Unlytic® Series

The first film dielectric capacitor replacement for electrolytic capacitors. Its availability establishes a new standard and the ongoing search for better answers creates a void that UNLYTIC® is best able to fill!

FEATURES
- 10X greater current density
- 3X greater over voltage protection
- Higher voltage ratings
- Superior performance over temperature range -55°C to 105°C
- 10 year shelf life
- Dry construction (no harmful electrolytes)
- Non-polar

STANDARD CONFIGURATION
- UL30: Flat Mount
- UL33: Optional Stud Mount
**Specification Summary**

Capacitance Range  
50.0µF to 1600.0µF

Capacitance Tolerance  
Standard capacitance tolerance is ± 10%.

Operating Temperature Range  
-55° TO +105°C

Enclosure/ Construction  
Aluminum case with high-current terminals. Non-inductive wound dry film.

Voltage Rating  
300VDC to 1000VDC

Quality Control  
Capacitors are tested 100% for:
- Capacitance
- Tolerance
- Dissipation Factor
- Dielectric withstanding voltage
- Insulation Resistance
- Equivalent Series Resistance (ESR)

Process and inspection data are maintained on file and available on special request.

Environmental

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration</td>
<td>204</td>
<td>D</td>
</tr>
<tr>
<td>Shock</td>
<td>213</td>
<td>I</td>
</tr>
<tr>
<td>Humidity</td>
<td>106</td>
<td>-</td>
</tr>
<tr>
<td>Thermal Shock</td>
<td>107</td>
<td>B</td>
</tr>
<tr>
<td>Life</td>
<td>108</td>
<td>F</td>
</tr>
</tbody>
</table>

Reference MIL-STD-202

**Characteristics**

<table>
<thead>
<tr>
<th>Insulation Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature(°C)</td>
</tr>
<tr>
<td>Megaohms x Microfarads</td>
</tr>
</tbody>
</table>

Insulation Resistance

**Capacitance Change**

<table>
<thead>
<tr>
<th>Temperature(°C)</th>
<th>-55</th>
<th>25</th>
<th>65</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage Change (typical)</td>
<td>1.4</td>
<td>0</td>
<td>-1.5</td>
<td>-3.5</td>
</tr>
</tbody>
</table>

Capacitance Change

Dissipation Factor  
When measured at the frequency specified for capacitance measurement, the dissipation factor will not exceed 0.1%.

**Dielectric Strength**  
Capacitors withstand a DC potential of 130% rated voltage for two (2) minutes without damage or breakdown. Test voltage is applied and discharged through a resistance of 1 ohm per volt minimum, and at 25°C.
## ELECTRICAL DATA

<table>
<thead>
<tr>
<th>EC PART NUMBER</th>
<th>CAP µF</th>
<th>VDC</th>
<th>HEIGHT (in)</th>
<th>HEIGHT (mm)</th>
<th>ESR (ohms@Fres)</th>
<th>TEMPERATURE (Arms)</th>
<th>JOULES (I Peak Amps)</th>
<th>dv/dt (V/µs)</th>
<th>ESL (nH)</th>
<th>Fres (kHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL30AT0600</td>
<td>600</td>
<td>300</td>
<td>3.125</td>
<td>79.4</td>
<td>0.0031</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
<tr>
<td>UL30AT0900</td>
<td>900</td>
<td>300</td>
<td>6.125</td>
<td>156.5</td>
<td>0.0032</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
<tr>
<td>UL30AT1250</td>
<td>1250</td>
<td>300</td>
<td>6.125</td>
<td>156.5</td>
<td>0.0032</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
<tr>
<td>UL30AT1600</td>
<td>1600</td>
<td>300</td>
<td>6.125</td>
<td>156.5</td>
<td>0.0032</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
<tr>
<td>UL30AT2000</td>
<td>2000</td>
<td>300</td>
<td>6.125</td>
<td>156.5</td>
<td>0.0032</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
<tr>
<td>UL30AT2500</td>
<td>2500</td>
<td>300</td>
<td>6.125</td>
<td>156.5</td>
<td>0.0032</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
<tr>
<td>UL30AT3000</td>
<td>3000</td>
<td>300</td>
<td>6.125</td>
<td>156.5</td>
<td>0.0032</td>
<td>25°C 58.1</td>
<td>6218 10</td>
<td>70.5</td>
<td>79.4</td>
<td>41</td>
</tr>
</tbody>
</table>

**STYLE**

- **UL33 STYLE**
- **M12 16.0mm LONG**

- **DIMENSIONS INCLUDE INSULATION**

- **1/4-20 INTERNAL THREAD x 0.340" (8.6mm) DEEP**

- **OPTIONAL M6 INTERNAL THREAD x 0.0 mm DEEP**

- **0.684" (17.4mm)**
- **0.125" (3.2mm)**
- **1.250" +/-0.020 (31.8mm)**
- **Ø3.000" +/-0.040 (76.2mm)**

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*Rev. 3*
With our patented advances in dry film technology...the impossible is now practical! Now for the first time, all of the superior performance characteristics of film capacitors are available in values and sizes previously achieved only by electrolytics! This will improve how high power systems are designed - by improving reliability, extending service life, allowing for miniaturization, lowering production costs and maximizing performance.

In addition, the packaging dimensions of the UNLYTIC ® are identical to electrolytics for a direct replacement. Therefore, conceptual changes in system design are not required.

### HOW TO ORDER

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Metallized Polypropylene</th>
<th>UL3</th>
</tr>
</thead>
<tbody>
<tr>
<td>STYLE / VOLTAGE</td>
<td>0: Flat mount, 3: Optional stud mount / DC Voltage Rating: AT=300VDC, AX=400VDC, etc.</td>
<td>3 AT</td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>1600</td>
<td></td>
</tr>
<tr>
<td>TOLERANCE</td>
<td>K=±10%</td>
<td></td>
</tr>
</tbody>
</table>

**Marking And Date Code**  
All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type UL30, 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., 0952 is the 52nd week of 2009, 0902 is the second week of 2009.

**Quality Assurance**  
Major emphasis is placed on quality assurance. EC is an ISO 9001-2000 and AS9100:2004 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.

### Sales Offices

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website: www.ecicaps.com

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