MLPS Series, *Flatpack*, Long Life, 105 °C
Aluminum Electrolytic Capacitors

105 °C, 10,000 Hour
Low-Profile, Prismatic Design
Introduction

• Purpose of this training module is to introduce the MLPS, Flatpack™, 105 °C Aluminum Electrolytic Capacitors from Cornell Dubilier

• Objectives
  – Explain the differences between the new 105 °C Flatpack capacitors and other electrolytic types
  – Outline the key features and benefits of the MLPS Series capacitors

• Highlight specifications and other attributes
MLPS Flatpack Advantages Include
10,000 Hour, 105 °C Performance.

Newest Addition to our Series of Flatpack Capacitors

• Capacitance density of our MLP, now available at 105 °C
• Low Profile: 0.6”
• 10,000 Hour Load Life @ 105 °C, Rated Vdc
  – Improved life over MLP Series
• CDE’s most cost-effective 105 °C Flatpack
• Ideal for circuits requiring low-profile, long-life, bulk storage capacitance at 105 °C
  – Can replace series-parallel arrays of V-Chip, radial, axial aluminum electrolytic, and wet tantalum capacitors
    • Increased reliability: one device vs. many for far fewer PCB connection points
    • Reduce height profile, lower cost and weight compared with series-parallel banks of alternative technology board-mount solutions
MLPS Flatpack Offers Superior Construction and Testing.

- Designs are based on CDE’s 25+ years of experience with MIL-grade flat electrolytics, now optimized for 105 °C, applications
- Life tested to 10,000 hours @ 105 °C, Rated Vdc
- High vibration resistance up to 20g (HV Option)
- High reliability burn-in available (48 hours @ Vr, 105 °C)
- Welded seal resists “dry-out,” typical of conventional electrolytics.
- Excellent capacitance retention at -55 °C, especially when compared with wet tantalum capacitors.
MLPS General Specifications

• 10,000 hour load-life at rated voltage, 105 °C
• Voltage Range: 7.5Vdc to 450Vdc
• Capacitance Range: 120 to 51,000 µF
• Temperature Range: -55 °C to 105 °C
• Vibration: Up to 20g for HV parts, 10g standard
• Altitude: 80,000 ft
• Custom ratings available upon request
MLPS Mechanical Specifications

- Rugged Case: constructed of aluminum with stainless-steel outer sleeve
- Two mounting flanges ensure secure mounting
- Vibration Withstand: 10g (Standard), 20g (High Vibration Option – HV)
- MLPS: Copper wire leads with 60/40 tin/lead electroplate
- MLPSR: Copper wire with bright-tin electroplate (lead-free)
- Multiple lengths (see table)
- Straight-ledged or hook-style terminations

<table>
<thead>
<tr>
<th>Case Code</th>
<th>&quot;W&quot;</th>
<th>&quot;H&quot;</th>
<th>&quot;L&quot;</th>
<th>&quot;S&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>EK</td>
<td>1.81</td>
<td>0.60</td>
<td>1.50</td>
<td>1.00</td>
</tr>
<tr>
<td>EA</td>
<td>1.81</td>
<td>0.60</td>
<td>2.00</td>
<td>1.00</td>
</tr>
<tr>
<td>EH</td>
<td>1.81</td>
<td>0.60</td>
<td>2.50</td>
<td>1.00</td>
</tr>
<tr>
<td>EB</td>
<td>1.81</td>
<td>0.60</td>
<td>3.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Brackets are not flush with the plane of the sleeve; the use of a .016" washer is recommended.
Applications for the MLPS Series

MLPS Flatpack caps allows designers to create thinner, lighter, higher-performance end products optimized for 105 °C

- Military and commercial applications
  - Suitable for flight
  - Shipboard and ground-based radar
  - Ruggedized, compact power supplies
MLPS Flatpack Series Summary

• Provides high capacitance in a flat design at 105 °C
• 0.6” height profile
• Load Life: 10,000 hours at 105 °C, Rated Vdc
• Values from 120 to 51,000 µF, 7.5-to 450 Vdc, in nearly 76 capacitance/voltage combinations
• Withstands over 80,000 feet altitude
• Allows designers to create thinner, lighter, higher-performance end products optimized for 105 °C