The UNLYTIC® MP3 SERIES represent the “best” choice for high power DC filter applications because of the combination of physical and electrical properties it offers.

FEATURES
- Long Life: > 100,000 Hours
- Low ESR
- High RMS Current Capability
- High Surge Voltage Capability: 1.5 x VDC
- Integrated Mounting Flange
- Cost effective Design
- Reference MIL-STD 202 & IEC 61071
- Flexible, Dry Film Fully Encapsulated construction
- RoHS Compliant

STANDARD CONFIGURATION
- MP31 Male Terminals
- MP32 Female Terminals
### Specification Summary

**Capacitance Range**
70μF to 1100μF

**Capacitance Tolerance**
Standard capacitance tolerance is ±10%.
(Other tolerances available upon request)

**Operating Temperature Range**
-40°C to +85°C (+105°C upon special request)
Hot Spot Temperature Calculation: H.S. = Tamb + (I² x ESR) x Rth.
Failure Rate: 100FIT

**Enclosure/Construction**
Thermal plastic with high current terminals.

**Voltage Rating**
500 VDC to 2400 VDC

### Characteristics

#### Insulation Resistance vs. Temperature

**Capacitance Change vs. Temperature**

**Dielectric Strength**
Capacitors withstand a DC potential of 120% rated voltage for one (1) minute without damage or breakdown. Test voltage is applied and discharged through a resistance of 1 OHM per volt minimum, and at 25°C.

**Dissipation Factor**
Polypropylene has an intrinsic dissipation factor of less than 0.00021 over the operating temperature range and frequencies to 1MHz.

#### Projected Life vs. Internal Hot Spot and Voltage Ratio

#### Polypropylene Dissipation Factor at 1kHz vs. Temperature

Reference MIL-STD-202
### Detail Data

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>VDC</th>
<th>CAP</th>
<th>CASE</th>
<th>ESR mOhms</th>
<th>ESL nH</th>
<th>Freq kHz</th>
<th>IPEAK AMPS</th>
<th>dv/dt V/µs</th>
<th>Max RMS Current (10 kHz)</th>
<th>Rth °C/W</th>
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### Style

**Case 1**

- **MP31-Case 1**
- **Dimensions:**
  - Ø 0.700 (17.8mm)
  - Ø 4.724 (120mm)
  - Ø 0.276 (7mm)
  - 4.016 (102mm)
  - 1.969 (50mm)
  - 0.472 (12mm)

**Packaging:**
- **M6 x 1.0 2PL 5Nm Max Torque**
- **Tolerances:** ±0.031 (±0.8mm)

**Case No.**

<table>
<thead>
<tr>
<th>CASE NO.</th>
<th>H (mm)</th>
<th>D (mm)</th>
</tr>
</thead>
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<td>100</td>
<td>120</td>
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<tr>
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<td>100</td>
<td>165</td>
</tr>
</tbody>
</table>

**NOTE:** The 4th character of the part number represents the style.
MP3-Case 2

TOLERANCES (EXCEPT AS NOTED) 0.5 mm

Dimensions:
- Ø 5.08
- Ø 165 ±1
- 38.5
- 50
- 127
- 147 ±0.8
- M6 x1.0
- Ø 15.9 OD

Other dimensions:
- 6
- 100
- 5

Electronic Concepts
Rev. 5
Additional Information

The MP3 capacitor series further enhances the existing UL3 product offering. The MP3 incorporates the established UNLYTIC® film technology with new cost effective packaging, which provides higher storage capacity and voltage creepage protection. The capacitor is isolated from the outer case, allowing for simple package and connection mounting. The product series is well suited for bulk DC storage, especially useful in DC link converter/inverter applications.

How to Order

| TYPE | Metallized Polypropylene | → | MP3 |
| STYLE | ‘1’ Male Thread (case 1 only), ‘2’ Female Thread | → | 1 |
| VOLTAGE | DC Voltage Rating: BA = 500VDC, BC = 600VDC, BG = 800VDC, BL = 1000VDC, BN = 1200VDC, BR = 1400VDC, BT = 1600VDC, CA = 2000VDC, CB = 2400VDC | → | BC |
| CAPACITANCE IN MICROFARADS | Capacitance in µF (e.g. 0105 = 105µF) | → | 0105 |

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type MP3, capacitance, tolerance, rated DC working voltage and date code. The first two digits of the date code represent the year, the second two digits the week, i.e., 1252 is the 52nd week of 2012, 1202 is the second week of 2012.

Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001 and AS9100 Certified Company. Raw material inspection and the use of SPC manufacturing procedures assure the highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-the-art by utilizing leading edge technology, compact capacitor designs and establishing reliability procedures.

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