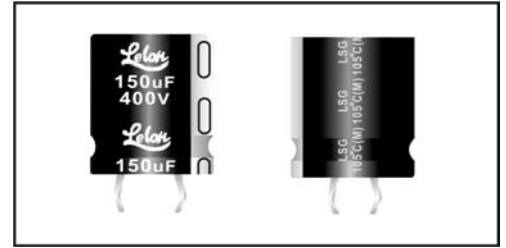


Large Type

Features

- Has a snap-in terminal which can solder to PCB directly and need not fixture to save processing time
- Suitable for electronic equipment with medium-high voltage circuits
- Printed circuit board terminal snap-in type and lug terminal type available.



SPECIFICATIONS

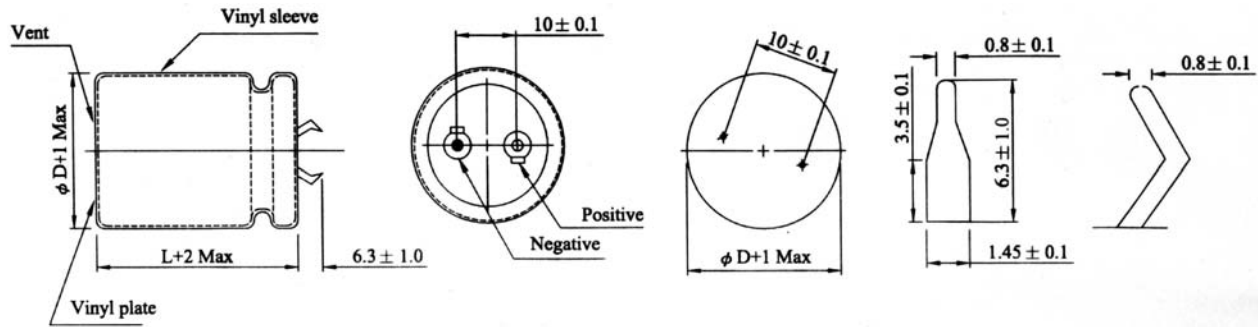
Items	Performance																																										
Operating Temperature Range	-40°C ~ +105°C																																										
Capacitance Tolerance	±20% (at 120Hz, 20°C)																																										
Leakage Current (at 20°C)	I = 0.02CV or 1.5 mA whichever is smaller (after 5 minutes) Where, C= rated capacitance in μ F. V = rated DC working voltage in V.																																										
Dissipation Factor (Tan δ at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.40</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> <td>0.10*</td> <td>0.10*</td> <td>0.10*</td> <td>0.15*</td> <td>0.15</td> <td>0.15</td> </tr> </tbody> </table> <p>*: 0.15 for ϕD = 35 mm</p>	Rated Voltage	16	25	35	50	63	100	160	200	250	350	400	450	Tan δ (max)	0.40	0.30	0.25	0.20	0.15	0.15	0.10*	0.10*	0.10*	0.15*	0.15	0.15																
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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>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Impedance</td> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>8</td> <td>8</td> </tr> <tr> <td>Ratio</td> <td>Z(-40°C)/Z(+20°C)</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>6</td> <td>5</td> <td>4</td> <td>8</td> <td>10</td> <td>16</td> <td>18</td> <td>20</td> </tr> </tbody> </table>	Rated Voltage		16	25	35	50	63	100	160	200	250	350	400	450	Impedance	Z(-25°C)/Z(+20°C)	4	3	3	2	2	2	4	4	4	4	8	8	Ratio	Z(-40°C)/Z(+20°C)	15	10	8	6	6	5	4	8	10	16	18	20
Rated Voltage		16	25	35	50	63	100	160	200	250	350	400	450																														
Impedance	Z(-25°C)/Z(+20°C)	4	3	3	2	2	2	4	4	4	4	8	8																														
Ratio	Z(-40°C)/Z(+20°C)	15	10	8	6	6	5	4	8	10	16	18	20																														
Load Life Test	<table border="1"> <tbody> <tr> <td>Test Time</td> <td>2000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Dissipation Factor</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 for 2000 hrs at 105°C.</p>	Test Time	2000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 200% of specified value	Leakage Current	Within specified value																																		
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Shelf Life Test	<table border="1"> <tbody> <tr> <td>Test Time</td> <td>1000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Dissipation Factor</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 1000 hrs at 105°C without voltage applied.</p>	Test Time	1000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	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>W. V.(V) \ Freq.(Hz)</th> <th>60</th> <th>120</th> <th>500</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Under 100</td> <td>0.92</td> <td>1.00</td> <td>1.13</td> <td>1.19</td> <td>1.20</td> </tr> <tr> <td>160 ~ 250</td> <td>0.81</td> <td>1.00</td> <td>1.32</td> <td>1.45</td> <td>1.50</td> </tr> <tr> <td>350 to up</td> <td>0.77</td> <td>1.00</td> <td>1.30</td> <td>1.41</td> <td>1.43</td> </tr> </tbody> </table>	W. V.(V) \ Freq.(Hz)	60	120	500	1K	10K up	Under 100	0.92	1.00	1.13	1.19	1.20	160 ~ 250	0.81	1.00	1.32	1.45	1.50	350 to up	0.77	1.00	1.30	1.41	1.43																		
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350 to up	0.77	1.00	1.30	1.41	1.43																																						
Other Standards	JIS C 5101-4																																										

Large Type

■ Type I

Snap-in terminal type (diagram of dimensions)

Unit: mm



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

Ripple Current: A/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

μF	V.DC ϕD	16V (1C)				25V (1E)				35V (1V)			
		22	25	30	35	22	25	30	35	22	25	30	35
4700	472					22×25 1.50					25×25 1.80		
5600	562					22×25 1.72				22×35 1.95	25×30 1.96	30×25 1.99	
6800	682	22×25 1.57				22×30 1.86	25×25 1.87			22×40 2.20	25×35 2.23		
8200	822	22×25 1.94				22×35 2.11	25×30 2.12	30×25 2.15		22×50 2.55	25×40 2.53	30×30 2.75	35×25 2.75
10000	103	22×30 1.97	25×30 2.12			22×40 2.39	25×35 2.42			25×45 2.87	30×35 2.90		
12000	123	22×35 2.22	25×30 2.24	30×25 2.45		22×45 2.69	25×40 2.74	30×30 2.70	35×25 2.74	25×50 3.24	30×40 3.23	35×30 2.99	
15000	153	22×40 2.55	25×35 2.58				25×45 3.15	30×35 3.13	35×30 3.27			30×45 3.72	35×35 3.67
18000	183	22×45 2.87	25×40 2.92	30×30 2.88	35×25 2.92		25×50 3.54	30×40 3.54					35×40 4.37
22000	223		25×45 3.32	30×35 2.29				30×45 4.04	35×35 3.64				35×50 4.92

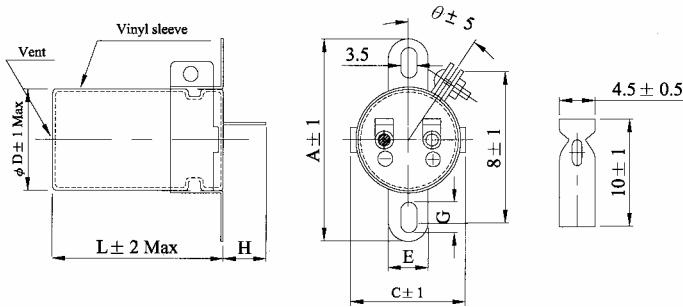
μF	V.DC ϕD	50V (1H)				63V (1J)				100V (2A)			
		22	25	30	35	22	25	30	35	22	25	30	35
1200	122					22×25 1.19				22×40 1.69	25×35 1.71	30×25 1.68	
1500	152									22×45 1.94	25×40 1.98	30×30 1.95	35×25 1.98
1800	182	22×25 1.33				22×30 1.51	25×25 1.52				25×45 2.23	30×35 2.50	
2200	222	22×25 1.48				22×35 1.73	25×30 1.74				25×50 2.53	30×40 2.70	35×30 2.50
2700	272	22×30 1.69	25×25 1.70			22×40 1.97	25×35 1.99	30×25 1.76				30×45 2.88	35×35 2.86
3300	332	22×35 1.93	25×35 1.85			22×50 2.29	25×40 2.27	30×30 2.24	35×25 2.06			30×50 3.28	35×40 3.27
3900	392	22×40 2.16	25×35 2.18	30×25 1.95			25×45 2.54	30×35 2.55					35×45 3.67
4700	472	22×45 2.43		30×30 2.25	35×25 2.48		25×50 2.86	30×40 2.86	35×30 2.79				35×50 3.67
5600	562	22×50 2.75	25×40 2.70	30×35 2.76				30×45 3.22	35×35 3.19	Case size $\phi \times L$ (mm) \longrightarrow			35×50 3.80
6800	682		25×50 3.30	30×40 3.30	35×30 3.25			30×50 3.65	35×40 3.64	Ripple current A/rms \longrightarrow			
8200	822			30×45 3.60	35×35 3.55				35×45 3.90				
10000	103			30×50 4.04	35×40 4.03				35×50 4.40				
12000	123				35×45 4.55								

Large Type

■ Type II

Lug terminal type (diagram of dimensions)

Unit: mm



MECHANICAL SPECIFICATIONS

ϕD	A	B	C	E	G	H	θ
22	43	35	30	10	5.5	12	45
25	48	38	33	10	6.0	12	45
30	52	42	38	10	6.0	12	45
35	48	48	44	10	7.0	12	30

Dimension: $\phi D \times L(\text{mm})$

Ripple Current: A/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

μF	V.DC ϕD	160V (2C)				200V (2D)				250V (2E)			
		22	25	30	35	22	25	30	35	22	25	30	35
180	181					22×25 0.80				22×30 0.85	25×25 0.85		
220	221					22×25 0.89				22×35 0.90	25×30 1.0	30×25 1.00	
270	271	22×25 0.86				22×30 1.0				22×40 1.14			
						22×25 0.87	25×25 1.00			22×35 1.00			
330	331	22×30 1.20				22×35 1.20	25×30 1.21			22×45 1.26	25×35 1.20	30×30 1.13	
		22×25 1.10				22×30 1.13	25×25 1.13			22×40 1.10	25×30 1.13		
390	391	22×35 1.30				22×40 1.31				22×50 1.49	25×40 1.49		
		22×30 1.22	25×25 1.15			22×35 1.25		30×25 1.20		22×45 1.25	25×35 1.27		
470	471	22×40 1.40	25×30 1.41			22×45 1.40	25×35 1.41	30×25 1.50		22×50 1.57	25×45 1.57	30×35 1.57	35×30 1.30
		22×35 1.35	25×25 1.33			22×40 1.32	25×30 1.32				25×40 1.38	30×30 1.37	
560	561	22×40 1.50	25×35 1.51			22×50 1.56	25×40 1.53	30×30 1.52			25×45 1.79	30×40 1.79	35×30 1.79
			25×30 1.45	30×25 1.40		22×45 1.53	25×35 1.50					30×35 1.58	
680	681	22×50 1.71	25×40 1.70	30×30 1.72		22×50 1.74	25×45 1.74	30×35 1.73	35×30 1.73		25×50 1.84	30×40 2.00	
		22×45 1.65	25×35 1.65	30×25 1.65			25×40 1.70		35×25 1.72				35×35 1.58
820	821	22×50 1.93	25×45 2.01	30×35 2.00	35×30 2.00		25×50 2.04	30×40 1.93	35×35 1.93			30×50 2.16	35×40 1.81
			25×40 1.85	30×30 1.76	35×25 1.91							30×45 1.85	
1000	102		25×45 2.20	30×40 2.22	35×35 2.20			30×50 2.30	35×40 2.30				35×45 2.00
				30×35 2.02	35×30 2.44			30×45 2.20	35×35 2.20				
1200	122		25×50 2.45	30×45 2.44	35×35 2.50			30×50 2.60	35×40 2.65				35×45 3.41
				30×40 2.35									
1500	152			30×45 2.82	35×40 2.70					35×50 2.80			
1800	182			30×50 3.31	35×50 3.10					35×50 3.47			



Large Type

Dimension: $\phi D \times L(\text{mm})$

Ripple Current: A/rms at 120 Hz, 105°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC μF ϕD		350V (2V)				400V (2G)				450V (2W)			
		22	25	30	35	22	25	30	35	22	25	30	35
56	560									22×25 0.40			
68	680	22×25 0.51				22×30 0.51				22×30 0.50	25×25 0.50		
						22×25 0.50							
82	820	22×25 0.56				22×30 0.58	25×25 0.64			22×35 0.56			
100	101	22×30 0.69	25×25 0.69			22×35 0.61	25×30 0.64			22×40 0.64	25×30 0.57	30×25 0.64	
120	121	22×35 0.75				22×40 0.72	25×35 0.72	30×25 0.76		22×45 0.72	25×35 0.71		
						22×35 0.67	25×30 0.69						
150	151	22×40 0.82	25×30 0.83	30×25 0.83		22×50 0.82	25×40 0.84	30×30 0.76	35×30 0.76	22×50 0.79	25×40 0.75	30×30 0.74	35×25 0.75
						22×40 0.77	25×35 0.78						
180	181	22×45 0.92	25×35 0.92	30×30 0.92		22×50 0.95	25×45 0.94	30×35 0.92	35×30 0.94		25×45 0.84	30×35 0.87	
							25×40 0.83	30×30 0.82	35×25 0.90				
220	221	22×50 1.05	25×40 1.04	30×30 1.02	35×25 1.04		25×50 1.07	30×40 1.06	35×30 1.08		25×50 0.98	30×40 0.98	35×30 1.00
							25×45 0.93	30×35 0.91					
270	271		25×50 1.18	30×35 1.17	35×30 1.20		25×50 1.21	30×45 1.21	35×35 1.12			30×45 1.15	35×35 1.17
			25×45 1.00					30×40 1.10					
330	331			30×45 1.34				30×45 1.39	35×40 1.25			30×50 1.38	35×45 1.70
				30×40 1.15	35×35 1.15								
390	391			30×50 1.51	35×40 1.47			30×50 1.55	35×45 1.55	Case size $\phi \times L(\text{mm})$ \longrightarrow 35×50 Ripple current A/rms \longrightarrow 1.94			
				30×45 1.25	35×35 1.25								
470	471				35×45 1.69				35×50 1.72				35×50 2.13
					35×40 1.34								
560	561				35×50 1.90								
					35×45 1.51								

※ Special design is available upon request.

Part Numbering System

