

ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

- ULTRA. Low impedance at 100kHz
- Load life:105°C 2000~4000hours
- HIGH QUALITY

SPECIFICATIONS

Item	Performance Characteristics																													
Operating Temperature Range	-55°C~105°C																													
Rated Voltage Range	6.3~100V																													
Capacitance Range	0.22~18000																													
Capacitance Tolerance	±20%, 120Hz, 20°C																													
Leakage Current (MAX)	I=0.01CV or 3 μA whichever is greater.(after 2 minutes) I=Leakage Current(μA), C=Nominal Capacitance(μF), V=Rated Voltage(V)																													
Dissipation Factor (tan δ)	When nominal capacitance is over 1000 μF, tan δ shall be added 0.02 to the listed value with increase of every 1000 μF, <table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>Tan δ</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>(20°C 120Hz)</td> </tr> </tbody> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	MAX	Tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	(20°C 120Hz)									
Rated voltage (V)	6.3	10	16	25	35	50	63	100	MAX																					
Tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	(20°C 120Hz)																					
Low Temperature Stability Impedance Ratio	<table border="1"> <thead> <tr> <th>Rated Voltage(V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td rowspan="2">(120Hz)</td> </tr> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	MAX	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2	(120Hz)	Z(-55°C)/Z(+20°C)	8	6	4	3	3	3	3	3
Rated Voltage(V)	6.3	10	16	25	35	50	63	100	MAX																					
Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2	(120Hz)																					
Z(-55°C)/Z(+20°C)	8	6	4	3	3	3	3	3																						
Load Life	After life test at conditions stated in the table below, the capacitors shall meet the following requirement <table border="1"> <thead> <tr> <th>Leakage Current</th> <th>Capacitance Change</th> <th>Dissipation Factor</th> <th>Case Dia</th> <th>Life Time(hrs)</th> </tr> </thead> <tbody> <tr> <td>Not more than the specified value</td> <td>Within ±25% of initial value.</td> <td>Not more than 200% of the specified value</td> <td>φ D ≤ 8</td> <td>2000</td> </tr> <tr> <td></td> <td></td> <td></td> <td>φ D = 10</td> <td>3000</td> </tr> <tr> <td></td> <td></td> <td></td> <td>φ D ≥ 12.5</td> <td>4000</td> </tr> </tbody> </table>	Leakage Current	Capacitance Change	Dissipation Factor	Case Dia	Life Time(hrs)	Not more than the specified value	Within ±25% of initial value.	Not more than 200% of the specified value	φ D ≤ 8	2000				φ D = 10	3000				φ D ≥ 12.5	4000									
Leakage Current	Capacitance Change	Dissipation Factor	Case Dia	Life Time(hrs)																										
Not more than the specified value	Within ±25% of initial value.	Not more than 200% of the specified value	φ D ≤ 8	2000																										
			φ D = 10	3000																										
			φ D ≥ 12.5	4000																										
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours and applying voltage according to JIS C-5102 4-3, they meet the specified value for load life characteristics listed above.																													
Standard	According to JIS C 5141																													

MULTIPLIER FOR RIPPLE CURRENT

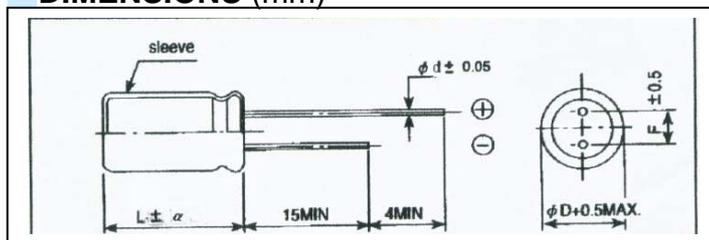
Frequency coefficient

Frequency(Hz) Cap(μF)	60(50)	120	1k	10k	≥ 100k
0.22-33	0.45	0.55	0.75	0.90	1.00
39-330	0.60	0.70	0.85	0.95	1.00
390-1000	0.65	0.75	0.90	0.98	1.00
1200-18000	0.75	0.80	0.95	1.00	1.00

ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

DIMENSIONS (mm)



ϕD	5	6.3	8	10	12.5	16	18
ϕd	0.5		0.6		0.8		
F	2.0	2.5	3.5	5.0		7.5	
α	$L \leq 16: \alpha = 1.5, L \geq 20: \alpha = 2.0$						

STANDARD SIZE PERMISSIBLE RIPPLE CURRENT

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 6.3V (0J)				
Nominal capacitance (uF)	Size $\phi D \times L$ (mm)	Ripple Current	Impedance (Ω MAX)	
			20°C, 100kHz	-10°C, 100kHz
150	5 x 11	200	0.57	1.20
330	6.3 x 11	350	0.21	0.48
470	6.3 x 11	505	0.175	0.385
	8 x 11.5	582	0.150	0.388
680	8 x 11.5	660	0.13	0.29
	10 x 12.5	765	0.105	0.225
820	8 x 16	755	0.108	0.24
1000	8 x 16	850	0.086	0.19
	10 x 12.5	1050	0.070	0.145
1200	8 x 20	1050	0.065	0.14
	10 x 16	1230	0.060	0.13
1500	8 x 20	1225	0.058	0.125
	10 x 20	1400	0.046	0.10
2200	10 x 20	1525	0.044	0.098
	10 x 23	1650	0.042	0.096
2700	10 x 23	1780	0.040	0.088
	16 x 16	1950	0.041	0.087
3300	10 x 30	1917	0.032	0.073
	12.5 x 20	1910	0.035	0.080
3900	12.5 x 25	2230	0.026	0.055
4700	12.5 x 30	2650	0.024	0.052
	16 x 25	2790	0.022	0.050
5600	12.5 x 35	2880	0.020	0.046
	16 x 25	2765	0.020	0.046
6800	16 x 25	2930	0.020	0.048
8200	16 x 31.5	3450	0.017	0.035
10000	16 x 35.5	3610	0.015	0.034
12000	16 x 40	4100	0.012	0.028
15000	18 x 35.5	4220	0.014	0.032
18000	18 x 40	4300	0.011	0.024

ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 10V (1A)				
Nominal capacitance (uF)	Size	Ripple Current	Impedance (Ω MAX)	
	φ D x L (mm)		20°C, 100kHz	-10°C, 100kHz
47	5 x 11	150	0.66	1.98
100	5 x 11	200	0.57	1.20
220	6.3 x 11	350	0.21	0.48
330	6.3 x 11	505	0.17	0.385
390	8 x 11.5	620	0.14	0.314
470	8 x 11.5	660	0.13	0.29
560	8 x 11.5	700	0.12	0.265
680	8 x 11.5	755	0.108	0.24
820	8 x 16	900	0.082	0.18
	10 X 12.5	960	0.075	0.153
1000	8 x 16	950	0.078	0.17
	10 X 12.5	1050	0.070	0.145
1200	8 x 20	1125	0.068	0.15
	10 x 16	1315	0.058	0.12
1500	10 x 20	1530	0.042	0.093
	12.5 X 16	1450	0.049	0.11
2200	10 x 23	1785	0.036	0.083
	12.5 X 20	1910	0.035	0.080
3300	10 x 28	2075	0.028	0.063
	12.5 x 20	2070	0.031	0.068
3900	12.5 x 30	2650	0.024	0.052
	16 x 20	2530	0.027	0.062
4700	12.5 x 30	2765	0.022	0.049
	16 X 25	2730	0.024	0.055
5600	12.5 x 40	3350	0.017	0.039
	16 x 25	2930	0.021	0.048
6800	16 x 31.5	3450	0.017	0.035
	18 x 25	3140	0.019	0.043
8200	16 x 35.5	3610	0.015	0.034
	18 x 31.5	4170	0.015	0.033
10000	16 x 40	4100	0.012	0.028
	18 x 35.5	4220	0.014	0.032
12000	18 x 40	4300	0.011	0.024



ALUMINUM ELECTROLYTIC CAPACITORS

LZP series **ULTRAL LOW IMPEDANCE, HIGH RELIABILITY**

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 16V (1C)				
Nominal capacitance (µF)	Size	Ripple Current	Impedance (Ω MAX)	
	φ D×L(mm)		20°C, 100kHz	-10°C, 100kHz
39	5 ×11	143	1.05	2.42
47	5 ×11	150	0.62	1.25
56	5 ×11	200	0.57	1.20
68	5 ×11	250	0.48	1.02
100	5 ×11	275	0.45	0.93
120	6.3 ×11	350	0.21	0.48
220	6.3 ×11	505	0.17	0.385
330	8 ×11.5	660	0.13	0.29
390	8 ×11.5	700	0.12	0.265
470	8 ×16	850	0.086	0.19
	10 X12.5	870	0.080	0.16
560	8 ×16	850	0.098	0.21
	10 ×12.5	960	0.075	0.16
680	8 ×16	850	0.086	0.19
	10 ×12.5	1050	0.070	0.15
820	10 ×16	1272	0.057	0.123
1000	10 ×16	1315	0.053	0.115
	12.5 X16	1450	0.049	0.11
1200	10 ×20	1655	0.040	0.091
	12.5 X16	1680	0.042	0.095
1500	10 ×23	1785	0.036	0.083
	12.5 X20	1910	0.035	0.080
1800	10 ×23	1855	0.032	0.073
	12.5 X20	1990	0.033	0.074
2200	10 X23	1925	0.040	0.092
	12.5 ×20	2070	0.031	0.068
2700	12.5 ×25	2440	0.025	0.054
	16 ×20	2530	0.027	0.062
3300	16 ×25	2730	0.024	0.055
	12.5 ×30	2765	0.022	0.049
3900	12.5 X30	2823	0.021	0.048
	16 ×25	2930	0.020	0.048
4700	16 ×31.5	3450	0.017	0.035
	18 ×25	3140	0.019	0.043
5600	16 ×35.5	3610	0.015	0.034
	18 ×31.5	4170	0.015	0.033
6800	16 ×40	4100	0.012	0.028
	18 ×35.5	4195	0.015	0.033
8200	18 ×35.5	4220	0.014	0.032
10000	18 ×40	4300	0.011	0.024



ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 25V (1E)				
Nominal capacitance (uF)	Size	Ripple Current	Impedance (Ω MAX)	
	φ DxL(mm)		20°C, 100kHz	-10°C, 100kHz
10	5 x11	148	0.9	1.98
22	5 x11	170	0.74	1.59
47	5 x11	200	0.57	1.20
56	5 x11	217	0.53	1.11
68	5 x11	235	0.48	1.02
100	6.3 x11	350	0.21	0.48
120	6.3 x11	505	0.19	0.385
150	6.3 x11	582	0.18	0.338
180	8 x11.5	620	0.16	0.314
220	8 x11.5	660	0.13	0.29
330	8 x20	950	0.078	0.17
390	8 x20	1000	0.074	0.16
470	8 X20	1050	0.069	0.15
	10 x12.5	1050	0.070	0.145
560	10 x16	1272	0.057	0.123
680	10 x20	1400	0.046	0.10
	12.5 X16	1450	0.049	0.11
820	10 x23	1650	0.042	0.096
	12.5 X16	1700	0.045	0.106
1000	10 x28	1920	0.030	0.070
	12.5 x20	1910	0.035	0.080
1200	12.5 x20	1990	0.033	0.074
1500	12.5 x25	2230	0.026	0.055
	16 X16	2200	0.025	0.057
1800	12.5 x30	2650	0.024	0.052
	16 X20	2530	0.027	0.062
2200	12.5 x30	2765	0.022	0.049
	16 X25	2730	0.034	0.055
2500	12.5 x30	2765	0.022	0.049
2700	12.5 x40	3350	0.017	0.039
	16 x25	2930	0.020	0.048
3300	16 x31.5	3450	0.017	0.035
	18 x25	3140	0.019	0.043
3900	16 x35.5	3610	0.015	0.034
	18 x31.5	4170	0.015	0.033
4700	16 x40	4100	0.012	0.028
	18 x35.5	4220	0.014	0.032
5600	18 x40	4300	0.011	0.024



ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 35V (1V)				
Nominal capacitance (uF)	Size	Ripple Current	Impedance (Ω MAX)	
	φ D×L(mm)		20°C, 100kHz	-10°C, 100kHz
4.7	5 ×11	100	2.0	4.82
10	5 ×11	150	0.86	1.48
22	5 ×11	170	0.65	1.28
33	5 ×11	200	0.57	1.20
47	5 ×11	237	0.48	1.02
56	6.3 ×11	350	0.31	0.48
68	6.3 ×11	505	0.26	0.385
100	6.3 ×11	582	0.21	0.337
120	8 ×11.5	640	0.135	0.302
150	8 ×11.5	660	0.13	0.29
180	8 ×16	755	0.108	0.24
220	8 ×16	850	0.086	0.19
	10 ×12.5	870	0.080	0.16
270	8 ×20	1050	0.069	0.15
	10 X16	1140	0.065	0.14
330	8 ×20	1140	0.065	0.14
	10 ×16	1230	0.060	0.13
390	10 ×20	1315	0.053	0.115
470	10 ×20	1400	0.046	0.10
	12.5 X16	1450	0.049	0.11
560	10 ×23	1650	0.042	0.096
680	10 ×28	1920	0.030	0.070
	12.5 ×20	1910	0.035	0.080
820	12.5 ×20	2110	0.031	0.065
1000	12.5 ×20	1910	0.035	0.080
1200	12.5 ×30	2650	0.024	0.052
	16 ×20	2530	0.027	0.062
1500	12.5 ×35	2880	0.020	0.046
	16 ×25	2730	0.024	0.055
1800	12.5 ×40	3350	0.017	0.039
	16 ×25	2930	0.020	0.048
2200	16 ×31.5	3450	0.017	0.035
	18 ×25	3140	0.019	0.043
2700	16 ×35.5	3610	0.015	0.034
	18 ×31.5	4170	0.015	0.033
3300	16 ×40	4100	0.012	0.028
	18 ×35.5	4220	0.014	0.032
3900	18 ×40	4300	0.011	0.024
4700	18 ×45	4400	0.010	0.022



ALUMINUM ELECTROLYTIC CAPACITORS

LZP

series **ULTRAL LOW IMPEDANCE, HIGH RELIABILITY**

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 50V (1H)				
Nominal capacitance (uF)	Size	Ripple Current	Impedance (Ω MAX)	
	φ D xL(mm)		20°C, 100kHz	-10°C, 100kHz
0.22	5 x11	49	9.4	18.72
0.47	5 x11	60	5.28	12.35
1	5 x11	71	3.78	8.15
2.2	5 x11	85	2.28	5.52
3.3	5 x11	105	1.98	4.82
4.7	5 x11	130	1.68	4.12
6.8	5 x11	136	1.48	3.59
10	5 x11	142	1.28	3.05
22	5 x11	190	0.68	1.52
27	5 x11	218	0.59	1.30
33	5 x11	231	0.54	1.19
33	6.3 x11	245	0.49	1.08
47	6.3 x11	272	0.395	0.855
56	6.3 x11	300	0.30	0.63
68	6.3 x11	430	0.24	0.50
100	8 x11.5	560	0.17	0.39
120	8 x16	730	0.12	0.28
180	8 x20	910	0.090	0.19
150	10 x12.5	760	0.12	0.26
220	10 x16	1050	0.084	0.19
270	10 x20	1220	0.058	0.13
330	10 x23	1440	0.055	0.11
470	10 x28	1700	0.043	0.094
	12.5 x20	1660	0.045	0.099
560	12.5 x25	1960	0.034	0.071
680	12.5 x30	2310	0.030	0.066
820	12.5 x35	2510	0.025	0.057
	16 X20	2210	0.034	0.081
1000	12.5 x40	2920	0.021	0.044
	16 x20	2380	0.030	0.069
	18 x20	2490	0.036	0.086
1200	16 x31.5	3010	0.021	0.048
	18 x25	2740	0.026	0.059
1500	16 x35.5	3150	0.019	0.047
	18 X31.5	3160	0.020	0.048
1800	16 x40	3710	0.016	0.036
	18 x31.5	3640	0.021	0.048
2200	18 x35.5	3680	0.017	0.040
	18 x40	3740	0.015	0.035
2700	18 x40	3800	0.014	0.032
3300	18 x45	4300	0.011	0.025



ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 63V (1J)				
Nominal capacitance (μ F)	Size	Ripple Current	Impedance (Ω MAX)	
	\varnothing D x L (mm)		20°C, 100kHz	-10°C, 100kHz
10	5 x 11	49	3.78	8.15
15	5 x 11	60	2.2	4.83
22	6.3 x 11	90	1.7	3.795
33	6.3 x 11	120	1.2	2.76
47	6.3 x 11	175	0.915	2.135
56	8 x 11.5	230	0.63	1.51
82	8 x 16	300	0.45	1.03
100	8 x 16	330	0.39	0.91
	10 x 12.5	325	0.37	0.805
120	8 x 20	360	0.33	0.79
	10 x 16	360	0.31	0.71
150	10 x 16	385	0.31	0.71
180	10 x 20	470	0.20	0.50
220	10 x 20	500	0.20	0.48
270	10 x 28	670	0.14	0.36
	12.5 x 20	690	0.16	0.38
	16 x 16	800	0.14	0.35
330	12.5 x 20	740	0.14	0.33
390	12.5 x 25	820	0.12	0.27
	18 x 16	920	0.12	0.27
470	12.5 x 25	850	0.11	0.26
	16 x 20	1040	0.091	0.19
560	12.5 x 35	1050	0.083	0.17
	16 x 25	1250	0.073	0.16
680	12.5 x 40	1180	0.071	0.16
	18 x 20	1240	0.080	0.17
820	16 x 31.5	1570	0.054	0.11
	18 x 25	1490	0.057	0.13
1000	16 x 35.5	1790	0.045	0.099
	18 x 31.5	1630	0.047	0.10
1200	16 x 40	2020	0.040	0.088
	18 x 35.5	1790	0.038	0.08
1500	18 x 40	2340	0.036	0.078



ALUMINUM ELECTROLYTIC CAPACITORS

LZP series ULTRAL LOW IMPEDANCE, HIGH RELIABILITY

Ripple Current (mA 105°C, 100kHz) r.m.s

Rated voltage 100V (2A)				
Nominal capacitance (uF)	Size	Ripple Current	Impedance (Ω MAX)	
	φ D×L(mm)		20°C, 100kHz	-10°C, 100kHz
4.7	5 ×11	49	6.7	13.5
6.8	5 ×11	60	2.2	4.83
10	6.3 ×11	90	1.7	3.795
15	6.3 ×11	120	1.2	2.76
22	8 ×11.5	175	0.92	2.13
27	8 ×11.5	230	0.63	1.50
33	8 ×16	275	0.535	1.26
39	8 ×16	320	0.44	1.02
47	8 ×20	340	0.39	0.91
47	10 ×12.5	290	0.43	0.90
56	8 ×20	360	0.33	0.79
68	10 ×16	360	0.31	0.71
82	10 ×20	470	0.20	0.50
100	10 ×23	530	0.20	0.46
	12.5 X20	580	0.195	0.475
120	10 ×28	660	0.14	0.36
	12.5 ×20	690	0.16	0.38
150	12.5 ×25	740	0.14	0.325
	16 ×16	800	0.14	0.35
180	12.5 ×25	790	0.12	0.27
	18 ×16	930	0.12	0.27
220	12.5 ×30	910	0.10	0.24
	16 ×20	1040	0.091	0.19
270	12.5 ×35	1050	0.083	0.17
	16 ×25	1250	0.073	0.16
330	12.5 ×40	1200	0.070	0.16
	18 ×20	1240	0.080	0.17
390	16 ×31.5	1570	0.054	0.11
	18 ×25	1500	0.056	0.12
470	16 ×35.5	1800	0.045	0.099
	18 ×25	1565	0.052	0.11
560	16 ×40	2020	0.040	0.088
	18 ×31.5	1710	0.044	0.092
680	18 X35.5	1790	0.040	0.084
820	18 ×40	2340	0.036	0.07