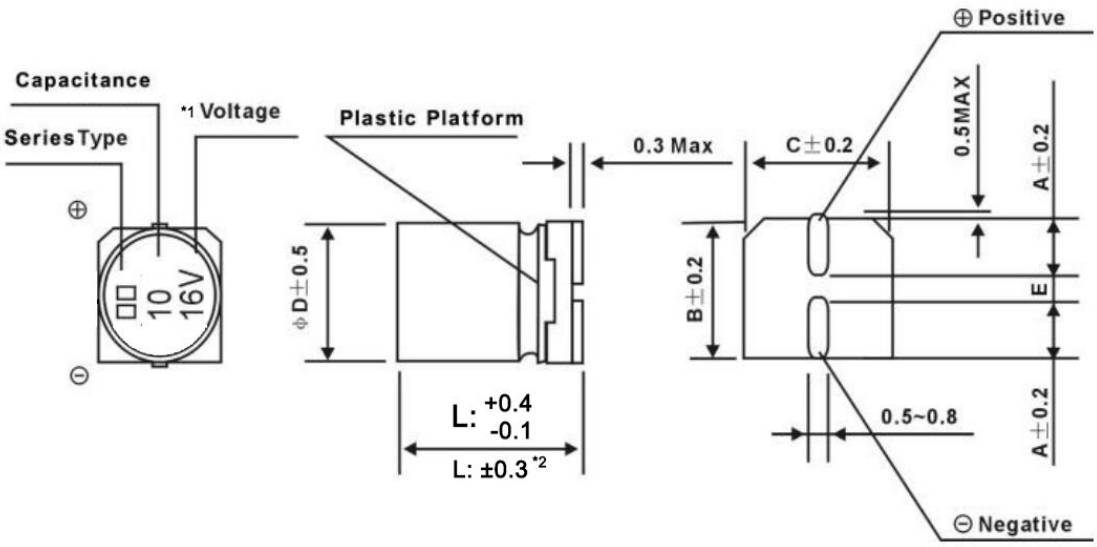
# WCN Series

**Bi-Polarized SMD Aluminum Electrolytic Capacitor**

## FEATURES

- Bi-Polarized
- Operating with wide temperature range -55 ~ +105° C
- Load life of 1000 Hours
- Comply with the RoHS directive


## DIMENSIONS (mm)




*1. Voltage mark for 6.3V is [6V]

*2. Applicable to ∅6.3*7.7mm

## DIMENSIONS (Unit: mm)

| ∅D x L | 4 x 5.4 | 5 x 5.4 | 6.3 x 5.4 | 6.3 x 7.7 |
|---|---|---|---|---|
| **A** | 2.0 | 2.2 | 2.6 | 2.6 |
| **B** | 4.3 | 5.3 | 6.6 | 6.6 |
| **C** | 4.3 | 5.3 | 6.6 | 6.6 |
| **E ± 0.2** | 1.0 | 1.5 | 2.1 | 2.1 |
| **L** | 5.4 | 5.4 | 5.4 | 7.7 |

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## SPECIFICATIONS

<table>
<tr><th>Items</th><th>Characteristics</th></tr>
<tr><td>Operation Temperature Range</td><td>-55 ~ +105°C</td></tr>
<tr><td>Voltage Range</td><td>6.3 ~ 50V</td></tr>
<tr><td>Capacitance Range</td><td>0.1 ~ 100μF</td></tr>
<tr><td>Capacitance Tolerance</td><td>±20% at 120Hz, 20°C</td></tr>
<tr><td>Leakage Current</td><td>Leakage current≦0.05CV or 10μA, whichever is greater (after 2 minutes application of rated voltage)</td></tr>
<tr><td>Dissipation Factor (tan δ)</td><td>Measurement frequency : 120Hz, Temperature: 20°C
<table>
<tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16, 25</td><td>35, 50</td></tr>
<tr><td>tan δ (max.)</td><td>0.24</td><td>0.20</td><td>0.17</td><td>0.15</td></tr>
</table></td></tr>
<tr><td>Stability at Low Temperature</td><td>Measurement frequency: 120Hz
<table>
<tr><td colspan="2">Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16, 25</td><td>35, 50</td></tr>
<tr><td rowspan="2">Impedance Ratio ZT/Z20 (max.)</td><td>Z(-25°C) / Z(20°C)</td><td>4</td><td>3</td><td>2</td><td>2</td></tr>
<tr><td>Z(-55°C) / Z(20°C)</td><td>8</td><td>6</td><td>4</td><td>3</td></tr>
</table></td></tr>
<tr><td>Load Life</td><td>After 1000 hours application of the rated voltage at 105°C (the polarity needs to exchange every 250 hours), they meet the characteristics listed below.
<table>
<tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr>
<tr><td>Dissipation Factor</td><td>200% or less of initial specified value</td></tr>
<tr><td>Leakage Current</td><td>initial specified value or less</td></tr>
</table></td></tr>
<tr><td>Shelf Life</td><td>After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.</td></tr>
<tr><td>Resistance to Soldering Heat</td><td>After reflow soldering and restored at room temperature, they meet the characteristics listed below.
<table>
<tr><td>Capacitance Change</td><td>Within ±10% of initial value</td></tr>
<tr><td>Dissipation Factor</td><td>initial specified value or less</td></tr>
<tr><td>Leakage Current</td><td>initial specified value or less</td></tr>
</table></td></tr>
<tr><td>Marking</td><td>Black print on the case top.</td></tr>
</table>

# WCN Series

**Bi-Polarized SMD Aluminum Electrolytic Capacitor**

## DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

Case size ∅D×L(mm), ripple current (mA rms) at 105°C 120Hz

| WV / Code / μF | | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0J | | 1A | | 1C | | 1E | | 1V | | 1H | |
| 0.1 | 0R1 | | | | | | | | | | | 4 × 5.4 | 1.0 |
| 0.22 | R22 | | | | | | | | | | | 4 × 5.4 | 2.0 |
| 0.33 | R33 | | | | | | | | | | | 4 × 5.4 | 2.8 |
| 0.47 | R47 | | | | | | | | | | | 4 × 5.4 | 4.0 |
| 1 | 010 | | | | | | | | | | | 4 × 5.4 | 8.4 |
| 2.2 | 2R2 | | | | | | | | | 4 × 5.4 | 8.4 | 5 × 5.4 | 13 |
| 3.3 | 3R3 | | | | | | | 5 × 5.4 | 12 | 5 × 5.4 | 16 | 5 × 5.4 | 17 |
| 4.7 | 4R7 | | | | | 4 × 5.4 | 12 | 5 × 5.4 | 16 | 5 × 5.4 | 18 | 6.3 × 5.4 | 20 |
| 10 | 100 | | | 4 × 5.4 | 17 | 5 × 5.4 | 23 | 5 × 5.4<br>6.3 × 5.4 | 25<br>27 | 6.3 × 5.4 | 29 | 6.3 × 5.4<br>6.3 × 7.7 | 32<br>36 |
| 22 | 220 | 5 × 5.4 | 28 | 6.3 × 5.4 | 33 | 6.3 × 5.4 | 37 | 6.3 × 7.7 | 50 | 6.3 × 7.7 | 54 | | |
| 33 | 330 | 6.3 × 5.4 | 37 | 6.3 × 5.4 | 41 | 6.3 × 5.4 | 49 | 6.3 × 7.7 | 61 | | | | |
| 47 | 470 | 6.3 × 5.4 | 45 | 6.3 × 7.7 | 61 | 6.3 × 7.7 | 75 | | | | | Case size | Ripple current |
| 56 | 560 | | | | | | | 8 × 10.5 | 80 | | | | |
| 100 | 101 | 6.3 × 7.7 | 82 | 6.3 × 7.7 | 85 | | | | | | | | |

## FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

| Frequency | 50Hz | 120Hz | 300Hz | 1KHz | 10KHz~ |
|---|---|---|---|---|---|
| Coefficient | 0.70 | 1.00 | 1.17 | 1.36 | 1.50 |

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## PN Structure

| WCN | 1A | 0R1 | M | 040054 | T | R |
|---|---|---|---|---|---|---|
| Series | Rated Voltage 1. | Capacitance 2. | Capacitance Tolerance 3. | Dimension 4. | Packing 5. | Pb 6. |

### 1. Rated Voltage

| Code | 0J | 1A | 1C | 1D | 1E | 1V | 1G | 1H | 1J | 1K | 2A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 6.3V | 10V | 16V | 20V | 25V | 35V | 40V | 50V | 63 | 80V | 100V |

### 2. Capacitance

| Code | 0R1 | R22 | R33 | R47 | 010 | 2R2 | 3R3 | 4R7 | 100 | 220 | 330 | 470 | 101 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacitance (μF) | 0.1 | 0.22 | 0.33 | 0.47 | 1 | 2.2 | 3.3 | 4.7 | 10 | 22 | 33 | 47 | 100 |

### 3. Capacitance Tolerance

| Code | K | L | M |
|---|---|---|---|
| Tolerance | ±10% | ±15% | ±20% |

### 4. Dimension

| Code | 040054 | 050054 | 063054 | 080105 | 100105 |
|---|---|---|---|---|---|
| Dimension (mm) | 4x5.4 | 5×5.4 | 6.3×5.4 | 8x10.5 | 10x10.5 |

### 5. Packing

| Code | T |
|---|---|
| Packing | Tape & Reel |

### 6. Pb

| Code | L | R |
|---|---|---|
| Pb | Leaded | RoHS |

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