UH3 Series - High Temperature Capacitors

The UH3 series provides high voltage, high temperature capacitors that are amazingly economical and practical.

FEATURES
- Operation to 125°C
- Low ESR and ESL
- Low cost
- Withstands hostile environments
- Integrated mounting flanges
- RoHS compliant

STANDARD CONFIGURATION
- UH31 Male Terminals
- UH32 Female Terminals
Specification Summary

Capacitance Range
25.0μF to 325.0μF

Capacitance Tolerance
Standard capacitance tolerance is ±10%. Tolerances of ±20% and ±5% are also available.

Operating Temperature Range
-65°C to +125°C

Enclosure/Construction
Metallized polymer film potted in thermoplastic housing. Terminals are tin plated brass.

Voltage Rating
600 VDC to 1200 VDC

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 upon 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>A</td>
</tr>
<tr>
<td>Life</td>
<td>108</td>
<td>F</td>
</tr>
</tbody>
</table>

Reference MIL-STD-202

Characteristics

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.
**Detail Data**

### UH31, UH32

**ELECTRICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>VOLTAGE</th>
<th>VALUE</th>
<th>CASE STYLE</th>
<th>‘L’</th>
<th>Freq</th>
<th>kHz</th>
<th>I pk</th>
<th>kHz</th>
<th>E.S.R</th>
<th>mOHMS</th>
<th>10 kHz</th>
<th>10 kHz CONTINUOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH3_BC117</td>
<td>600</td>
<td>110</td>
<td>1</td>
<td>50</td>
<td>67</td>
<td>3456</td>
<td>29</td>
<td>4</td>
<td>62</td>
<td>56</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>UH3_BC372</td>
<td>600</td>
<td>325</td>
<td>2</td>
<td>60</td>
<td>36</td>
<td>6685</td>
<td>21</td>
<td>3</td>
<td>99</td>
<td>85</td>
<td>74</td>
<td>61</td>
</tr>
<tr>
<td>UH3_BJ506</td>
<td>900</td>
<td>50</td>
<td>1</td>
<td>50</td>
<td>101</td>
<td>2152</td>
<td>43</td>
<td>6</td>
<td>51</td>
<td>45</td>
<td>40</td>
<td>33</td>
</tr>
<tr>
<td>UH3_BJ147</td>
<td>900</td>
<td>140</td>
<td>2</td>
<td>60</td>
<td>55</td>
<td>4320</td>
<td>31</td>
<td>5</td>
<td>78</td>
<td>67</td>
<td>58</td>
<td>48</td>
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<tr>
<td>UH3_BN256</td>
<td>1200</td>
<td>25</td>
<td>1</td>
<td>50</td>
<td>142</td>
<td>1435</td>
<td>57</td>
<td>9</td>
<td>39</td>
<td>35</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>UH3_BN756</td>
<td>1200</td>
<td>75</td>
<td>2</td>
<td>60</td>
<td>75</td>
<td>3085</td>
<td>41</td>
<td>7</td>
<td>64</td>
<td>55</td>
<td>48</td>
<td>39</td>
</tr>
</tbody>
</table>

**Current Rating (Amps RMS)**

<table>
<thead>
<tr>
<th>AMBIENT TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>25°C</td>
</tr>
<tr>
<td>45°C</td>
</tr>
<tr>
<td>65°C</td>
</tr>
<tr>
<td>85°C</td>
</tr>
<tr>
<td>105°C</td>
</tr>
<tr>
<td>125°C</td>
</tr>
</tbody>
</table>

**Style**

1. **UH31-Case Style 1**
   - Ø 0.700 2PL (17.8mm)
   - Ø 0.238 2PL (6mm)
   - Ø 0.238 2PL (6mm)
   - THREAD M8x1.25 2PL
   - TOLERANCES: ±0.031 (0.8mm)

2. **UH32-Case Style 1**
   - Ø 0.700 2PL (17.8mm)
   - Ø 0.238 2PL (6mm)
   - Ø 0.238 2PL (6mm)
   - M5 x 0.8 THREAD
   - TOLERANCES: ±0.031 (0.8mm)

3. **UH31-Case Style 2**
   - Ø 0.700 2PL (17.8mm)
   - Ø 0.238 2PL (6mm)
   - Ø 0.238 2PL (6mm)
   - THREAD M8x1.25 2PL
   - Tolerance: ±0.031 (0.8mm)

4. **UH32-Case Style 2**
   - Ø 0.700 2PL (17.8mm)
   - Ø 0.238 2PL (6mm)
   - Ø 0.238 2PL (6mm)
   - M5 x 0.8 INTERNAL 2PL
   - Tolerance: ±0.031 (0.8mm)

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**UH31, UH32**

- **Electrical Specifications**
- **PART NUMBER**
- **VOLTAGE**
- **VALUE**
- **CASE STYLE**
- **‘L’**
- **Freq kHz**
- **I pk kHz**
- **E.S.R mOHMS**
- **10 kHz**
- **10 kHz CONTINUOUS**
- **AMBIENT TEMPERATURE**
- **25°C**
- **45°C**
- **65°C**
- **85°C**
- **105°C**
- **125°C**

**Current Rating (Amps RMS)**

- **AMBIENT TEMPERATURE**
  - **25°C**
  - **45°C**
  - **65°C**
  - **85°C**
  - **105°C**
  - **125°C**

**Style**

- **UH31-Case Style 1**
- **UH32-Case Style 1**
- **UH31-Case Style 2**
- **UH32-Case Style 2**

**Tolerances:** ±0.031 (±0.8mm)

**Other Measurements:**

- Ø 0.700 (17.8mm)
- Ø 0.238 (6mm)
- Ø 0.238 (6mm)
- M5 x 0.8 THREAD
- M5 x 0.8 INTERNAL 2PL
- Ø 4.174 (102mm)
- Ø 1.869 (50mm)
- Ø 1.869 (50mm)

**Part Number and Ambient Temperature**

- **UH31, UH32**
- **Ambient Temperature**
- **10 kHz CONTINUOUS**

**Electrical Specifications**

- **Voltage (VDC)**
- **Value (uF)**
- **‘L’ (nH)**
- **Fres (kHz)**
- **dv/dt (I pk)**
- **E.S.R (mOHMS)**
- **25°C**
- **45°C**
- **65°C**
- **85°C**
- **105°C**
- **125°C**

**Torque Values:**

- **4Nm Max Torque**
- **5Nm Max Torque**

**Other Information:**

- **50, 60, 110, 325, 50, 60, 50, 60, 50, 60, 50, 60**
- **135°**
- **29, 44, 24, 35, 18, 29**
- **548, 74, 40, 58, 31, 48**
- **48, 61, 33, 48, 25, 39**
- **29, 44, 24, 35, 18, 29**

**Revision:** Rev. 7
Additional Information

The combination of physical and electrical properties it offers encompasses low inductance with high current carrying capability – and a low profile to make the most efficient use of system space and increased cooling efficiency. Plus an in-house developed, “specific to the task” thermoplastic formulation for the enclosure, improves thermal conductivity. There is also an integrated flange with pre-drilled holes to simplify mounting.

How to Order

<table>
<thead>
<tr>
<th>TYPE</th>
<th>UH - High Temperature Polymer</th>
</tr>
</thead>
<tbody>
<tr>
<td>STYLE</td>
<td>UH31 - Male, UH32 - Female</td>
</tr>
<tr>
<td>VOLTAGE</td>
<td>DC Voltage Rating: C=600, J=900, N=1200</td>
</tr>
<tr>
<td>CAPACITANCE</td>
<td>The first two digits are significant figures, the third digit represents the number of zeros to follow to express the capacitance in picofarads.</td>
</tr>
<tr>
<td>Tolerance</td>
<td>Standard tolerance is ±10%. Tolerances of ±5% and ±20% are also available.</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 UH3, 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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