



LV/LVG Series

Features

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



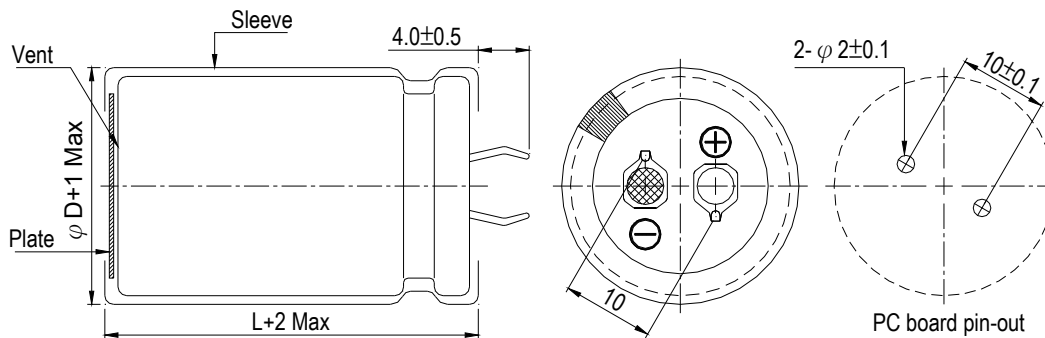
Sleeve & Marking Color: Black & White

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)	$I = 3\sqrt{CV}$ or 1.5 mA whichever is smaller (after 5 minutes) Where, C = rated capacitance in μF V = rated DC working voltage in V															
Tan δ (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	Tan δ (max)	LV	0.15	0.25	LVG	0.25	0.25	
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	LVG	0.25	0.25													
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below. <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>8</td> <td>12</td> </tr> <tr> <td></td> <td>LVG</td> <td>12</td> </tr> </tbody> </table>				Rated Voltage		400	450	Impedance Ratio	Z(-25°C)/Z(+20°C)	8	12		LVG	12	
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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	Tan δ	Less than 200% of specified value	Leakage Current	Within specified value				
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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	Tan δ	Less than 150% of specified value	Leakage Current	Within specified value				
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Ripple Current & 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





Dimension & 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

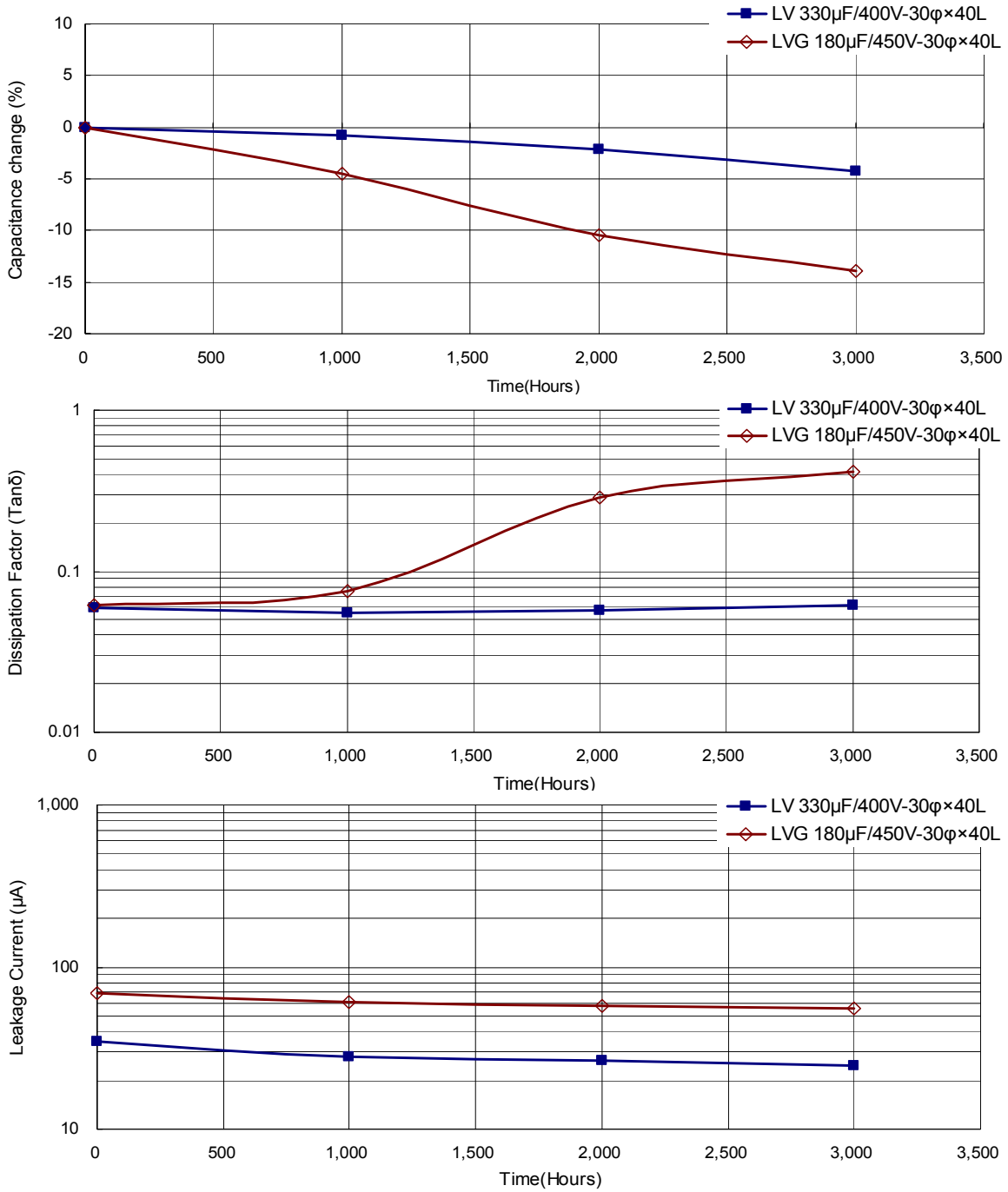
Working Voltage V. DC	Capacitance 120Hz, 20°C μF	φ D×L mm	Ripple Current 120 Hz, 105°C A/rms	Tan δ at 120Hz, 20°C	ESR 120Hz, 20°C Ω	LC 5 minutes mA	Part Number
400	180	35 × 25	0.9	0.25	1.843	0.80	LVG181M2G--A3525
	220	35 × 30	1.08	0.25	1.507	0.89	LVG221M2G--A3530
	270	35 × 35	1.12	0.25	1.228	0.98	LVG271M2G--A3535
	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

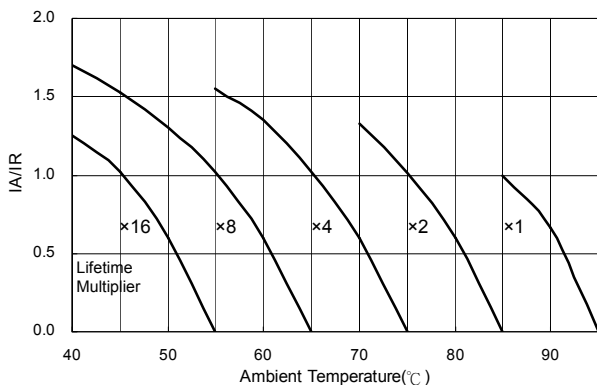
LVG series	100μF	±20%	400V		4.0±0.5mm	22 φ ×30L	Pb-free Terminal + PVC Sleeve																								
LVG	101	M	2G	--	A	2230																									
Series name	Capacitance	Capacitance tolerance	Rated voltage	Terminal type	Terminal length	Case size	Terminal and Sleeve Type																								
Example:	Example:	Example:	Example:	Example:	Example:	Example:																									
<table border="1"> <tr><th>Cap.</th><th>Symbol</th></tr> <tr><td>56</td><td>560</td></tr> <tr><td>220</td><td>221</td></tr> <tr><td>470</td><td>471</td></tr> </table>	Cap.	Symbol	56	560	220	221	470	471	<table border="1"> <tr><th>WV</th><th>Symbol</th></tr> <tr><td>400</td><td>2G</td></tr> <tr><td>450</td><td>2W</td></tr> </table>	WV	Symbol	400	2G	450	2W	<table border="1"> <tr><th>Type</th><th>Symbol</th></tr> <tr><td>2 pins</td><td>--</td></tr> <tr><td>5 pins</td><td>L5</td></tr> </table>	Type	Symbol	2 pins	--	5 pins	L5	<table border="1"> <tr><th>φ D×L</th><th>Code</th></tr> <tr><td>22×30</td><td>2230</td></tr> <tr><td>25×25</td><td>2525</td></tr> <tr><td>30×40</td><td>3040</td></tr> </table>	φ D×L	Code	22×30	2230	25×25	2525	30×40	3040
Cap.	Symbol																														
56	560																														
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	M = ±20% K = ±10%				6.3±1.0 mm																										

Note: For more details, please refer to "Part Numbering System (Snap-in Type)" on page 13.

Typical Endurance Curves



Useful Life Chart LV Series



IA: Actual ripple current IR: Rated ripple current

LVG Series

