

STG 85 °C

Features

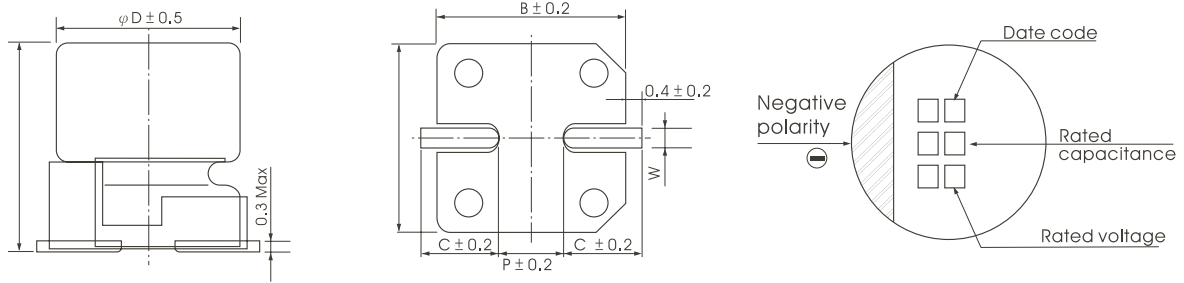
- Vertical chip type miniaturized for 5.5 mm



Specifications

| Item | Performance Characteristics | | | | | | | |
|--|--|--|------|------|--------|------|------|----|
| Operating Temperature Range | -40°C to +85 °C | | | | | | | |
| Capacitance Tolerance | ±20 % (at 120 Hz, 20 °C) | | | | | | | |
| Leakage Current (at 20 °C) | I = 0.01 CV or 3 (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 120 Hz, 20 °C) | Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | tan δ max | 0.42 | 0.28 | 0.24 | 0.14 | 0.12 | 0.10 | |
| Low Temperature Characteristics (at 120 Hz) | Impedance ratio shall not exceed the values given in the table below | | | | | | | |
| | Rated Voltage | 4 | 6,3 | 10 | 16 | 25 | 35 | 50 |
| Impedance ratio | Z(-25 °C)/Z(+20 °C) | 7 | 3 | 3 | 2 | 2 | 2 | 2 |
| | Z(-40 °C)/Z(+20 °C) | 15 | 8 | 5 | 4 | 3 | 3 | 3 |
| Load Life Test | Test Time | 2000 hrs | | | | | | |
| | Capacitance Change | Within ± 20 % of initial value (4WV ±30%) | | | | | | |
| | Dissipation Factor | Less than 200 % of specified value (4WV: 300%) | | | | | | |
| | Leakage Current | Within specified value | | | | | | |
| * The above specifications shall suitable when the capacitors are restored to 20 °C. Cafter the reated voltage applied for 2000 hrs at 85 °C | | | | | | | | |
| Shelf Life Test | Test Time | 1000 hrs | | | | | | |
| | Capacitance Change | Within ± 20 % of initial value (4WV ±30%) | | | | | | |
| | Dissipation Factor | Less than 200 % of specified value (4WV: 300%) | | | | | | |
| | Leakage Current | Within specified value | | | | | | |
| *The above specifications shall be suitable when the capacitors are restored to 20 °C after exposing them for 1000 hrs at 85 °C without voltage applied. | | | | | | | | |
| Ripple Current & Frequency Multipliers | Freq. (Hz) | 50 | 120 | 1K | 10K up | | | |
| | V.DC (V) | 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 | | | | |
| Ripple Current & Frequency Multipliers | Temperature (° C) | Under 170 | 85 | | | | | |
| | Multiplier | 1.35 | 1.00 | | | | | |
| Standards | Satisfies Characteristic W of JIS C 5141 | | | | | | | |

Diagram of Dimensions



| ϕD | L | A | B | C | W | P |
|----------|---------------|-----|-----|-----|------------|-----------------|
| 4 | 5.3 ± 0.2 | 4.3 | 4.3 | 2.0 | 0.5 to 0.8 | Unit: mm 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 |

Dimension & Permissible Ripple Current

Dimension: $\phi D \times L$ (mm)

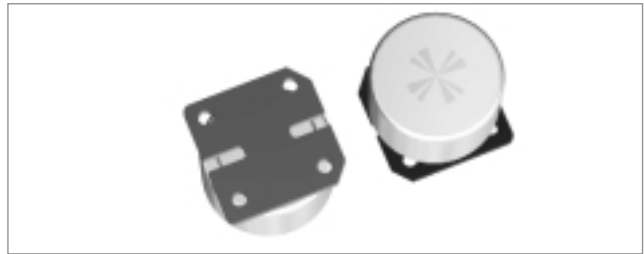
Ripple Current: A /rms at 120 Hz, 85 °C

| V.DC Contents μF | 4 V | | 6.3 V | | 10 V | | 16 V | | 25 V | | 35 V | | 50 V | |
|-----------------------------|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|----|-------------------|----|-------------------|----|
| | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA |
| 0.1 | | | | | | | | | | | | | 4x5.3 | 3 |
| 0.22 | | | | | | | | | | | | | 4x5.3 | 5 |
| 0.33 | | | | | | | | | | | | | 4x5.3 | 6 |
| 0.47 | | | | | | | | | | | | | 4x5.3 | 7 |
| 1 | | | | | | | | | | | | | 4x5.3 | 10 |
| 2.2 | | | | | | | | | | | | | 4x5.3 | 15 |
| 3.3 | | | | | | | | | | | | | 4x5.3 | 19 |
| 4.7 | | | | | | | | | 4x5.3 | 19 | 4x5.3 | 20 | 5x5.3 | 26 |
| 10 | | | | | 4x5.3 | 23 | 4x5.3 | 26 | 5x5.3 | 32 | 5x5.3 | 34 | 6.3x5.3 | 44 |
| 22 | | | 4x5.3 | 31 | 5x5.3 | 39 | 5x5.3 | 44 | 6.3x5.3 | 55 | 6.3x5.3 | 59 | | |
| 33 | 4x5.3 | 31 | 4x5.3 | 44 | 5x5.3 | 48 | 6.3x5.3 | 63 | 6.3x5.3 | 67 | | | | |
| 47 | 4x5.3 | 37 | 5x5.3 | 52 | 6.3x5.3 | 67 | 6.3x5.3 | 75 | | | | | | |
| 100 | 5x5.3 | 63 | 6.3x5.3 | 89 | 6.3x5.3 | 98 | 6.3x5.3 | 103 | | | | | | |
| 220 | 6.3x5.3 | 110 | 6.3x5.3 | 120 | 8x6.5 | 140 | 8x6.5 | 180 | | | | | | |
| 330 | 8x6.5 | 155 | 8x10 | 252 | 8x10 | 252 | 10x10 | 458 | | | | | | |
| 470 | 8x10 | 252 | 8x10 | 458 | 8x10 | 458 | 8x10 | 560 | | | | | | |
| 1000 | 10x10 | 458 | | | | | | | | | | | | |

STL 85°C SMT

Features

- 85°C 2000 hours assured
- Vertical chip type miniaturized for 5.5 mm, 8 mm high capacitors

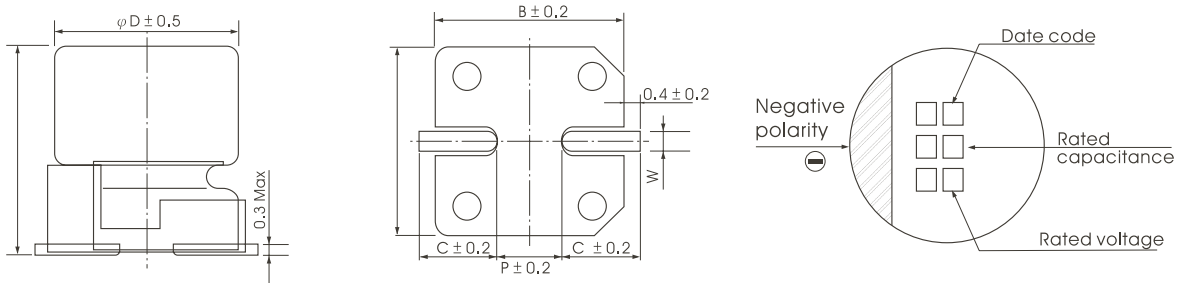


Specifications

| Item | Performance | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-------------------|------------|--------------------|--------------------------------|--------------------|------------------------------------|-----------------|------------------------|-----------------|---------------------|------|------|------|------|-------|-----|---------------------|------|------|----|-----|-----|------|------|
| Operating Temperature Range | -40°C to +85 °C | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20 % (at 120 Hz, 20 °C) | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current (at 20 °C) | $I = 0.01 CV$ or 3 (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 120 Hz, 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>0.42</td> <td>0.32</td> <td>0.26</td> <td>0.18</td> <td>0.14</td> <td>0.12</td> </tr> </tbody> </table> | Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | tan δ max | 0.42 | 0.32 | 0.26 | 0.18 | 0.14 | 0.12 | | | | | | | | | | |
| Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | |
| tan δ max | 0.42 | 0.32 | 0.26 | 0.18 | 0.14 | 0.12 | | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics (at 120 Hz) | Impedance ratio shall not exceed the values given in the table below <table border="1"> <thead> <tr> <th colspan="2">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 rowspan="2">Impedance ratio</td> <td>Z(-25 °C)/Z(+20 °C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40 °C)/Z(+20 °C)</td> <td>8</td> <td>8</td> <td>5</td> <td>5</td> <td>4</td> <td>4</td> </tr> </tbody> </table> | Rated Voltage | | 6,3 | 10 | 16 | 25 | 35 | 50 | Impedance ratio | Z(-25 °C)/Z(+20 °C) | 4 | 3 | 2 | 2 | 2 | 2 | Z(-40 °C)/Z(+20 °C) | 8 | 8 | 5 | 5 | 4 | 4 | |
| Rated Voltage | | 6,3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | |
| Impedance ratio | Z(-25 °C)/Z(+20 °C) | 4 | 3 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Z(-40 °C)/Z(+20 °C) | 8 | 8 | 5 | 5 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| Load Life Test | <table border="1"> <thead> <tr> <th>Test Time</th> <th>2000 hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ± 30 % of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 300 % 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. Cafter the reated voltage applied for 2000 hrs at 85 °C</p> | Test Time | 2000 hrs | Capacitance Change | Within ± 30 % of initial value | Dissipation Factor | Less than 300 % of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | |
| Test Time | 2000 hrs | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | Within ± 30 % of initial value | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor | Less than 300 % of specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life Test | <table border="1"> <thead> <tr> <th>Test Time</th> <th>1000 hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ± 30 % of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 300 % of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>*The above specifications shall be suitable when the capacitors are restored to 20 °C Cafter exposing them for 1000 hrs at 85 °C without voltage applied.</p> | Test Time | 1000 hrs | Capacitance Change | Within ± 30 % of initial value | Dissipation Factor | Less than 300 % of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | |
| Test Time | 1000 hrs | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | Within ± 30 % of initial value | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation Factor | Less than 300 % of specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current & Frequency Multipliers | <table border="1"> <thead> <tr> <th rowspan="2">V.DC (V)</th> <th colspan="4">Freq. (Hz)</th> </tr> <tr> <th>50</th> <th>120</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Under 16</td> <td>0.8</td> <td>1.0</td> <td>1.15</td> <td>1.25</td> </tr> <tr> <td>25-35</td> <td>0.8</td> <td>1.0</td> <td>1.25</td> <td>1.40</td> </tr> <tr> <td>50</td> <td>0.7</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> </tbody> </table> | V.DC (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 | 0.7 | 1.0 | 1.35 | 1.50 |
| V.DC (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 | 0.7 | 1.0 | 1.35 | 1.50 | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current & Frequency Multipliers | <table border="1"> <thead> <tr> <th>Temperature (° C)</th> <th>Under 170</th> <th>85</th> </tr> </thead> <tbody> <tr> <td>Multiplier</td> <td>1.35</td> <td>1.00</td> </tr> </tbody> </table> | Temperature (° C) | Under 170 | 85 | Multiplier | 1.35 | 1.00 | | | | | | | | | | | | | | | | | | |
| Temperature (° C) | Under 170 | 85 | | | | | | | | | | | | | | | | | | | | | | | |
| Multiplier | 1.35 | 1.00 | | | | | | | | | | | | | | | | | | | | | | | |
| Standards | Satisfies Characteristic W of JIS C 5141 | | | | | | | | | | | | | | | | | | | | | | | | |

Diagram of Dimensions

CE32 Type



Unit: mm

| φD | L | A | B | C | W | P |
|-----|-----------|-----|-----|-----|------------|-----|
| 6.3 | 7.7 ± 0.3 | 6.6 | 6.6 | 2.7 | 0.5 to 0.8 | 2.5 |

Dimension & Permissible Ripple Current

Dimension: φD x L (mm)

Ripple Current: A /rms at 120 Hz, 85 °C

| V.DC Contents μF | 6.3 V | | 10 V | | 16 V | | 25 V | | 35 V | | 50 V | |
|------------------------|---------|-----|--------|----|---------|-----|---------|-----|---------|-----|---------|----|
| | φD x L | mA | φD x L | mA | φD x L | mA | φD x L | mA | φD x L | mA | φD x L | mA |
| 33 | | | | | | | | | | | 6.3x7.7 | 82 |
| 47 | | | | | | | | | 6.3x7.7 | 80 | | |
| 68 | | | | | | | | | 6.3x7.7 | 109 | | |
| 100 | | | | | | | 6.3x7.7 | 124 | 6.3x7.7 | 145 | | |
| 150 | | | | | 6.3x7.7 | 109 | | | | | | |
| 220 | | | | | 6.3x7.7 | 160 | | | | | | |
| 330 | 6.3x7.7 | 139 | | | | | | | | | | |