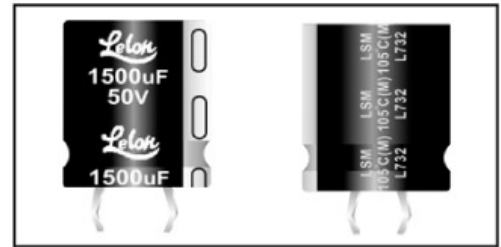


### Feature

- 105°C, 3,000 hours assured
- 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
- RoHS Compliance

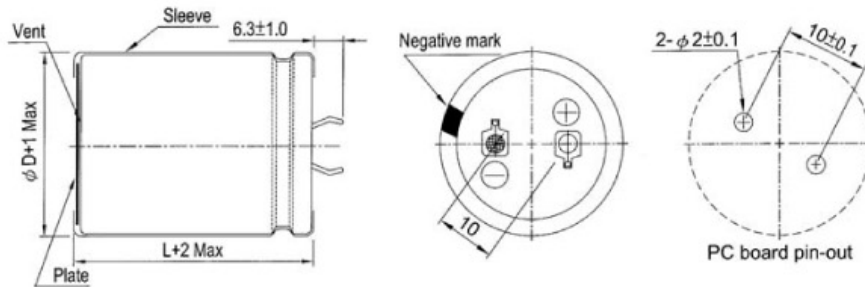


### SPECIFICATIONS

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 µF 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>80</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>420</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.50</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</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> <td>0.15</td> </tr> </tbody> </table> <p>*: 0.15 for φ D = 35 mm</p>	Rated Voltage	16	25	35	50	63	80	100	160	200	250	350	400	420	450	Tan δ (max)	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.10*	0.10*	0.10*	0.15	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>80</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>420</th> <th>450</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio</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>2</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>8</td> <td>8</td> <td>8</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>15</td> <td>10</td> <td>8</td> <td>6</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>18</td> <td>20</td> </tr> </tbody> </table>	Rated Voltage		16	25	35	50	63	80	100	160	200	250	350	400	420	450	Impedance Ratio	Z(-25°C)/Z(+20°C)	4	3	3	2	2	2	2	4	4	4	4	8	8	8	Z(-40°C)/Z(+20°C)	15	10	8	6	6	6	5	4	8	10	16	18	18	20
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	Z(-40°C)/Z(+20°C)	15	10	8	6	6	6	5	4	8	10	16	18	18	20																																	
Load Life Test	<table border="1"> <thead> <tr> <th>Test Time</th> <th>3,000 hrs</th> </tr> </thead> <tbody> <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 with rated ripple current for 3,000 hrs at 105°C.</p>	Test Time	3,000 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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Ripple Current & Frequency Multipliers	<table border="1"> <thead> <tr> <th>Freq.(Hz)</th> <th>50/60</th> <th>120</th> <th>300</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Multiplier</td> <td>0.8</td> <td>1.0</td> <td>1.1</td> <td>1.3</td> <td>1.4</td> </tr> </tbody> </table>	Freq.(Hz)	50/60	120	300	1K	10K up	Multiplier	0.8	1.0	1.1	1.3	1.4																																			
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## DIAGRAM OF DIMENSIONS

Unit: mm



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

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

## DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC μF	16V (1C)								25V (1E)							
	22 φ		25 φ		30 φ		35 φ		22 φ		25 φ		30 φ		35 φ	
3,300									22×25	1.25						
4,700	22×25	1.30							22×30	1.61	25×25	1.61				
6,800	22×35	1.80	25×30	1.80					22×35	1.91	25×30	1.91	30×25	1.91		
10,000	22×45	2.34	25×35	2.25	30×25	2.19			22×45	2.51	25×40	2.42	30×30	2.42	35×25	2.42
15,000			25×45	2.83	30×35	2.82	35×30	2.82			25×45	3.12	30×35	3.11	35×30	3.11
22,000					30×45	2.54	35×35	2.50					30×45	3.85	35×40	3.85

V.DC μF	35V (1V)								50V (1H)							
	22 φ		25 φ		30 φ		35 φ		22 φ		25 φ		30 φ		35 φ	
1,500									22×25	1.22						
2,200	22×25	1.14	25×25	1.51					22×30	1.59	25×25	1.59				
3,300	22×30	1.51	25×30	1.92					22×35	1.93	25×30	1.88	30×25	1.88		
4,700	22×35	1.92	25×40	2.31	30×25	1.92			22×45	2.43	25×35	2.34	30×30	2.42	35×25	2.42
6,800	22×45	2.31	25×45	2.87	30×30	2.33	35×25	2.33			25×45	3.10	30×35	3.10	35×30	3.10
10,000					30×35	2.87	35×30	2.87					30×45	4.18	35×40	4.20
15,000					30×45	3.66	35×40	3.66								
22,000							35×45	4.53								

V.DC μF	63V (1C)								80V (1K)							
	22 φ		25 φ		30 φ		35 φ		22 φ		25 φ		30 φ		35 φ	
1,000	22×25	1.09							22×30	1.17	25×25	1.17				
1,500	22×30	1.44	25×25	1.44					22×35	1.54	25×30	1.54	30×25	1.54		
2,200	22×35	1.70	25×30	1.71	30×25	1.78					25×35	1.94	30×30	1.91	35×25	1.91
3,300	22×45	2.19	25×40	2.24	30×30	2.03	35×25	2.03					30×40	2.23	35×30	2.18
4,700					30×35	2.66	35×30	2.66							35×40	3.08
6,800					30×45	3.49	35×40	2.49								
8,200							35×45	3.87								

V.DC μF	100V (2A)								160V (2C)							
	22 φ		25 φ		30 φ		35 φ		22 φ		25 φ		30 φ		35 φ	
330									22×25	0.98						
390									22×30	1.10	25×25	1.09				
470									22×30	1.21	25×25	1.19				
560									22×35	1.40	25×30	1.40	30×25	1.40		
680									22×40	1.62	25×35	1.61	30×25	1.54		
820									22×45	1.86	25×40	1.86	30×30	1.79	35×25	1.79
1,000	22×30	1.36	25×25	1.36							25×45	2.15	30×35	2.09	35×25	1.98
1,200													30×35	2.29	35×30	2.29
1,500	22×40	1.82	25×35	1.82	30×25	1.80							30×35	2.29	35×35	2.72
1,800													30×45	2.77	35×40	3.09
2,200			25×45	2.41	30×35	2.48	35×30	1.48								
3,300					30×45	3.11	35×35	3.07								
4,700							35×40	3.47								

## DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension:  $\phi D \times L(\text{mm})$   
Ripple Current: A/rms at 120 Hz, 105°C

V.DC $\mu\text{F}$ $\phi D$	200V (2D)								250V (2E)							
	22 $\phi$		25 $\phi$		30 $\phi$		35 $\phi$		22 $\phi$		25 $\phi$		30 $\phi$		35 $\phi$	
220	22×25	0.92							22×30	1.00	25×25	0.98				
270	22×25	1.03							22×35	1.16	25×25	1.08				
330	22×30	1.21	25×25	1.20					22×40	1.28	25×30	1.27	30×25	1.28		
390	22×35	1.39	25×25	1.31					22×45	1.48	25×35	1.46	30×25	1.39		
470	22×40	1.62	25×30	1.52	30×25	1.54					25×40	1.69	30×30	1.63	35×25	1.62
560	22×45	1.85	25×35	1.75	30×30	1.78					25×45	1.93	30×35	1.87	35×25	1.78
680	22×45	2.04	25×40	2.04	30×30	1.96	35×25	1.96					30×35	2.06	35×30	2.06
820			25×45	2.34	30×35	2.27	35×30	2.27					30×45	2.48	35×35	2.41
1,000					30×40	2.63	35×30	2.51							35×40	2.76
1,200					30×45	3.00	35×35	2.92							35×45	3.14
1,500							35×45	3.38								

V.DC $\mu\text{F}$ $\phi D$	350V (2V)								400V (2G)							
	22 $\phi$		25 $\phi$		30 $\phi$		35 $\phi$		22 $\phi$		25 $\phi$		30 $\phi$		35 $\phi$	
68									22×25	0.52						
82	22×25	0.47							22×30	0.60	25×25	0.60				
100	22×30	0.56	25×25	0.55					22×30	0.67	25×25	0.66				
120	22×35	0.72	25×25	0.60					22×35	0.78	25×30	0.77	30×25	0.78		
150	22×40	0.83	25×30	0.72	30×25	0.72			22×40	0.91	25×35	0.91	30×30	0.92		
180			25×35	0.83	30×30	0.84			22×45	1.04	25×40	1.04	30×30	1.01	35×25	1.01
220			25×40	0.96	30×35	1.09	35×25	0.93			25×45	1.21	30×35	1.18	35×30	1.18
270			25×45	1.12	30×40	1.26	35×30	1.09			25×50	1.40	30×40	1.37	35×30	1.31
330					30×45	1.43	35×30	1.20					30×45	1.57	35×35	1.52
390							35×35	1.38							35×40	1.73
470							35×40	1.58							35×45	1.97
560							35×45	1.79								

V.DC $\mu\text{F}$ $\phi D$	420V (2P)								450V (2W)							
	22 $\phi$		25 $\phi$		30 $\phi$		35 $\phi$		22 $\phi$		25 $\phi$		30 $\phi$		35 $\phi$	
47	22×25	0.38							22×25	0.42						
68	22×30	0.50							22×30	0.55	25×25	0.54				
82	22×30	0.54	25×25	0.54					22×35	0.64	25×30	0.64				
100	22×35	0.63	25×30	0.63					22×40	0.74	25×35	0.74	30×25	0.71		
120	22×40	0.73	25×30	0.70	30×25	0.70			22×45	0.85	25×35	0.80	30×30	0.82	35×25	0.82
150	22×45	0.86	25×35	0.82	30×30	0.83					25×45	1.00	30×35	0.96	35×30	0.96
180			25×40	0.94	30×30	0.91	35×25	0.90			25×50	1.14	30×35	1.06	35×30	1.06
220					30×35	1.05	35×30	1.05					30×40	1.22	35×35	1.24
270					30×40	1.22	35×35	1.23							35×35	1.43
330							35×40	1.41							35×35	1.64
390							35×45	1.61								

Ripple current: A/rms  
Case size:  $\phi D \times L(\text{mm})$

### Part number system

LSM series	100 $\mu\text{F}$	$\pm 20\%$	400V	22 $\phi$ × 30L	4.0±0.5mm	
<b>LSM</b>	<b>101</b>	<b>M</b>	<b>2G</b>	<b>-</b>	<b>2230</b>	<b>(A)</b>
Series name	Capacitance	Capacitance tolerance	Rated voltage	Terminal type	Case size	Terminal length
Example:						
Cap.	Symbol		WV	Symbol	$\phi D \times L$	Code
470	471	M=±20%	16	1C	22×30	2230
1,000	102	K=±10%	25	1E	25×25	2525
4,700	472		100	2A	30×40	3040
10,000	103		250	2E	35×50	3550
						Blank: 6.3±1.0 mm