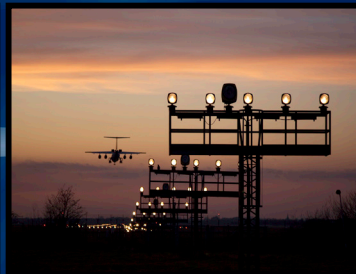


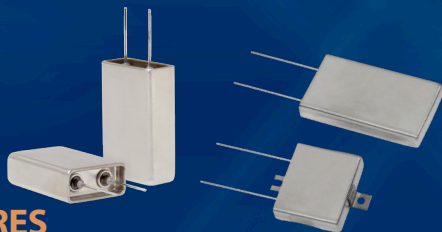
CDE AT A GLANCE

Capacitors for Military/Aerospace Applications

Cornell Dubilier Electronics excels with capacitor technology to meet the demanding requirements for military and aerospace applications. Our capacitors are used extensively in power supplies, inverters and communication systems for commercial and military aircraft and sea-going vessels. Ground based applications include radar systems, two-way mobile radios and DC link for inverters and power supplies used in military trucks and tanks. CDE has a full range of testing capabilities per MIL STD 202 requirements.



FLATPACK ALUMINUM ELECTROLYTIC CAPACITORS



FEATURES

- High Capacitance Retention at -55 °C
- Flat Form Factor for Tight Spaces
- High Vibration up to 80Gs
- High Reliability
- Available in Hermetic Case
- High Altitude up to 80,000 ft

TYPES

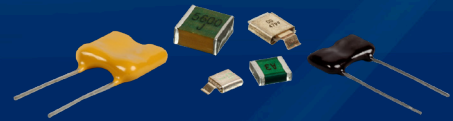
- MLP - Aluminum Case, 85 °C
- MLS - Stainless Steel Case, 125 °C
- HVMLS - High Vibration up to 50g
- HRMLS - High Reliability Burn-In
- MLSH - Hermetic Slimpack - RoHS
- MLSG - Flatpack and Slimpack- RoHS
- THA / THAS - Thinpack, High Energy Density

APPLICATIONS

- Ground-based and Shipboard Radar
- In-flight Power Supplies
- Commercial and Military Aircraft

<http://http://www.cde.com/capacitors/aluminum-electrolytic/flatpack>

RF MICA CAPACITORS



FEATURES

- High Q
- Excellent Performance in RF Applications
- High dV/dt
- Stable Over Wide Temperature Range
- Available up to 200 °C
- High Reliability Burn-in Available
- No Piezoelectric Effect
- No Cracking

TYPES

- CMR - Dipped, High Rel., Meets MIL-PRF-39001
- CD, CDV - Dipped High Frequency
- MCM/MIN - Metal Clad for Ultra High Current

APPLICATIONS

- Military and Avionics RF Communications
- Cockpit Communications
- Manpack Radio
- In-flight Power Supplies

<http://www.cde.com/solutions/military-aerospace>



**CORNELL
DUBILIER**
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E-mail: cdendb@cde.com

For more high performance capacitors for military/aerospace visit: <http://www.cde.com/solutions/military-aerospace>

Type MLSH 125 °C Hermetic Slimpack

Ultra Long Life, Aluminum Electrolytic

Why Use Type MLSH ?

The world's only hermetic aluminum electrolytic capacitor with glass-to-metal seal. Type MLSH has extraordinary long life and rugged construction for the most demanding power electronics applications.

Type MLSH has superior capacitance retention compared to axial wet tantalum capacitors at -55 °C. Packaged in a robust stainless steel case capable of withstanding 80g's, it replaces 3 or more axial wet tantalum capacitors in parallel. Unlike wet tantalums that require voltage derating at temperatures above 85 °C, type MLSH capacitors are rated for full operating voltage at 125 °C and tested to 5000 hrs at rated voltage and temperature.

Highlights

- Hermetically sealed aluminum electrolytic (no dry-out)
- 100% tested per MIL-STD-883, Method 1014.2
- High capacitance retention at low temperature
- 80 G Vibration
- 125 °C maximum operating temperature (no derating required)
- Lighter than equivalent wet tantalum
- 1.5 V reverse voltage
- DC life test to 5000 hrs

For information and samples, please contact:

Mario DiPietro
Flatpack Product Manager
mdipietro@cde.com
864-843-2277 ext. 2395



Advantages Over Wet Tantalum

Aluminum electrolytics have much higher capacitance retention at low temperature. See figures 1 through 3 below.



- Superior capacitance retention at -55 °C compared with 3 or more wet tantalum capacitors in parallel
- Considerably lower cost
- Lighter than equivalent bank of wet tantalums
- Aluminum electrolytics do not contain conflict materials
- Not subject to shortages and market price fluctuations

Figure 1

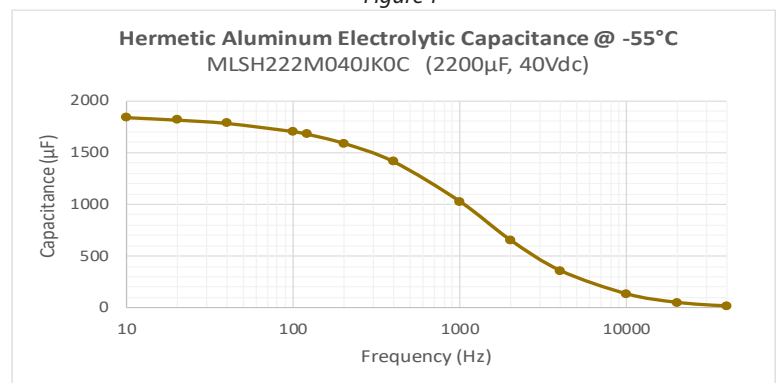


Figure 2

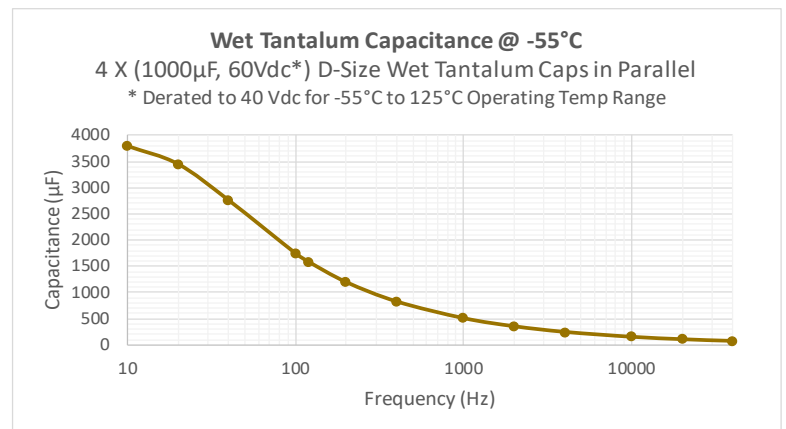
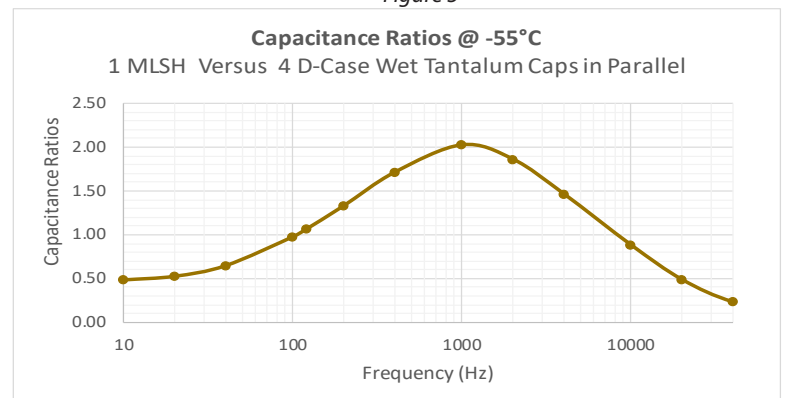


Figure 3



Note: The different frequency vs. temperature responses of these two dielectric systems gives rise to a capacitance ratio that varies not only with temperature, but also with frequency.