



ALUMINUM ELECTROLYTIC CAPACITORS

FEATURES

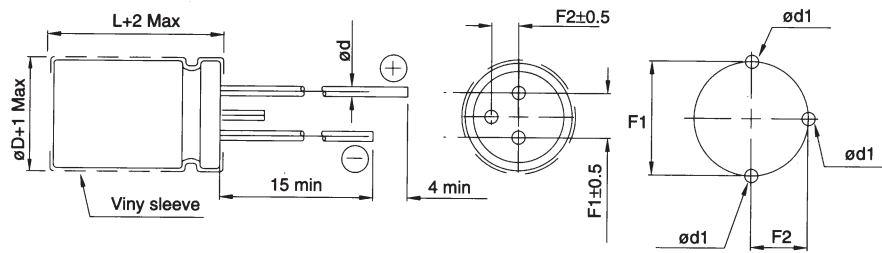
- 85 °C, 2000 HOURS ASSURED, PRONG TERMINAL SERIES
- HAS AN AUXILIARY TERMINAL WHICH CAN WITHSTAND VIBRATION EXCELLENTLY WHEN AFFIXING TO PCB
- SUITABLE FOR ELECTRONIC EQUIPMENT WITH MEDIUM-HIGH VOLTAGE SUCH AS FILTER OF HIGH RECTIFICATION CIRCUITS

SPECIFICATIONS

| Items | Performance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-------------------|----------|--------------------|-------------------------------|--------------------|-----------------------------------|---------------------------|------------------------|------------|------|------|------|--------------|------|------|------|------------|------|---|---|---|------|------|---|------------|---|---|------|------|------|---|---|--------------|------|------|------|------|------|---|---|-------------|------|------|------|---|---|---|---|
| Operating Temperature Range | -40°C~+85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (at 120 Hz, 20°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current (at 20 °C) | I=0.02CV or 1.5mA whichever is smaller (after 5 minutes) Where, C=rated capacitance in µF. V=rated DC working voltage in V. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor (Tan δ at 120 Hz, 20 °C) | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">W.V. Cap. (µF)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35~63</th> <th>100~160</th> <th>200~250</th> </tr> </thead> <tbody> <tr> <td style="border: none;">Under 1000</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>0.15</td> <td>0.15</td> </tr> <tr> <td style="border: none;">1500, 3300</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>0.20</td> <td>0.20</td> <td>-</td> </tr> <tr> <td style="border: none;">4700, 6800</td> <td>-</td> <td>-</td> <td>0.30</td> <td>0.25</td> <td>0.25</td> <td>-</td> <td>-</td> </tr> <tr> <td style="border: none;">10000, 15000</td> <td>0.55</td> <td>0.45</td> <td>0.35</td> <td>0.35</td> <td>0.30</td> <td>-</td> <td>-</td> </tr> <tr> <td style="border: none;">22000 to up</td> <td>0.60</td> <td>0.55</td> <td>0.45</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | W.V. Cap. (µF) | 6.3 | 10 | 16 | 25 | 35~63 | 100~160 | 200~250 | Under 1000 | - | - | - | - | - | 0.15 | 0.15 | 1500, 3300 | - | - | - | - | 0.20 | 0.20 | - | 4700, 6800 | - | - | 0.30 | 0.25 | 0.25 | - | - | 10000, 15000 | 0.55 | 0.45 | 0.35 | 0.35 | 0.30 | - | - | 22000 to up | 0.60 | 0.55 | 0.45 | - | - | - | - |
| W.V. Cap. (µF) | 6.3 | 10 | 16 | 25 | 35~63 | 100~160 | 200~250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Under 1000 | - | - | - | - | - | 0.15 | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1500, 3300 | - | - | - | - | 0.20 | 0.20 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4700, 6800 | - | - | 0.30 | 0.25 | 0.25 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10000, 15000 | 0.55 | 0.45 | 0.35 | 0.35 | 0.30 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22000 to up | 0.60 | 0.55 | 0.45 | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics (at 120Hz) | Impedance ratio shall not exceed the values given in the table below. <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">Rated Voltage</th> <th>6.3~100</th> <th>160~250</th> </tr> </thead> <tbody> <tr> <td style="border: none;">Impedance Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>8</td> </tr> <tr> <td style="border: none;">Ratio Z(-40°C)/Z(+20°C)</td> <td>12</td> <td>-</td> </tr> </tbody> </table> | Rated Voltage | 6.3~100 | 160~250 | Impedance Z(-25°C)/Z(+20°C) | 4 | 8 | Ratio Z(-40°C)/Z(+20°C) | 12 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage | 6.3~100 | 160~250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impedance Z(-25°C)/Z(+20°C) | 4 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ratio Z(-40°C)/Z(+20°C) | 12 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load Life Test | <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>Test Time</td> <td>2000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>≤ ± 20%</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>*The above specifications shall be satisfied when the capacitors are restored to 20 °C after the rated voltage applied for 2000 hrs at 85°C.</p> | Test Time | 2000 Hrs | Capacitance Change | ≤ ± 20% | Dissipation Factor | Less than 200% of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test Time | 2000 Hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | ≤ ± 20% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor | Less than 200% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life Test | <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>Test Time</td> <td>1000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>≤ ± 20%</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>*The above specifications shall be satisfied when the capacitors are restored to 20 °C after exposing them for 1000 hrs at 85 °C without voltage applied.</p> | Test Time | 1000 Hrs | Capacitance Change | ≤ ± 20% | Dissipation Factor | Less than 200% of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test Time | 1000 Hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | ≤ ± 20% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor | Less than 200% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current & Frequency Multipliers | <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">Freq. (Hz)</th> <th>60 (50)</th> <th>120</th> <th>500</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td style="border: none;">W. V. (V) Under 100</td> <td>0.95</td> <td>1.0</td> <td>1.10</td> <td>1.30</td> <td>1.33</td> </tr> <tr> <td style="border: none;">160 up above</td> <td>0.90</td> <td>1.0</td> <td>1.20</td> <td>1.50</td> <td>1.55</td> </tr> </tbody> </table> | Freq. (Hz) | 60 (50) | 120 | 500 | 1K | 10K up | W. V. (V) Under 100 | 0.95 | 1.0 | 1.10 | 1.30 | 1.33 | 160 up above | 0.90 | 1.0 | 1.20 | 1.50 | 1.55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Freq. (Hz) | 60 (50) | 120 | 500 | 1K | 10K up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W. V. (V) Under 100 | 0.95 | 1.0 | 1.10 | 1.30 | 1.33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 160 up above | 0.90 | 1.0 | 1.20 | 1.50 | 1.55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current & Temperature Multipliers | <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>Temperature(°C)</td> <td>40</td> <td>50</td> <td>70</td> <td>85</td> </tr> <tr> <td>Multiplier</td> <td>2.1</td> <td>1.8</td> <td>1.5</td> <td>1.0</td> </tr> </tbody> </table> | Temperature(°C) | 40 | 50 | 70 | 85 | Multiplier | 2.1 | 1.8 | 1.5 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature(°C) | 40 | 50 | 70 | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiplier | 2.1 | 1.8 | 1.5 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standards | Satisfies Characteristic W of JIS C 5141 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



DIAGRAM OF DIMENSIONS



Unit: mm
LEAD SPACING AND DIAMETER

| | 22 | 25 | 30 |
|-----|-----|------|-----|
| øD | 22 | 25 | 30 |
| F1 | 10 | 12.5 | 15 |
| F2 | 5 | 6.25 | 7.5 |
| ød | 1.0 | 1.0 | 1.0 |
| ød1 | 1.4 | 1.4 | 1.4 |

Dimension: ø D x L(mm)
Ripple Current: A/rms at 120 Hz, 85 °C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

| V.DC | code | 6.3V (0J) | | 10V (1A) | | 16V (1C) | | 25V (1E) | | 35V (1V) | | 50V (1H) | | 63V (1J) | | 100V (2A) | |
|-------|------|-----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|-----------|-----|
| | | ø D x L | mA | ø D x L | mA | ø D x L | mA | ø D x L | mA | ø D x L | mA | ø D x L | mA | ø D x L | mA | ø D x L | mA |
| 560 | 561 | | | | | | | | | | | | | | | 22 x 30 | 0.7 |
| 680 | 681 | | | | | | | | | | | | | | | 22 x 35 | 0.9 |
| 820 | 821 | | | | | | | | | | | | | | | 22 x 40 | 1.0 |
| 1000 | 102 | | | | | | | | | | | | | | | 25 x 40 | 1.2 |
| 1500 | 152 | | | | | | | | | | | | | 22 x 35 | 1.2 | 25 x 50 | 1.4 |
| 2200 | 222 | | | | | | | | | | | 22 x 30 | 1.1 | 25 x 40 | 1.5 | 30 x 50 | 2.0 |
| 2700 | 272 | | | | | | | | | | | 22 x 35 | 1.4 | 25 x 40 | 1.9 | 30 x 60 | 2.9 |
| 3300 | 332 | | | | | | | | | 22 x 30 | 1.3 | 22 x 40 | 1.7 | 25 x 40 | 2.4 | | |
| 4700 | 472 | | | | | | | 22 x 30 | 1.4 | 22 x 40 | 1.8 | 25 x 50 | 2.4 | 30 x 50 | 2.6 | | |
| 6800 | 682 | | | | | 22 x 30 | 1.5 | 22 x 40 | 1.7 | 25 x 40 | 2.2 | 30 x 50 | 3.2 | 30 x 60 | 4.8 | | |
| 10000 | 103 | | | 22 x 30 | 1.7 | 22 x 35 | 2.0 | 25 x 40 | 2.5 | 30 x 50 | 3.4 | | | | | | |
| 15000 | 153 | 22 x 30 | 3.3 | 22 x 40 | 2.2 | 25 x 40 | 2.6 | 30 x 50 | 3.2 | | | | | | | | |
| 22000 | 223 | 22 x 40 | 4.4 | 25 x 40 | 2.9 | 25 x 50 | 3.4 | | | | | | | | | | |
| 27000 | 273 | 25 x 40 | 2.9 | 25 x 50 | 3.4 | 30 x 50 | 4.1 | | | | | | | | | | |
| 33000 | 333 | 25 x 50 | 3.4 | 30 x 50 | 4.4 | | | | | | | | | | | | |

| V.DC | code | 160V (2C) | | 200V (2D) | | 250V (2E) | |
|------|------|-----------|-----|-----------|-----|-----------|-----|
| | | ø D x L | mA | ø D x L | mA | ø D x L | mA |
| 150 | 151 | | | | | 22 x 30 | 0.5 |
| 220 | 221 | 22 x 30 | 0.7 | 22 x 30 | 0.6 | 22 x 40 | 0.7 |
| 330 | 331 | 22 x 35 | 0.8 | 22 x 40 | 0.8 | 25 x 40 | 0.8 |
| 470 | 471 | 25 x 40 | 0.9 | 25 x 40 | 1.0 | 30 x 50 | 1.2 |
| 560 | 561 | 25 x 40 | 1.0 | 25 x 50 | 1.1 | | |
| 680 | 681 | 25 x 50 | 1.1 | | | | |