

LV/LVG Series

Features

- Snap-in terminal type
- Suitable for high voltage circuits
- Flame retardant type capacitor
- RoHS Compliance



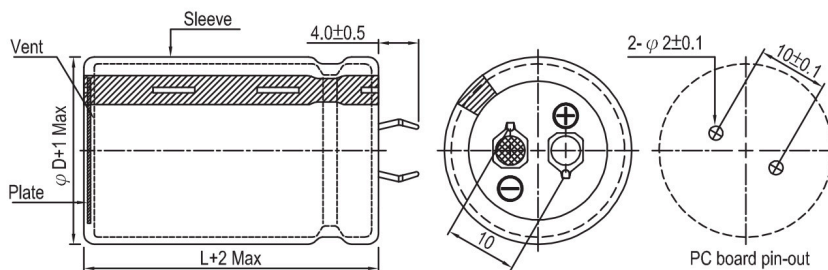
Sleeve & Marking Color: Black & White

Specifications

| Items | Performance | | | | | | | | | | | | | | | | |
|--|--|-----------|------------------|------|----------------|-----------|--------------------|------------------------------|-----------------|-----------------------------------|-----------------|------------------------|-----|------|------|------|----|
| | LV | | LVG | | | | | | | | | | | | | | |
| Series | LV | | LVG | | | | | | | | | | | | | | |
| Category Temperature Range | -25°C ~ +85°C | | -25°C ~ +105°C | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% | | (at 120Hz, 20°C) | | | | | | | | | | | | | | |
| Leakage Current (at 20°C) | I = 3√CV or 1.5 mA whichever is smaller (after 5 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V | | | | | | | | | | | | | | | | |
| Tanδ (at 120Hz, 20°C) | <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Tanδ (max)</td> <td>LV</td> <td>0.15</td> <td>0.25</td> </tr> <tr> <td>LVG</td> <td>0.25</td> <td>0.25</td> </tr> </tbody> </table> | | | | Rated Voltage | | 400 | 450 | Tanδ (max) | LV | 0.15 | 0.25 | LVG | 0.25 | 0.25 | | |
| Rated Voltage | | 400 | 450 | | | | | | | | | | | | | | |
| Tanδ (max) | LV | 0.15 | 0.25 | | | | | | | | | | | | | | |
| | LVG | 0.25 | 0.25 | | | | | | | | | | | | | | |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio</td> <td>Z(-25°C)/Z(+20°C)</td> <td>LV</td> <td>8</td> <td>12</td> </tr> <tr> <td></td> <td>LVG</td> <td>12</td> <td>12</td> </tr> </tbody> </table> | | | | Rated Voltage | | 400 | 450 | Impedance Ratio | Z(-25°C)/Z(+20°C) | LV | 8 | 12 | | LVG | 12 | 12 |
| Rated Voltage | | 400 | 450 | | | | | | | | | | | | | | |
| Impedance Ratio | Z(-25°C)/Z(+20°C) | LV | 8 | 12 | | | | | | | | | | | | | |
| | | LVG | 12 | 12 | | | | | | | | | | | | | |
| Endurance | <table border="1"> <thead> <tr> <th>Test Time</th> <th>2,000 Hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Tanδ</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 with rated ripple current for 2,000 hours at 85°C / 105°C.</p> | | | | Test Time | 2,000 Hrs | Capacitance Change | Within ±20% of initial value | Tanδ | Less than 200% of specified value | Leakage Current | Within specified value | | | | | |
| Test Time | 2,000 Hrs | | | | | | | | | | | | | | | | |
| Capacitance Change | Within ±20% of initial value | | | | | | | | | | | | | | | | |
| Tanδ | Less than 200% of specified value | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | |
| Shelf Life Test | <table border="1"> <thead> <tr> <th>Test Time</th> <th>1,000 Hrs</th> </tr> </thead> <tbody> <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>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 1,000 hours at 85°C / 105°C without voltage applied. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1).</p> | | | | Test Time | 1,000 Hrs | Capacitance Change | Within ±20% of initial value | Tanδ | 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 | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | |
| Ripple Current and Frequency Multipliers | <table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>50 / 60</th> <th>100 / 120</th> <th>500</th> <th>1k</th> <th>10k up</th> </tr> </thead> <tbody> <tr> <td>Multiplier</td> <td>0.8</td> <td>1.0</td> <td>1.05</td> <td>1.10</td> <td>1.15</td> </tr> </tbody> </table> | | | | Frequency (Hz) | 50 / 60 | 100 / 120 | 500 | 1k | 10k up | Multiplier | 0.8 | 1.0 | 1.05 | 1.10 | 1.15 | |
| Frequency (Hz) | 50 / 60 | 100 / 120 | 500 | 1k | 10k up | | | | | | | | | | | | |
| Multiplier | 0.8 | 1.0 | 1.05 | 1.10 | 1.15 | | | | | | | | | | | | |
| Failure percentage | ≤ 3 % (During useful life) | | | | | | | | | | | | | | | | |
| Failure rate | ≤ 70 fit (70×10 ⁻⁹ /h) | | | | | | | | | | | | | | | | |

Diagram of Dimensions

Unit: mm



Snap-in

Dimension and Permissible Ripple Current

1. LV Series

| Working Voltage V. DC | Capacitance 120Hz, 20°C μF | φ D×L mm | Ripple Current 120 Hz, 85°C A/rms | Tan δ at 120Hz, 20°C | ESR 120Hz, 20°C Ω | LC 5 minutes mA | Part Number |
|--------------------------|----------------------------------|-------------|---|-------------------------|-------------------------|-----------------------|------------------|
| 400 | 330 | 35 × 30 | 1.95 | 0.15 | 0.603 | 1.09 | LV-331M2G--A3530 |
| | 390 | 35 × 35 | 2.17 | 0.15 | 0.510 | 1.18 | LV-391M2G--A3535 |
| | 470 | 35 × 40 | 2.42 | 0.15 | 0.423 | 1.30 | LV-471M2G--A3540 |
| | 560 | 35 × 45 | 2.71 | 0.15 | 0.355 | 1.42 | LV-561M2G--A3545 |
| | 680 | 35 × 50 | 2.95 | 0.15 | 0.293 | 1.50 | LV-681M2G--A3550 |
| 450 | 220 | 35 × 30 | 1.71 | 0.25 | 1.508 | 0.94 | LV-221M2W--A3530 |
| | 270 | 35 × 35 | 1.81 | 0.25 | 1.229 | 1.05 | LV-271M2W--A3535 |
| | 330 | 35 × 35 | 2.05 | 0.25 | 1.005 | 1.16 | LV-331M2W--A3535 |
| | 390 | 35 × 40 | 2.27 | 0.25 | 0.851 | 1.26 | LV-391M2W--A3540 |
| | 470 | 35 × 45 | 2.55 | 0.25 | 0.706 | 1.38 | LV-471M2W--A3545 |
| | 560 | 35 × 50 | 2.60 | 0.25 | 0.592 | 1.50 | LV-561M2W--A3550 |

2. LVG Series

| Working Voltage V. DC | Capacitance 120Hz, 20°C μF | φ D×L mm | Ripple Current 120 Hz, 105°C A/rms | Tan δ at 120Hz, 20°C | ESR 120Hz, 20°C Ω | LC 5 minutes mA | Part Number |
|--------------------------|----------------------------------|-------------|--|-------------------------|-------------------------|-----------------------|------------------|
| 400 | 180 | 35 × 25 | 0.90 | 0.25 | 1.843 | 0.80 | LVG181M2G--A3525 |
| | 220 | 35 × 30 | 1.08 | 0.25 | 1.507 | 0.89 | LVG221M2G--A3530 |
| | 270 | 35 × 35 | 1.12 | 0.25 | 1.228 | 0.98 | LVG271M2G--A3535 |
| | 330 | 35 × 35 | 1.18 | 0.25 | 1.005 | 1.09 | LVG331M2G--A3535 |
| | 390 | 35 × 40 | 1.27 | 0.25 | 0.851 | 1.18 | LVG391M2G--A3540 |
| | 470 | 35 × 45 | 1.62 | 0.25 | 0.706 | 1.30 | LVG471M2G--A3545 |
| | 560 | 35 × 50 | 1.83 | 0.25 | 0.592 | 1.42 | LVG561M2G--A3550 |
| 450 | 120 | 35 × 25 | 0.72 | 0.25 | 2.765 | 0.70 | LVG121M2W--A3525 |
| | 150 | 35 × 30 | 0.86 | 0.25 | 2.212 | 0.78 | LVG151M2W--A3530 |
| | 180 | 35 × 35 | 1.00 | 0.25 | 1.843 | 0.85 | LVG181M2W--A3535 |
| | 220 | 35 × 35 | 1.11 | 0.25 | 1.508 | 0.94 | LVG221M2W--A3535 |
| | 270 | 35 × 45 | 1.36 | 0.25 | 1.229 | 1.05 | LVG271M2W--A3545 |
| | 330 | 35 × 50 | 1.58 | 0.25 | 1.005 | 1.16 | LVG331M2W--A3550 |

Part Numbering System

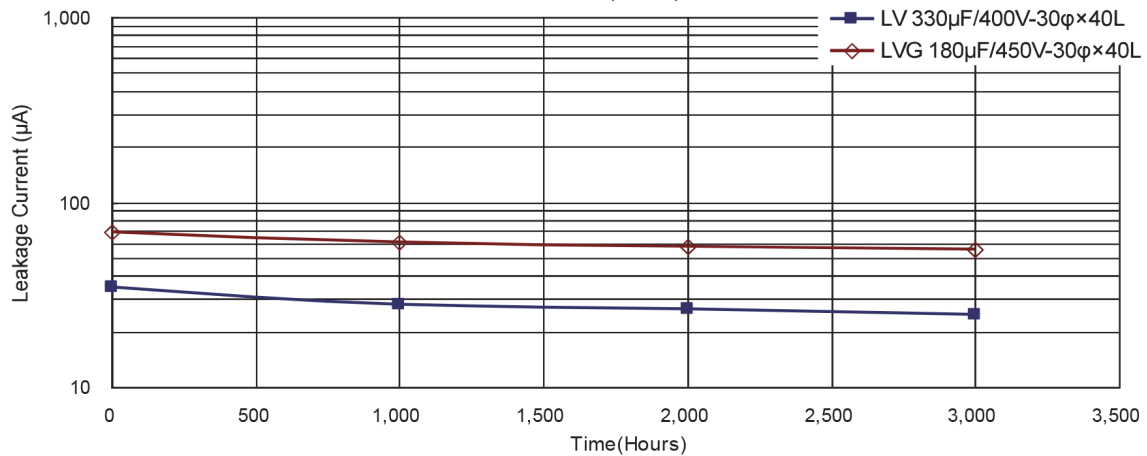
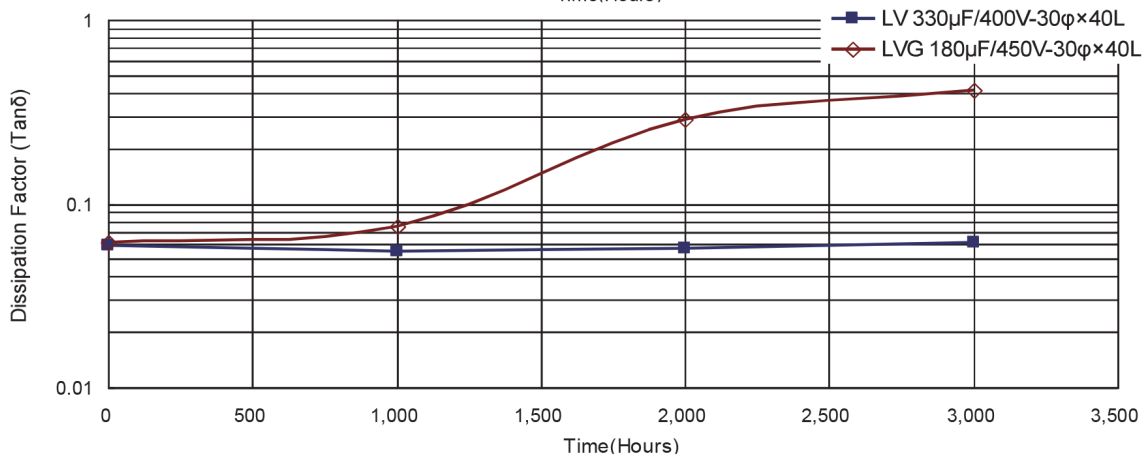
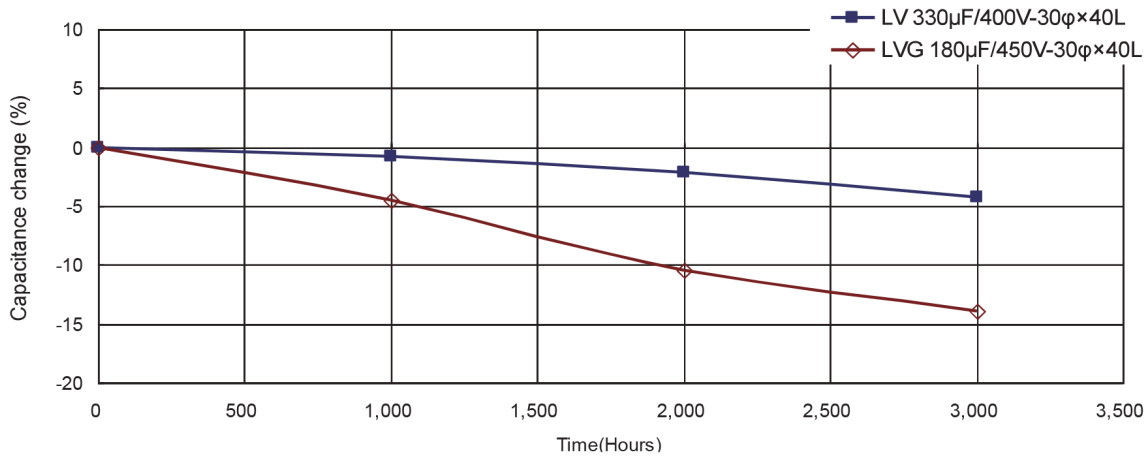
| | | | | | | | | |
|-------------|-------------|-----------------------|---------------|---------------|-----------------|-------------|---------------------------|-----------------|
| LVG Series | 100μF | ±20% | 400V | | 4.0±0.5mm | 22 φ ×30L | Pb-free Terminal + Sleeve | |
| LVG | 101 | M | 2G | -- | A | 2230 | | S |
| Series Name | Capacitance | Capacitance tolerance | Rated voltage | Terminal type | Terminal length | Case size | Terminal and Sleeve Type | Supplement Code |
| Example: | | M = ±20% K = ±10% | Example: | Example: | Example: | Example: | | |
| Cap. | Symbol | | WV | Symbol | Type | Symbol | φ D×L | Code |
| 56 | 560 | | 400 | 2G | 2 pins | -- | 22×30 | 2230 |
| 220 | 221 | | 450 | 2W | 5 pins | L5 | 25×25 | 2525 |
| 470 | 471 | | | | | | 30×40 | 3040 |

Note: For more details, please refer to "Part Numbering System (Snap-in Type)"

Snap-in

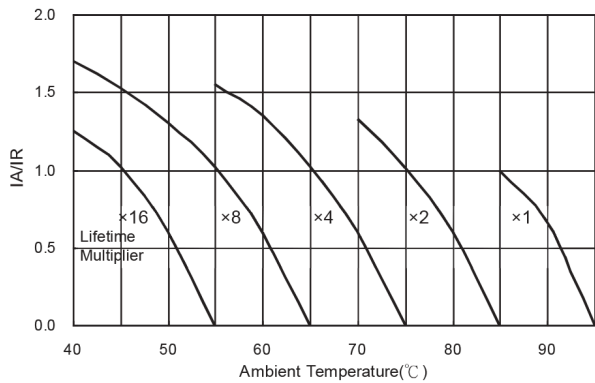


Typical Endurance Curves



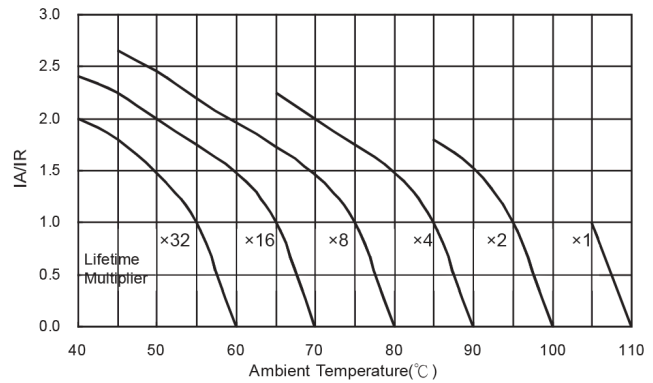
Useful Life Chart

LV Series



IA: Actual ripple current IR: Rated ripple current

LVG Series



All product specifications in the catalog are subject to change without notice. (CAT. 2017E1)