S.O.S. Short on MLCCs? Choose Panasonic Polymer Series!

**PART REDUCTION** + **SPACE REDUCTION** + **COST REDUCTION** = **PANASONIC POLYMER SERIES**

**DROP-IN REPLACEMENT FOR MLCC IF:**
- Voltage 2 – 35V
- Capacitance required ≥47μF
- B and D case sizes
- Non AECQ-200 compliant

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**EASY STEPS TO IDENTIFY YOUR RIGHT FIT …**

1. **VOLTAGE NO DERATING REQUIRED**

<table>
<thead>
<tr>
<th>MLCC with derating</th>
<th>Conductive Polymer Capacitor Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.3V or 10V</td>
<td>~3V to 5V</td>
</tr>
<tr>
<td>10V or 16V</td>
<td>~6.3V to 10V</td>
</tr>
<tr>
<td>16V or 25V</td>
<td>~12V to 20V</td>
</tr>
<tr>
<td>25V or 50V</td>
<td>~20V to 35V</td>
</tr>
</tbody>
</table>

2. **SMOOTHING CIRCUITS DEPENDENT UP ON:**

<table>
<thead>
<tr>
<th>Choose</th>
<th>Size</th>
<th>Capacitance</th>
<th>Low ESR</th>
<th>Ripple Current</th>
<th>Temperature</th>
<th>Automotive</th>
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</thead>
<tbody>
<tr>
<td>SP-Cap</td>
<td>✓</td>
<td>✓</td>
<td>✓✓✓</td>
<td>✓✓</td>
<td>✓</td>
<td>–</td>
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<tr>
<td>POSCAP</td>
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<td>✓</td>
<td>✓✓✓</td>
<td>✓✓</td>
<td>✓</td>
<td>✓*</td>
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<tr>
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<tr>
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<tr>
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<td>✓✓✓</td>
<td>✓✓</td>
<td>–</td>
<td>✓</td>
</tr>
</tbody>
</table>

* Only infotainment or non-safety critical circuits

For more information please visit: industry.panasonic.eu
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**SP-Cap**
- Voltage: 2 to 35 VDC
- Cap: 2.2 µF to 560 µF
- Ripple up to 1.2Arms
- Lowest ESL/ESR: 1nH/3mΩ

**POSsAP**
- Voltage: 2 to 35 VDC
- Cap: 3.9 µF to 1500 µF
- Size: 2.0x1.25 to 7.3x4.3mm
- ESR: as low as 5mΩ

**OS-CON**
- Voltage: 2 to 100 VDC
- Cap: 3.3 µF to 2700 µF
- Ripple up to 7.2Arms
- ESR: as low as 5mΩ

**Hybrid**
- Voltage: 25 to 80 VDC
- Temp: Up to 145°C
- Ripple up to 4.0Arms
- AECQ-200 Compliant

**DC BIAS BEHAVIOUR OF POLYMER VS. MLCC**

**TEMPERATURE BEHAVIOUR OF POLYMER VS. MLCC**

**IMPEDANCE BEHAVIOUR OF POLYMER VS. MLCC**

**PANASONIC OFFERS**:
- Four variations in Polymer dielectric capacitors
- Including chip and can-type (SMD & THT).
- No derating and DC bias unlike MLCCs
- Physically more robust, longer lifetimes and safe-failure modes (no-burning)

With higher ripple current, stable ESR and capacitance across broad temperature and frequency spectrum, Polymer capacitors also offer value against Electrolytics for efficient designs.

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