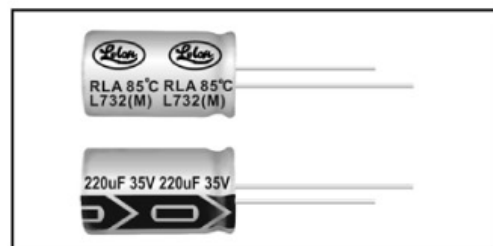


Feature

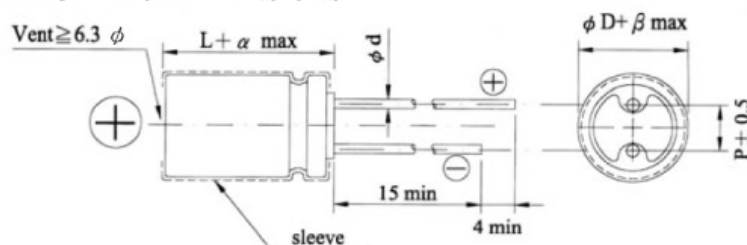
- 85°C, standard low leakage current series
- RoHS Compliance



SPECIFICATIONS

Items	Performance																													
Life	At 85℃, 2,000 hrs																													
Operating Temperature Range	-40℃ ~ +85℃																													
Capacitance Tolerance	±20% (at 120Hz, 20℃)																													
Leakage Current (at 20℃)	I = 0.002CV or 0.4 (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℃)	<table><tr><td>Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Tan δ (max)</td><td>0.24</td><td>0.21</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td></tr></table> When the capacitance exceeds 1,000 μF, 0.02 shall be added every 1,000μF increase.	Rated Voltage	6.3	10	16	25	35	50	63	100	Tan δ (max)	0.24	0.21	0.16	0.14	0.12	0.10	0.09	0.08											
Rated Voltage	6.3	10	16	25	35	50	63	100																						
Tan δ (max)	0.24	0.21	0.16	0.14	0.12	0.10	0.09	0.08																						
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="2">Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td rowspan="2">Impedance Ratio</td><td>Z(-25℃)/Z(+20℃)</td><td>5</td><td>4</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40℃)/Z(+20℃)</td><td>10</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td></tr></table>	Rated Voltage		6.3	10	16	25	35	50	63	100	Impedance Ratio	Z(-25℃)/Z(+20℃)	5	4	2	2	2	2	2	2	Z(-40℃)/Z(+20℃)	10	8	6	4	4	3	3	3
Rated Voltage		6.3	10	16	25	35	50	63	100																					
Impedance Ratio	Z(-25℃)/Z(+20℃)	5	4	2	2	2	2	2	2																					
	Z(-40℃)/Z(+20℃)	10	8	6	4	4	3	3	3																					
Load Life Test	<table><tr><td>Test Time</td><td>2,000 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></table> * The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 2,000 hrs at 85℃.	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																					
Test Time	2,000 hrs																													
Capacitance Change	Within ±20% of initial value																													
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Leakage Current	Within specified value																													
Shelf Life Test	<table><tr><td>Test Time</td><td>1,000 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></table> * The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hrs at 85℃ without voltage applied.	Test Time	1,000 hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 200% of specified value	Leakage Current	Within specified value																					
Test Time	1,000 hrs																													
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Leakage Current	Within specified value																													
Ripple Current & Frequency Multipliers	<table><tr><th>Cap.(μF) \ Freq.(Hz)</th><th>60 (50)</th><th>120</th><th>500</th><th>1K</th><th>10K up</th></tr><tr><td>Under 100</td><td>0.70</td><td>1.00</td><td>1.35</td><td>1.55</td><td>2.00</td></tr><tr><td>100 < C ≤ 1,000</td><td>0.83</td><td>1.00</td><td>1.23</td><td>1.32</td><td>1.50</td></tr><tr><td>1,000 up above</td><td>0.90</td><td>1.00</td><td>1.12</td><td>1.10</td><td>1.15</td></tr></table>	Cap.(μF) \ Freq.(Hz)	60 (50)	120	500	1K	10K up	Under 100	0.70	1.00	1.35	1.55	2.00	100 < C ≤ 1,000	0.83	1.00	1.23	1.32	1.50	1,000 up above	0.90	1.00	1.12	1.10	1.15					
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Under 100	0.70	1.00	1.35	1.55	2.00																									
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1,000 up above	0.90	1.00	1.12	1.10	1.15																									

DIAGRAM OF DIMENSIONS



LEAD SPACING AND DIAMETER Unit: mm

LEAD STRAPS AND DIAMETER								Unit: mm
ϕD	5	6.3	8	10	12.5	16	18	
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	
ϕd	0.5		0.6			0.8		
α	1.0			1.5				
β	0.5							

Dimension: φ D × L(mm)

Ripple Current: mA/rms at 120 Hz, 85°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V. DC		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
μF	Contents	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA
0.1	0R1											5×11	1.3			5×11	2.6
0.22	R22											5×11	2.9			5×11	5.8
0.33	R33											5×11	4.4			5×11	8.8
0.47	R47											5×11	7			5×11	12
1	010											5×11	13			5×11	22
2.2	2R2											5×11	29			5×11	33
3.3	3R3											5×11	35			5×11	40
4.7	4R7							5×11	31	5×11	40	5×11	42	5×11	45	5×11	48
10	100					5×11	44	5×11	54	5×11	58	5×11	65	5×11	70	6.3×11	80
22	220			5×11	59	5×11	75	5×11	80	5×11	87	5×11	95	6.3×11	115	8×11.5	135
33	330	5×11	55	5×11	84	5×11	90	5×11	97	5×11	105	6.3×11	125	6.3×11	140	10×12.5	195
47	470	5×11	79	5×11	100	5×11	110	5×11	115	6.3×11	145	6.3×11	150	8×11.5	190	10×16	255
100	101	5×11	130	5×11	145	6.3×11	180	6.3×11	190	8×11.5	240	8×11.5	255	10×12.5	320	12.5×20	450
220	221	6.3×11	230	6.3×11	250	8×11.5	300	8×11.5	320	10×12.5	420	10×16	490	10×20	565	16×25	810
330	331	6.3×11	280	8×11.5	350	8×11.5	370	10×12.5	470	10×16	570	10×20	650	12.5×20	765	16×25	990
470	471	8×11.5	380	8×11.5	415	10×12.5	520	10×16	620	10×20	740	12.5×20	860	12.5×25	990	16×31.5	1,250
1,000	102	10×12.5	650	10×16	790	10×20	910	12.5×20	1,090	12.5×25	1,300	16×25	1,530	16×31.5	1,700		
2,200	222	12.5×20	1,150	12.5×20	1,240	12.5×25	1,420	16×25	1,660	16×31.5	1,890	18×35.5	2,160				
3,300	332	12.5×20	1,380	12.5×25	1,590	16×25	1,840	16×31.5	2,070	18×35.5	2,340						
4,700	472	16×25	1,880	16×25	1,980	16×31.5	2,260	18×35.5	2,520	18×40	2,690						