

OVG Series

Features

- 105°C, 15,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS Compliance



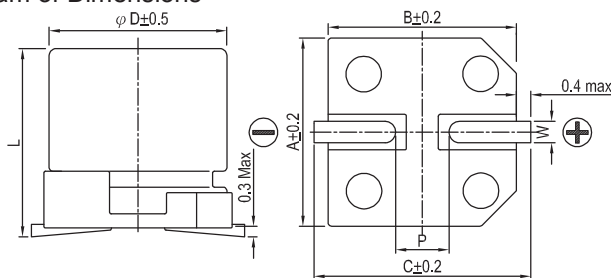
Marking color: Blue

Specifications

| Items | Performance | | | | | | | | | | |
|--|--|-----------------------------------|------------------------------|--------------------|-----------------------------------|-----------------|-----------------------------------|-----------------|-----------------------------------|-----------------|------------------------|
| Category Temperature Range | -55°C ~ +105°C | | | | | | | | | | |
| Capacitance Tolerance | ±20% (at 120Hz, 20°C) | | | | | | | | | | |
| Leakage Current (at 20°C)* | Rated voltage applied, after 2 minutes at 20°C. See Standard Ratings | | | | | | | | | | |
| Tanδ (at 120Hz, 20°C) | See Standard Ratings | | | | | | | | | | |
| ESR (at 100k ~ 300k Hz, 20°C) | See Standard Ratings | | | | | | | | | | |
| Endurance | <table border="1"> <tr><td>Test Time</td><td>15,000 Hrs</td></tr> <tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr> <tr><td>ESR</td><td>Less than 150% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table> | Test Time | 15,000 Hrs | Capacitance Change | Within ±20% of initial value | Tanδ | Less than 150% of specified value | ESR | Less than 150% of specified value | Leakage Current | Within specified value |
| | Test Time | 15,000 Hrs | | | | | | | | | |
| | Capacitance Change | Within ±20% of initial value | | | | | | | | | |
| | Tanδ | Less than 150% of specified value | | | | | | | | | |
| | ESR | Less than 150% of specified value | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | |
| * The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 15,000 hours at 105°C. | | | | | | | | | | | |
| Moisture Resistance | <table border="1"> <tr><td>Test Time</td><td>1,000 Hrs</td></tr> <tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr> <tr><td>ESR</td><td>Less than 150% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table> | Test Time | 1,000 Hrs | Capacitance Change | Within ±20% of initial value | Tanδ | Less than 150% of specified value | ESR | Less than 150% of specified value | Leakage Current | Within specified value |
| | Test Time | 1,000 Hrs | | | | | | | | | |
| | Capacitance Change | Within ±20% of initial value | | | | | | | | | |
| | Tanδ | Less than 150% of specified value | | | | | | | | | |
| | ESR | Less than 150% of specified value | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | |
| * The above specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours. Leakage current should be tested after voltage treatment*. | | | | | | | | | | | |
| Resistance to Soldering Heat * (Please refer to page 25 for reflow soldering conditions) | <table border="1"> <tr><td>Capacitance Change</td><td>Within ±10% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 130% of specified value</td></tr> <tr><td>ESR</td><td>Less than 130% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table> | Capacitance Change | Within ±10% of initial value | Tanδ | Less than 130% of specified value | ESR | Less than 130% of specified value | Leakage Current | Within specified value | | |
| | Capacitance Change | Within ±10% of initial value | | | | | | | | | |
| | Tanδ | Less than 130% of specified value | | | | | | | | | |
| | ESR | Less than 130% of specified value | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | |
| | | | | | | | | | | | |
| Ripple Current and Frequency Multipliers | <table border="1"> <tr> <th>Frequency (Hz)</th> <th>120 ≤ f < 1k</th> <th>1k ≤ f < 10k</th> <th>10k ≤ f < 100k</th> <th>100k ≤ f < 500k</th> </tr> <tr> <th>Multiplier</th> <td>0.05</td> <td>0.3</td> <td>0.7</td> <td>1.0</td> </tr> </table> | Frequency (Hz) | 120 ≤ f < 1k | 1k ≤ f < 10k | 10k ≤ f < 100k | 100k ≤ f < 500k | Multiplier | 0.05 | 0.3 | 0.7 | 1.0 |
| | Frequency (Hz) | 120 ≤ f < 1k | 1k ≤ f < 10k | 10k ≤ f < 100k | 100k ≤ f < 500k | | | | | | |
| Multiplier | 0.05 | 0.3 | 0.7 | 1.0 | | | | | | | |
| | | | | | | | | | | | |

* For any doubt about measured values, measure the leakage current again after the following voltage treatment.
Voltage treatment: DC rated voltage is applied to the capacitors for 2 hours at 105°C.

Diagram of Dimensions

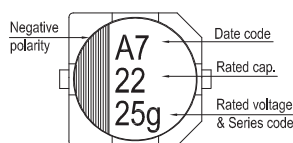


Lead Spacing and Diameter

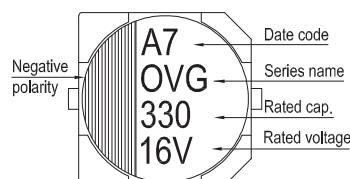
| φ D | L | A | B | C | W | P ± 0.2 |
|-----|----------------|------|------|------|-----------|---------|
| 5 | 5.8 ± 0.3 | 5.3 | 5.3 | 5.9 | 0.5 ~ 0.8 | 1.5 |
| 6.3 | 5.8 ± 0.3 | 6.6 | 6.6 | 7.2 | 0.5 ~ 0.8 | 2.0 |
| 6.3 | 7.7 ± 0.3 | 6.6 | 6.6 | 7.2 | 0.5 ~ 0.8 | 2.0 |
| 8 | 6.7 ± 0.3 | 8.4 | 8.4 | 9.0 | 0.7 ~ 1.1 | 3.1 |
| 8 | 10.0 ± 0.5 | 8.4 | 8.4 | 9.0 | 0.7 ~ 1.1 | 3.1 |
| 10 | 7.7 ± 0.3 | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7 |
| 10 | 10.0 ± 0.5 | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7 |
| 10 | 12.6 +0.1/-0.4 | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7 |

Marking

φ D = 5 ~ 6.3



φ D = 8 ~ 10



Dimension: ϕ D×L(mm)
Ripple Current: mA/rms at 100k Hz, 105°C

Standard Ratings

| W. V. (V) | Surge Voltage (V) | Capacitance (μF) | Size ϕ D×L(mm) | Tan δ (120Hz, 20°C) | L C (μA) | E S R (mΩ/at 100k ~ 300k Hz, 20°C Max) | Rated R. C. (mA/rms at 100k Hz, 105°C) |
|-----------|-------------------|------------------|---------------------|----------------------------|----------|--|--|
| 16V (1C) | 18.0 | 220 | 6.3 × 7.7 | 0.12 | 704 | 22 | 3,300 |
| | | 270 | 8 × 6.7 | 0.12 | 864 | 22 | 3,300 |
| | | 330 | 8 × 10 | 0.12 | 1,050 | 21 | 3,400 |
| | | 820 | 10 × 12.6 | 0.12 | 2,620 | 12 | 5,400 |
| | | 1,000 | 10 × 12.6 | 0.12 | 3,200 | 12 | 5,400 |
| 20V(1D) | 23.0 | 47 | 5 × 5.8 | 0.12 | 188 | 30 | 2,800 |
| | | 56 | 5 × 5.8 | 0.12 | 224 | 30 | 2,800 |
| | | 120 | 6.3 × 5.8 | 0.12 | 480 | 25 | 3,200 |
| | | 150 | 6.3 × 7.7 | 0.12 | 600 | 25 | 3,200 |
| | | 180 | 8 × 6.7 | 0.12 | 720 | 25 | 3,200 |
| | | 220 | 8 × 10 | 0.12 | 880 | 23 | 3,400 |
| 25V(1E) | 29.0 | 560 | 10 × 10 | 0.12 | 2,240 | 18 | 4,100 |
| | | 22 | 5 × 5.8 | 0.12 | 110 | 40 | 2,450 |
| | | 27 | 5 × 5.8 | 0.12 | 135 | 40 | 2,450 |
| | | 39 | 6.3 × 5.8 | 0.12 | 195 | 30 | 2,800 |
| | | 47 | 6.3 × 5.8 | 0.12 | 235 | 30 | 2,800 |
| | | 56 | 6.3 × 5.8 | 0.12 | 280 | 30 | 2,800 |
| | | | 6.3 × 7.7 | 0.12 | 280 | 28 | 2,800 |
| | | 68 | 8 × 6.7 | 0.12 | 340 | 28 | 3,000 |
| | | 100 | 8 × 10 | 0.12 | 500 | 24 | 3,300 |
| | | 120 | 8 × 10 | 0.12 | 600 | 22 | 3,500 |
| 150 | 10 × 7.7 | 0.12 | 750 | 25 | 3,400 | | |
| 220 | 10 × 10 | 0.12 | 1,100 | 20 | 3,800 | | |

OP-CAP

Part Numbering System

| | | | | | | |
|-------------|-------------|-----------------------|---------------|--------------|------------------|------------------------------|
| OVG Series | 150μF | ±20% | 25V | Carrier Tape | 10 ϕ × 7.7L | Pb-free and PET coating case |
| OVG | 151 | M | 1E | TR | - | 1008 |
| Series Name | Capacitance | Capacitance Tolerance | Rated Voltage | Package Type | Terminal Type | Case size |
| | | | | | | Lead Wire and Coating Type |

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 15.