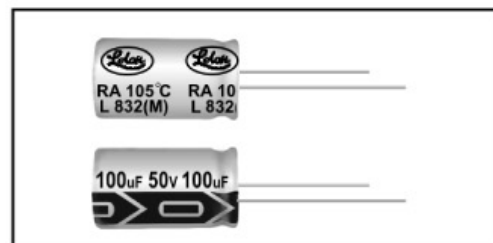


Feature

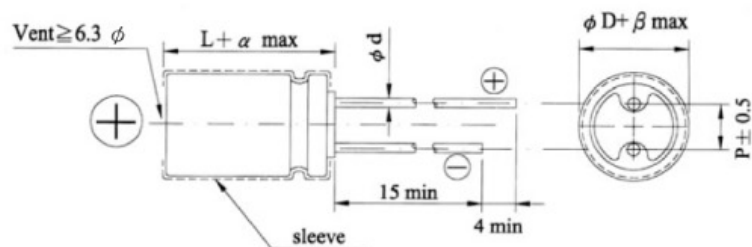
- 105°C, 1,000 hours assured
- Very low leakage current
- Use in high temperature industrial equipment
- RoHS Compliance



SPECIFICATIONS

Items	Performance																													
Operating Temperature Range	-40℃ ~ +105℃																													
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 1,000 μF 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>4</td><td>3</td><td>3</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>8</td><td>6</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℃)	4	3	3	2	2	2	2	2	Z(-40℃)/Z(+20℃)	8	6	6	4	4	3	3	3
Rated Voltage		6.3	10	16	25	35	50	63	100																					
Impedance Ratio	Z(-25℃)/Z(+20℃)	4	3	3	2	2	2	2	2																					
	Z(-40℃)/Z(+20℃)	8	6	6	4	4	3	3	3																					
Load 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 the rated voltage applied with rated ripple current for 1,000 hrs at 105℃.	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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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 105℃ 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																					
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Ripple Current & Frequency Multipliers	<table><tr><td>Freq.(Hz)</td><td>60(50)</td><td>120</td><td>500</td><td>1K</td><td>10K up</td></tr><tr><td>Under 100</td><td>0.75</td><td>1.00</td><td>1.35</td><td>1.55</td><td>1.90</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>1.45</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>1.12</td></tr></table>	Freq.(Hz)	60(50)	120	500	1K	10K up	Under 100	0.75	1.00	1.35	1.55	1.90	100 < C ≤ 1,000	0.83	1.00	1.23	1.32	1.45	1,000 up above	0.90	1.00	1.12	1.10	1.12					
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Under 100	0.75	1.00	1.35	1.55	1.90																									
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1,000 up above	0.90	1.00	1.12	1.10	1.12																									

DIAGRAM OF DIMENSIONS



Unit: mm

LEAD SPACING AND DIAMETER

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

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

DIMENSION & PERMISSIBLE RIPPLE CURRENT

μF	V. DC Contents	6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
		$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	mA	$\phi D \times L$	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
0.47	R47											5×11	7			5×11	10
1	010											5×11	13			5×11	15
2.2	2R2											5×11	20			5×11	23
3.3	3R3											5×11	25			5×11	29
4.7	4R7							5×11	26	5×11	28	5×11	30	5×11	32	5×11	34
10	100					5×11	35	5×11	38	5×11	41	5×11	46	5×11	50	6.3×11	56
22	220			5×11	49	5×11	54	5×11	57	5×11	61	5×11	68	6.3×11	82	8×11.5	96
33	330	5×11	54	5×11	60	5×11	64	5×11	69	5×11	75	6.3×11	90	6.3×11	100	10×12.5	140
47	470	5×11	65	5×11	70	5×11	99	5×11	82	6.3×11	100	6.3×11	110	8×11.5	135	10×16	180
100	101	5×11	95	5×11	105	6.3×11	125	6.3×11	135	8×11.5	170	8×11.5	180	10×12.5	225	12.5×20	320
220	221	6.3×11	160	6.3×11	175	8×11.5	215	8×11.5	230	10×12.5	300	10×16	345	10×20	400	16×25	570
330	331	6.3×11	195	8×11.5	245	8×11.5	260	10×12.5	335	10×16	400	10×20	460	12.5×20	540	16×25	700
470	471	8×11.5	270	8×11.5	290	10×12.5	370	10×16	440	10×20	520	12.5×20	610	12.5×25	700	16×31.5	880
1,000	102	10×12.5	460	10×16	550	10×20	640	12.5×20	770	12.5×25	920	16×25	1,080	16×31.5	1,210		
2,200	222	12.5×20	810	12.5×20	860	12.5×25	1,000	16×25	1,170	16×31.5	1,340	18×35.5	1,530				
3,300	332	12.5×20	960	12.5×25	1,100	16×25	1,300	16×31.5	1,460	18×35.5	1,650						
4,700	472	16×25	1,330	16×25	1,400	16×31.5	1,600	18×35.5	1,780	18×40	1,900						