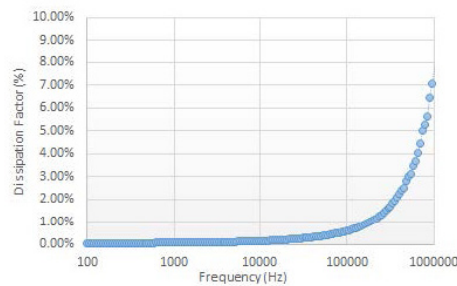
Capacitance Change (%) Vs. DC Bias Voltage



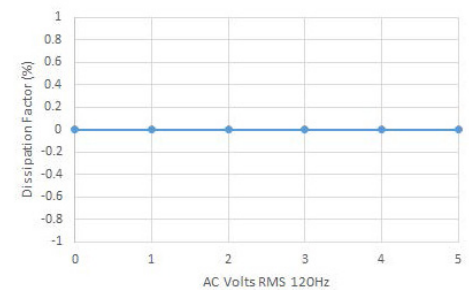
ESR Change (%) Vs. Temperature



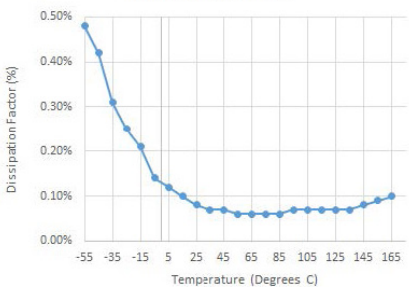
D.F Vs. Frequency



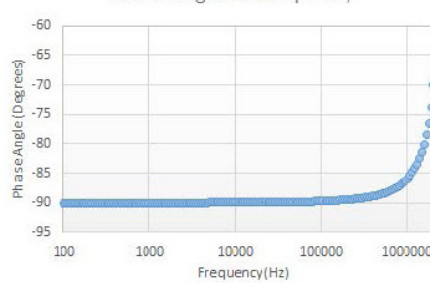
D.F. (%) Vs. AC Volts



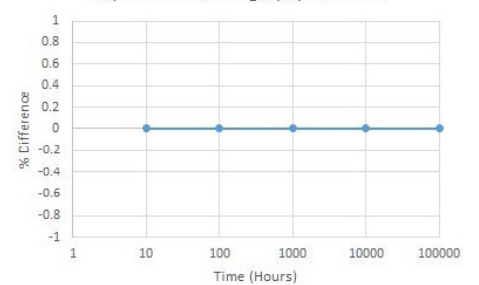
D.F. Vs. Temperature



Phase Angle vs. Frequency



Capacitance Change (%) Vs. Time



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