

**ZLJ SERIES**
**UPGRADE**
**105°C High Ripple Current, Long Life, Low Impedance**

\*Load Life : 105°C 6000~10000 hours.

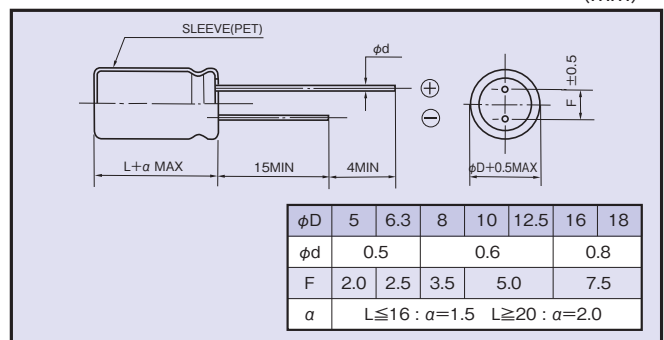
RoHS compliance


**◆ SPECIFICATIONS**

Items	Characteristics																																								
Category Temperature Range	-40~+105°C																																								
Rated Voltage Range	6.3~100Vdc																																								
Capacitance Tolerance	±20% (20°C, 120Hz)																																								
Leakage Current(MAX)	I=0.01CV or 3µA whichever is greater.(After 2 minutes) I=Leakage Current(µA)      C=Capacitance(µF)      V=Rated Voltage(Vdc)																																								
Dissipation Factor(MAX) (tanδ)	<table border="1"> <tr> <td>Rated Voltage (Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> <td>(20°C, 120Hz)</td> </tr> <tr> <td>tanδ</td> <td>0.22</td> <td>0.19</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> <td>0.08</td> <td></td> </tr> </table> <p>When capacitance is over 1000µF, tanδ shall be added 0.02 to the listed value with increase of every 1000µF.</p>	Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	80	100	(20°C, 120Hz)	tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08																			
Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	80	100	(20°C, 120Hz)																															
tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08																																
Endurance	<p>After applying rated voltage with rated ripple current for specified time at 105°C, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td rowspan="2">Capacitance Change</td> <td rowspan="2">Within ±25% of the initial value. (6.3Vdc, 10Vdc:±30%)</td> <td colspan="3">Life Time(hrs)</td> </tr> <tr> <td>6.3Vdc</td> <td>10~50Vdc</td> <td>63~100Vdc</td> </tr> <tr> <td rowspan="2">Dissipation Factor</td> <td rowspan="2">Not more than 200% of the specified value.</td> <td>φD≤6.3</td> <td>6000</td> <td>7000</td> <td>6000</td> </tr> <tr> <td>8×11.5</td> <td>8000</td> <td>9000</td> <td>8000</td> </tr> <tr> <td rowspan="2">Leakage Current</td> <td rowspan="2">Not more than the specified value.</td> <td>10×12.5</td> <td>9000</td> <td>9000</td> <td>9000</td> </tr> <tr> <td>8×16,8×20</td> <td>9000</td> <td>10000</td> <td>9000</td> </tr> <tr> <td></td> <td></td> <td>10×16,10×20,10×25</td> <td colspan="3">10000</td> </tr> <tr> <td></td> <td></td> <td>φD≥12.5</td> <td colspan="3"></td> </tr> </table>	Capacitance Change	Within ±25% of the initial value. (6.3Vdc, 10Vdc:±30%)	Life Time(hrs)			6.3Vdc	10~50Vdc	63~100Vdc	Dissipation Factor	Not more than 200% of the specified value.	φD≤6.3	6000	7000	6000	8×11.5	8000	9000	8000	Leakage Current	Not more than the specified value.	10×12.5	9000	9000	9000	8×16,8×20	9000	10000	9000			10×16,10×20,10×25	10000					φD≥12.5			
Capacitance Change	Within ±25% of the initial value. (6.3Vdc, 10Vdc:±30%)			Life Time(hrs)																																					
		6.3Vdc	10~50Vdc	63~100Vdc																																					
Dissipation Factor	Not more than 200% of the specified value.	φD≤6.3	6000	7000	6000																																				
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		8×16,8×20	9000	10000	9000																																				
		10×16,10×20,10×25	10000																																						
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated Voltage (Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td></td> </tr> </table>	Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	80	100	(120Hz)	Z(-25°C)/Z(20°C)	2	2	2	2	2	2	2	2	2		Z(-40°C)/Z(20°C)	3	3	3	3	3	3	3	3	3								
Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	80	100	(120Hz)																															
Z(-25°C)/Z(20°C)	2	2	2	2	2	2	2	2	2																																
Z(-40°C)/Z(20°C)	3	3	3	3	3	3	3	3	3																																

**◆ MULTIPLIER FOR RIPPLE CURRENT**

Frequency (Hz)		120	1k	10k	100k≤
Coefficient	8.2~33µF	0.42	0.70	0.90	1.00
	47~270µF	0.50	0.73	0.92	1.00
	330~680µF	0.55	0.77	0.94	1.00
	820~1800µF	0.60	0.80	0.96	1.00
	2200~8200µF	0.70	0.85	0.98	1.00

**◆ DIMENSIONS**

**◆ OPTION**

	Code
PET Sleeve	Blank

**◆ PART NUMBER**

□□□	ZLJ	□□□□□	M	□□□	□□	D×L
Rated Voltage	Series	Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

**◆STANDARD SIZE**

Rated Voltage (Vdc)	Capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance (Ω MAX)		Rated Voltage (Vdc)	Capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance (Ω MAX)	
				20°C, 100kHz	-10°C, 100kHz					20°C, 100kHz	-10°C, 100kHz
6.3	220	5×11	345	0.4	1.2	35	47	5×11	450	0.4	1.2
	470	6.3×11	540	0.17	0.51		100	6.3×11	700	0.17	0.51
	820	8×11.5	945	0.075	0.23		180	8×11.5	1200	0.075	0.23
	1000	8×16	1250	0.059	0.18		220	8×16	1600	0.059	0.18
	1200	10×12.5	1330	0.053	0.16		270	8×16	1600	0.059	0.18
	1500	8×20	1500	0.041	0.13		270	10×12.5	1700	0.053	0.16
	1800	10×16	1760	0.038	0.12		330	8×20	1960	0.041	0.13
	2700	10×20	1960	0.028	0.084		330	10×12.5	1700	0.053	0.16
	3300	10×25	2250	0.024	0.072		390	8×20	1960	0.041	0.13
	3900	12.5×20	2480	0.025	0.075		390	10×16	2000	0.038	0.12
	4700	12.5×25	2900	0.019	0.057		470	10×16	2000	0.038	0.12
	5600	12.5×30	3450	0.018	0.054		560	10×20	2500	0.028	0.084
	6800	12.5×35	3570	0.016	0.048		680	10×25	2900	0.024	0.072
	6800	16×20	3250	0.021	0.063		820	12.5×20	2600	0.025	0.075
8200	16×25	3630	0.017	0.051	1000	12.5×20	2600	0.025	0.075		
10	150	5×11	450	0.4	1.2	1200	12.5×25	3200	0.019	0.057	
	330	6.3×11	700	0.17	0.51	1500	12.5×30	3660	0.018	0.054	
	560	8×11.5	1200	0.075	0.23	1500	16×20	3330	0.021	0.063	
	680	8×16	1600	0.059	0.18	1800	12.5×35	4120	0.016	0.048	
	820	10×12.5	1700	0.053	0.16	1800	16×25	3810	0.017	0.051	
	1000	8×20	1960	0.041	0.13	27	5×11	310	0.48	1.5	
	1200	10×16	2000	0.038	0.12	56	6.3×11	500	0.22	0.66	
	1800	10×20	2500	0.028	0.084	100	8×11.5	950	0.12	0.36	
	2200	10×25	2900	0.024	0.072	120	8×11.5	1300	0.11	0.33	
	2700	12.5×20	2600	0.025	0.075	120	8×16	1230	0.082	0.25	
	3300	12.5×25	3200	0.019	0.057	150	10×12.5	1280	0.073	0.22	
	4700	12.5×30	3660	0.018	0.054	180	8×16	1700	0.081	0.24	
	4700	16×20	3330	0.021	0.063	180	8×20	1580	0.058	0.18	
	5600	12.5×35	4120	0.016	0.048	220	10×12.5	1700	0.071	0.21	
5600	16×25	3810	0.017	0.051	220	10×16	1650	0.053	0.16		
16	120	5×11	450	0.4	1.2	270	8×20	2100	0.058	0.17	
	270	6.3×11	700	0.17	0.51	330	10×16	2100	0.052	0.16	
	470	8×11.5	1200	0.075	0.23	330	10×20	2060	0.038	0.12	
	560	8×16	1600	0.059	0.18	390	10×25	2420	0.032	0.1	
	680	8×16	1600	0.059	0.18	470	10×20	2500	0.037	0.11	
	680	10×12.5	1700	0.053	0.16	470	12.5×16	2200	0.04	0.12	
	820	8×20	1960	0.041	0.13	470	12.5×20	2300	0.032	0.1	
	1000	8×20	1960	0.041	0.13	560	10×25	2900	0.031	0.093	
	1000	10×16	2000	0.038	0.12	680	12.5×20	2700	0.029	0.087	
	1500	10×20	2500	0.028	0.084	680	12.5×25	2800	0.025	0.08	
	1800	10×25	2900	0.024	0.072	820	12.5×30	3370	0.023	0.074	
	2200	12.5×20	2600	0.025	0.075	820	16×20	3070	0.026	0.084	
	2700	12.5×25	3200	0.019	0.057	1000	12.5×25	3000	0.022	0.066	
	3300	12.5×30	3660	0.018	0.054	1000	12.5×30	3500	0.02	0.06	
	3300	16×20	3330	0.021	0.063	1000	12.5×35	3810	0.021	0.067	
	3900	12.5×35	4120	0.016	0.048	1000	16×25	3510	0.022	0.07	
4700	16×25	3810	0.017	0.051	1200	12.5×35	4000	0.017	0.051		
25	68	5×11	450	0.4	1.2	1200	16×20	3100	0.023	0.069	
	150	6.3×11	700	0.17	0.51	1500	12.5×40	4500	0.019	0.057	
	330	8×11.5	1200	0.075	0.23	1500	16×25	3600	0.018	0.054	
	390	8×16	1600	0.059	0.18	1500	18×20	3200	0.029	0.087	
	470	10×12.5	1700	0.053	0.16	2200	16×31.5	4100	0.018	0.054	
	560	8×20	1960	0.041	0.13	2200	18×25	3700	0.022	0.066	
	680	10×16	2000	0.038	0.12	2700	16×35.5	4400	0.016	0.048	
	1000	10×20	2500	0.028	0.084	2700	16×40	4800	0.014	0.042	
	1200	10×25	2900	0.024	0.072	2700	18×31.5	4200	0.019	0.057	
	1500	12.5×20	2600	0.025	0.075	3300	18×35.5	4600	0.016	0.048	
	1800	12.5×25	3200	0.019	0.057	3900	18×40	5000	0.014	0.042	
	2200	12.5×30	3660	0.018	0.054						
	2200	16×20	3330	0.021	0.063						
	2700	12.5×35	4120	0.016	0.048						
	3300	16×25	3810	0.017	0.051						

※Endurance 12500 hours at 105°C is also available.  
Please consult our sales offices.

**◆STANDARD SIZE**

Rated Voltage (Vdc)	Capacitance (μF)	Size φD×L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance (Ω MAX)		
				20°C, 100kHz	-10°C, 100kHz	
63	18	5×11	240	0.71	3.2	
	47	6.3×11	420	0.28	1.3	
	82	8×11.5	720	0.18	0.79	
	100	8×11.5	1000	0.13	0.39	
	100	8×16	990	0.13	0.58	
	120	8×16	1300	0.095	0.29	
	120	10×12.5	990	0.11	0.44	
	150	8×20	1200	0.096	0.43	
	150	10×12.5	1300	0.08	0.24	
	180	8×20	1600	0.069	0.21	
	180	10×16	1200	0.076	0.31	
	220	10×16	1700	0.058	0.17	
	270	10×20	1570	0.056	0.23	
	270	12.5×16	1570	0.072	0.27	
	330	10×20	2000	0.042	0.13	
	330	10×25	1990	0.046	0.19	
	330	12.5×16	1900	0.045	0.14	
	390	10×25	2400	0.035	0.11	
	390	12.5×20	1990	0.041	0.13	
	470	12.5×20	2400	0.033	0.099	
	470	12.5×25	2460	0.031	0.093	
	560	12.5×30	2760	0.028	0.084	
	560	16×20	2380	0.032	0.096	
	680	12.5×25	2800	0.025	0.075	
	680	12.5×35	3040	0.024	0.072	
	820	12.5×30	3200	0.022	0.066	
	820	16×20	2900	0.025	0.075	
	820	16×25	2890	0.025	0.075	
1000	12.5×35	3500	0.018	0.054		
1000	16×25	3200	0.02	0.06		
1200	12.5×40	3800	0.021	0.063		
1200	18×20	3000	0.032	0.096		
1500	16×31.5	3500	0.02	0.06		
1500	18×25	3200	0.024	0.072		
1800	16×35.5	3800	0.017	0.051		
1800	18×31.5	3700	0.02	0.06		
2200	16×40	4100	0.015	0.045		
2200	18×35.5	3900	0.017	0.051		
2700	18×40	4300	0.015	0.045		
80	12	5×11	220	1.2	5.4	
	27	6.3×11	370	0.46	2.1	
	47	8×11.5	620	0.29	1.3	
	56	8×16	780	0.2	0.9	
	68	10×12.5	780	0.17	0.66	
	82	8×20	1040	0.16	0.66	
	100	10×16	1040	0.11	0.47	
	150	10×20	1430	0.084	0.34	
	150	12.5×16	1430	0.11	0.34	
	180	10×25	1620	0.069	0.28	
	220	12.5×20	1750	0.062	0.18	
	270	12.5×25	2210	0.047	0.14	
	330	12.5×30	2400	0.042	0.13	
	330	16×20	1950	0.048	0.15	
	390	12.5×35	2600	0.036	0.11	
	470	12.5×40	2860	0.032	0.095	
	470	16×25	2430	0.038	0.12	
	470	18×20	2270	0.045	0.14	
	560	16×31.5	2640	0.032	0.095	
	680	16×35.5	2860	0.029	0.086	
	680	18×25	2500	0.036	0.11	
	820	16×40	3510	0.027	0.081	
	820	18×31.5	2860	0.03	0.09	
	1000	18×35.5	3510	0.027	0.081	
	1200	18×40	3860	0.026	0.076	
	100	8.2	5×11	220	1.2	5.4
		18	6.3×11	370	0.46	2.1
		33	8×11.5	620	0.29	1.3
47		8×16	780	0.2	0.9	
56		10×12.5	780	0.17	0.66	
68		8×20	1040	0.16	0.66	
82		10×16	1040	0.11	0.47	
100		10×20	1430	0.084	0.34	
100		12.5×16	1430	0.11	0.34	
120		10×25	1620	0.069	0.28	
150		12.5×20	1750	0.062	0.18	
220		12.5×25	2210	0.047	0.14	
270		12.5×30	2400	0.042	0.13	
270		16×20	1950	0.048	0.15	
330		12.5×35	2600	0.036	0.11	
390		12.5×40	2860	0.032	0.095	
390		16×25	2430	0.038	0.12	
390		18×20	2270	0.045	0.14	
470		16×31.5	2640	0.032	0.095	
470		18×25	2500	0.036	0.11	
560		16×35.5	2860	0.029	0.086	
560		18×31.5	2860	0.03	0.09	
680		16×40	3510	0.027	0.081	
680		18×35.5	3510	0.027	0.081	
820		18×40	3860	0.026	0.076	