

SMD ALUMINUM ELECTROLYTIC CAPACITORS

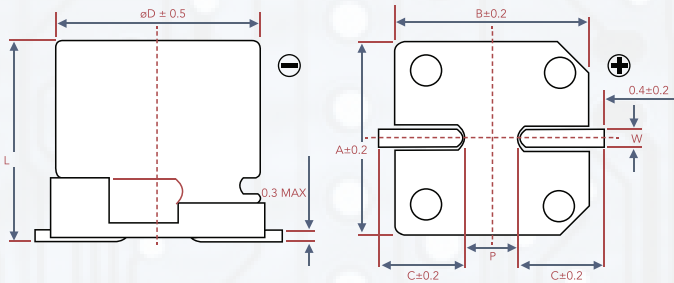
- CVC SERIES -

FEATURES

- 4Ø~6.3Ø, 85°C, 2,000 hours assured
- Vertical chip type miniaturized for 5.5mm high capacitors
- Low Leakage Current Lead free reflow soldering is available
- Designed for surface mounting on high density PC board
- RoHS Compliance



CONSTRUCTION AND DIMENSIONS



| øD | L | A | B | C | W | P ± 0.2 |
|-----|---------|-----|-----|-----|------------|---------|
| 4 | 5.3±0.2 | 4.3 | 4.3 | 2.0 | 0.5 to 0.8 | 1.0 |
| 5 | 5.3±0.2 | 5.3 | 5.3 | 2.3 | 0.5 to 0.8 | 1.5 |
| 6.3 | 5.3±0.2 | 6.6 | 6.6 | 2.7 | 0.5 to 0.8 | 2.0 |

SPECIFICATIONS

| ITEM | SPECIFICATION | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---------------|-----------|--------------------|------------------------------|--------------------|-----------------------------------|-----------------|------------------------|---------------------|-------|------|------|---------|------|-----|---------------------|------|------|----|---|-----|-----|------|------|
| Operating Temperature Range | -40°C ~ +85°C | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (at 120Hz, 20°C) | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current (at 20°C) | I = 0.002CV or 0.5 (µA) whichever is greater (after 2 minutes) Where, C= rated capacitance in µF. V= rated DC working voltage in V | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor Tan δ at 120Hz, 20°C | <table border="1"> <thead> <tr> <th>RATED VOLTAGE</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>TAN δ (MAX)</td> <td>0.28</td> <td>0.254</td> <td>0.20</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </tbody> </table> | RATED VOLTAGE | 6.3 | 10 | 16 | 25 | 35 | 50 | TAN δ (MAX) | 0.28 | 0.254 | 0.20 | 0.14 | 0.12 | 0.10 | | | | | | | | | | |
| RATED VOLTAGE | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | |
| TAN δ (MAX) | 0.28 | 0.254 | 0.20 | 0.14 | 0.12 | 0.10 | | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics (at 120Hz) | Impedance ratio shall not exceed the values given in the table below. <table border="1"> <thead> <tr> <th>RATED VOLTAGE</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>IMPEDANCE RATIO</td> <td>Z(-25°C) / Z(+20°C)</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td></td> <td>Z(-40°C) / Z(+20°C)</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table> | RATED VOLTAGE | 6.3 | 10 | 16 | 25 | 35 | 50 | IMPEDANCE RATIO | Z(-25°C) / Z(+20°C) | 3 | 3 | 2 | 2 | 2 | | Z(-40°C) / Z(+20°C) | 8 | 5 | 4 | 3 | 3 | | | |
| RATED VOLTAGE | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | |
| IMPEDANCE RATIO | Z(-25°C) / Z(+20°C) | 3 | 3 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | |
| | Z(-40°C) / Z(+20°C) | 8 | 5 | 4 | 3 | 3 | | | | | | | | | | | | | | | | | | | |
| Load Life Test | <table border="1"> <tbody> <tr> <td>TEST TIME</td> <td>2,000 Hrs</td> </tr> <tr> <td>CAPACITANCE CHANGE</td> <td>Within ±20% of initial value</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 2,000 hrs at 85°C.</p> | TEST TIME | 2,000 Hrs | CAPACITANCE CHANGE | Within ±20% of initial value | DISSIPATION FACTOR | Less than 200% of specified value | LEAKAGE CURRENT | Within specified value | | | | | | | | | | | | | | | | |
| TEST TIME | 2,000 Hrs | | | | | | | | | | | | | | | | | | | | | | | | |
| CAPACITANCE CHANGE | Within ±20% of initial value | | | | | | | | | | | | | | | | | | | | | | | | |
| DISSIPATION FACTOR | Less than 200% of specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| LEAKAGE CURRENT | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life Test | Test time: 1,000 hrs; other items are the same as those for the load life test | | | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current & Frequency Multipliers | <table border="1"> <thead> <tr> <th>V.D.C. (V)</th> <th>FREQ (Hz)</th> <th>50</th> <th>120</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Under 16</td> <td></td> <td>0.8</td> <td>1.0</td> <td>1.15</td> <td>1.25</td> </tr> <tr> <td>25 ~ 35</td> <td></td> <td>0.8</td> <td>1.0</td> <td>1.25</td> <td>1.40</td> </tr> <tr> <td>50</td> <td></td> <td>0.8</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> </tbody> </table> | V.D.C. (V) | FREQ (Hz) | 50 | 120 | 1K | 10K up | Under 16 | | 0.8 | 1.0 | 1.15 | 1.25 | 25 ~ 35 | | 0.8 | 1.0 | 1.25 | 1.40 | 50 | | 0.8 | 1.0 | 1.35 | 1.50 |
| V.D.C. (V) | FREQ (Hz) | 50 | 120 | 1K | 10K up | | | | | | | | | | | | | | | | | | | | |
| Under 16 | | 0.8 | 1.0 | 1.15 | 1.25 | | | | | | | | | | | | | | | | | | | | |
| 25 ~ 35 | | 0.8 | 1.0 | 1.25 | 1.40 | | | | | | | | | | | | | | | | | | | | |
| 50 | | 0.8 | 1.0 | 1.35 | 1.50 | | | | | | | | | | | | | | | | | | | | |
| Other Standards | JIS C 5101-1, -18 | | | | | | | | | | | | | | | | | | | | | | | | |

DIMENSION & PERMISSIBLE RIPPLE CURRENT

| VDC | CONTENTS | 6.3V (OJ) | | 10V (1A) | | 16V (1A) | | 25V (IE) | | 35V (IV) | | 50V (1H) | |
|------|----------|-----------|----|----------|----|----------|----|----------|----|----------|----|----------|----|
| | | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA | ØDxL | mA |
| 0.1 | 0R1 | | | | | | | | | | | 4x5.3 | 3 |
| 0.22 | R22 | | | | | | | | | | | 4x5.3 | 5 |
| 0.33 | R33 | | | | | | | | | | | 4x5.3 | 6 |
| 0.47 | R47 | | | | | | | | | | | 4x5.3 | 7 |
| 1 | 0.10 | | | | | | | | | | | 4x5.3 | 10 |
| 2.2 | 2R2 | | | | | | | | | | | 4x5.3 | 15 |
| 3.3 | 3R3 | | | | | | | | | | | 4x5.3 | 19 |
| 4.7 | 47 | | | | | | | 4x5.3 | 19 | 4x5.3 | 20 | 5x5.3 | 26 |
| 10 | 100 | | | 4x5.3 | 23 | 4x5.3 | 26 | 5x5.3 | 32 | 5x5.3 | 34 | 6.3x5.3 | 44 |
| 22 | 220 | 4x5.3 | 31 | 5x5.3 | 39 | 5x5.3 | 44 | 6.3x5.3 | 55 | 6.3x5.3 | 59 | | |
| 33 | 330 | 5x5.3 | 44 | 5x5.3 | 48 | 6.3x5.3 | 63 | 6.3x5.3 | 67 | | | | |
| 47 | 470 | 5x5.3 | 52 | 6.3x5.3 | 67 | 6.3x5.3 | 75 | | | | | | |
| 100 | 101 | 6.3x5.3 | 89 | 6.3x5.3 | 98 | | | | | | | | |