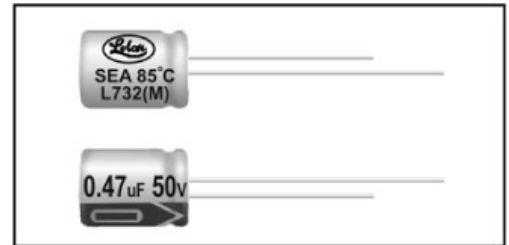


### Feature

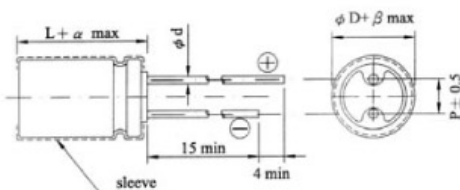
- 85°C, 2,000 hours assured, standard miniature type with 7mm height for compact circuits
- RoHS Compliance



### SPECIFICATIONS

Items	Performance																													
Life	85°C, 2,000 hrs																													
Operating Temperature Range	-40°C ~ +85°C																													
Capacitance Tolerance	±20% (at 120Hz, 20°C)																													
Leakage Current (at 20°C)	I = 0.01CV or 3 (µA) whichever is greater (after 2 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"> <tr> <th>Rated Voltage</th> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <th>Tan δ (max)</th> <td>0.35</td> <td>0.23</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> </tr> </table>	Rated Voltage	4	6.3	10	16	25	35	50	63	Tan δ (max)	0.35	0.23	0.20	0.16	0.14	0.12	0.10	0.10											
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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"> <tr> <th colspan="2">Rated Voltage</th> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <th rowspan="2">Impedance Ratio</th> <th>Z(-25°C)/Z(+20°C)</th> <td>7</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <th>Z(-40°C)/Z(+20°C)</th> <td>14</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table>	Rated Voltage		4	6.3	10	16	25	35	50	63	Impedance Ratio	Z(-25°C)/Z(+20°C)	7	4	3	3	2	2	2	2	Z(-40°C)/Z(+20°C)	14	10	8	6	4	4	4	4
Rated Voltage		4	6.3	10	16	25	35	50	63																					
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Load Life Test	<table border="1"> <tr> <th>Test Time</th> <td>2,000 hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±20% of initial value</td> </tr> <tr> <th>Dissipation Factor</th> <td>Less than 200% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </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 hrs at 85°C.</p>	Test Time	2,000 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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Capacitance Change	Within ±20% of initial value																													
Dissipation Factor	Less than 200% of specified value																													
Leakage Current	Within specified value																													
Shelf Life Test	Test time: 500 hrs; other items are the same as those for the load life test.																													
Ripple Current & Frequency Multipliers	<table border="1"> <tr> <th rowspan="2">Cap.(µF)</th> <th colspan="6">Freq.(Hz)</th> </tr> <tr> <th>60 (50)</th> <th>120</th> <th>500</th> <th>1K</th> <th>10K up</th> <th></th> </tr> <tr> <th>Under 47</th> <td>0.70</td> <td>1.00</td> <td>1.20</td> <td>1.30</td> <td>1.45</td> <td></td> </tr> <tr> <th>100 to 1,000</th> <td>0.80</td> <td>1.00</td> <td>1.10</td> <td>1.15</td> <td>1.20</td> <td></td> </tr> </table>	Cap.(µF)	Freq.(Hz)						60 (50)	120	500	1K	10K up		Under 47	0.70	1.00	1.20	1.30	1.45		100 to 1,000	0.80	1.00	1.10	1.15	1.20			
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### DIAGRAM OF DIMENSIONS



### LEAD SPACING AND DIAMETER Unit: mm

φD	4	5	6.3	8	10
P	1.5	2.0	2.5	3.5	5.0
φd	0.45	0.5			0.6
α	1.0				1.5
β	0.5				

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension: φD × L(mm)  
Ripple Current: mA/rms at 120 Hz, 85°C

µF	V.DC Contents	4V (0G)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)		
		φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	
0.1	0R1													4×7	2	4×7	2	
0.22	R22													4×7	3	4×7	3	
0.33	R33													4×7	4	4×7	4.4	
0.47	R47													4×7	5	4×7	7.9	
1	010													4×7	10	4×7	11	
2.2	2R2													4×7	15	4×7	17	
3.3	3R3													4×7	18	4×7	21	
4.7	4R7												4×7	22	5×7*	23	5×7*	26
10	100							4×7	25	4×7	26	5×7*	30	6.3×7*	34	6.3×7*	40	
22	220			4×7	31	4×7	32	5×7*	39	5×7*	41	6.3×7*	47	6.3×7	53	8×7*	70	
33	330	4×7	32	4×7	32	4×7	35	5×7	43	6.3×7	53	8×7*	71	8×7*	76	8×7	80	
47	470	4×7	38	4×7	38	5×7*	47	6.3×7*	59	6.3×7	65	8×7*	83	8×7	85	8×7	95	
100	101	5×7	61	6.3×7*	75	6.3×7	80	6.3×7	90	8×7	125	8×7	115	8×9	130	10×9	170	
220	221	6.3×7	90	6.3×7	99	8×7	140	8×7	146	8×9	190	10×9	215					
330	331	8×7	129	8×7	156	8×7	165	8×9	185	10×9	265							
470	471	8×7	154	8×7	175	8×9	215	10×9	255									
1,000	102	8×9	200	10×9	205													

Note: Case size in mark of "\*" is available to product down size.