

# ALUMINUM ELECTROLYTIC CAPACITORS

# LJ

**High temperature and long life Series**



- Features : 105°C 3000 hours , Wide temperature range for LF , Longer life than LG, Snap-in terminal, High ripple current
- Recommended Applications: Smoothing circuit, TV/Monitor, Adapter, SMPS
- Corresponding product to RoHS

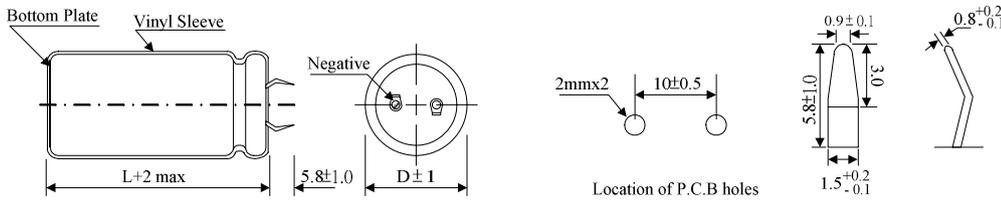
**LJ**

↑ Long Life  
LG

## Specifications

Item	Characteristics	
Operating Temperature Range	-40 ~ +105°C	-25 ~ +105°C
Rated Voltage Range	10 ~ 100VDC	160 ~ 450VDC
Capacitance Range	560 ~ 68000µF	56 ~ 2200µF
Capacitance Tolerance	± 20 % at 120Hz , 20°C	
Leakage Current (MAX) (20°C)	I ≤ 0.02CV or 3mA whichever is smaller (After rated voltage applied for 5 minutes) I = Leakage Current (µA) C = Nominal Capacitance (µF) V = Rated Voltage (V)	
Dissipation Factor (MAX) (tan δ) (120Hz , 20°C)	Dissipation Factor (tan δ) shall not exceed the values showed in the table of standard rating	
Endurance	After applying rated voltage with rated Ripple current for 3000hrs at 105°C , the capacitor shall meet the following requirement.	
	Capacitance Change	Within ±20% of the initial value
	Dissipation Factor	Not more than 200% of the specified value
	Leakage Current	Not more than the specified value
Shelf Life	After placed at 105°C without voltage applied for 1000 hours, the capacitor shall meet the same requirements as Endurance.	

## Diagram of Dimensions



## Multiplier for Ripple Current

Frequency coefficient

Freq. (Hz)	50	60	120	400	1K	2.4K	5K	10K
Coefficient	0.8	0.85	1.0	1.14	1.23	1.3	1.36	1.4

# ALUMINUM ELECTROLYTIC CAPACITORS



**High temperature and long life Series**

**■ Dimensions, Max Dissipation Factor, Max Permissible Ripple Current, Max Equivalent Series Resistance**

Capacitance ( $\mu\text{F}$ )	Rated (Surge) Voltage											
	10(13)						16(20)					
	$\phi$ DxL			tan $\delta$	ESR	$\phi$ DxL			tan $\delta$	ESR		
	Ripple Current					Ripple Current						
6800							22x25 1.80				0.55	0.107
8200							22x30 2.05	25x25 2.05			0.55	0.089
10000	22x25 1.80				0.55	0.073	22x35 2.45	25x30 2.45			0.55	0.073
12000	22x30 2.05	25x25 2.05			0.55	0.061	22x40 2.73	25x30 2.60	30x25 2.68		0.55	0.061
15000	22x35 2.45	25x30 2.45	30x25 2.55		0.55	0.049	22x45 2.99	25x35 2.90	30x30 3.02		0.55	0.049
18000	22x40 2.94	25x30 2.80	30x30 3.11		0.55	0.041	22x50 3.43	25x40 3.33	30x30 3.30	35x25 3.37	0.55	0.041
22000	22x45 3.24	25x35 3.15	30x30 3.28	35x25 3.37	0.55	0.033		25x45 3.70	30x35 3.70	35x30 3.81	0.55	0.033
27000		25x40 3.5	30x35 3.67	35x30 3.78	0.55	0.027			30x40 4.15	35x35 4.27	0.55	0.027
33000		25x45 4.00	30x40 4.20	35x30 4.08	0.55	0.022			30x50 4.65	35x40 4.65	0.55	0.022
39000		25x50 4.45	30x45 4.67	35x35 4.63	0.55	0.019				35x45 5.25	0.55	0.019
47000				35x40 4.90	0.55	0.016				35x50 5.80	0.55	0.016
56000				35x45 5.50	0.55	0.013						
68000				35x50 6.05	0.55	0.011						

Capacitance ( $\mu\text{F}$ )	Rated (Surge) Voltage											
	25(32)						35(44)					
	$\phi$ DxL			tan $\delta$	ESR	$\phi$ DxL			tan $\delta$	ESR		
	Ripple Current					Ripple Current						
2700							22x25 1.45				0.40	0.196
3300							22x30 1.60				0.40	0.161
3900	22x25 1.50				0.45	0.153	22x30 1.80				0.40	0.136
4700	22x30 1.80				0.45	0.127	22x35 2.23	25x25 2.10			0.40	0.113
5600	22x30 1.95	25x25 1.95			0.45	0.107	22x40 2.41	25x30 2.30	30x25 2.37		0.40	0.095
6800	22x35 2.20	25x30 2.20			0.45	0.088	22x45 2.68	25x35 2.60	30x30 2.70		0.40	0.078
8200	22x40 2.47	25x35 2.50	30x25 2.45		0.45	0.073	22x50 3.02	25x40 2.93	30x30 2.90	35x25 2.96	0.40	0.065
10000	22x45 2.75	25x40 2.80	30x30 2.75		0.45	0.060		25x45 3.20	30x35 3.20	35x30 3.30	0.40	0.0531
12000	22x50 3.13	25x45 3.22	30x35 3.19	35x25 3.10	0.45	0.050		25x50 3.64	30x40 3.67	35x30 3.6	0.40	0.044
15000		25x50 3.43	30x40 3.47	35x30 3.40	0.45	0.040			30x45 4.04	35x35 4.00	0.40	0.035
18000			30x45 3.94	35x35 3.90	0.45	0.033				35x40 4.60	0.40	0.029
22000			30x50 4.30	35x40 4.30	0.45	0.027				35x50 5.10	0.40	0.024
27000				35x45 4.85	0.45	0.022						

☆Size: D  $\phi$  x L (mm). ☆tan  $\delta$ : 20°C, 120Hz. ☆Ripple Current: 105°C, 120Hz, (A/rms) ☆ESR: 20°C, 120Hz, ( $\Omega$ ).

# ALUMINUM ELECTROLYTIC CAPACITORS



**High temperature and long life Series**

## ■ Dimensions, Max Dissipation Factor, Max Permissible Ripple Current, Max Equivalent Series Resistance

Capacitance (μF)	Rated (Surge) Voltage											
	50(63)					63(79)						
	φ DxL				tan δ	ESR	φ DxL			tan δ	ESR	
	Ripple Current						Ripple Current					
1200							22x25				0.30	0.332
1500	22x25				0.35	0.309	22x30	25x25			0.30	0.265
	1.25						1.45	1.45				
1800	22x30				0.35	0.258	22x35	25x30			0.30	0.221
	1.45						1.6	1.6				
2200	22x30	25x25			0.35	0.211	22x40	25x30	30x25		0.30	0.181
	1.6	1.6					1.89	1.8	1.85			
2700	22x35	25x30			0.35	0.172	22x45	25x35	30x30		0.30	0.147
	1.8	1.8					2.06	2	2.08			
3300	22x40	25x30	30x25		0.35	0.141		25x40	30x30	35x25	0.30	0.121
	2.05	1.95	2.01					2.32	2.3	2.35		
3900	22x45	25x35	30x30		0.35	0.119		25x45	30x35	35x30	0.30	0.102
	2.27	2.2	2.29					2.55	2.55	2.63		
4700	22x50	25x40	30x30	35x25	0.35	0.099		25x50	30x40	35x30	0.30	0.085
	2.5	2.42	2.4	2.45				2.83	2.86	2.8		
5600		25x45	30x35	35x30	0.35	0.083			30x45	35x35	0.30	0.071
		2.7	2.7	2.78					3.18	3.15		
6800			30x40	35x30	0.35	0.068			30x50	35x40	0.30	0.059
			3.06	3					3.5	3.5		
8200			30x45	35x35	0.35	0.057				35x45	0.30	0.049
			3.38	3.35						3.9		
10000				35x40	0.35	0.046						
12000				35x50	0.35	0.039						
				4.20								

Capacitance (μF)	Rated (Surge) Voltage											
	80(100)					100(125)						
	φ DxL				tan δ	ESR	φ DxL			tan δ	ESR	
	Ripple Current						Ripple Current					
560							22x25				0.25	0.592
680							22x30				0.25	0.488
							1.35					
820	22x25				0.25	0.404	22x30	25x25			0.25	0.404
	1.20						1.50	1.50				
1000	22x30				0.25	0.332	22x35	25x30			0.25	0.332
	1.35						1.70	1.70				
1200	22x35	25x25			0.25	0.276	22x40	25x35	30x25		0.25	0.276
	1.59	1.50					1.97	1.99	1.95			
1500	22x40	25x30	30x25		0.25	0.221	22x45	25x40	30x30	35x25	0.25	0.221
	1.78	1.70	1.75				2.15	2.19	2.15	2.21		
1800	22x45	25x35	30x30		0.25	0.184		25x45	30x35	35x30	0.25	0.184
	2.01	1.95	2.03					2.45	2.45	2.52		
2200		25x40	30x30	35x25	0.25	0.151		25x50	30x40	35x35	0.25	0.151
		2.17	2.15	2.19				2.75	2.75	2.86		
2700		25x45	30x35	35x30	0.25	0.123			30x45	35x35	0.25	0.123
		2.45	2.45	2.52					3.08	3.05		
3300			30x40	35x35	0.25	0.100			30x50	35x40	0.25	0.100
			2.75	2.83					3.45	3.45		
3900			30x45	35x35	0.25	0.085				35x45	0.25	0.085
			3.13	3.10						3.90		
4700				35x40	0.25	0.071				35x50	0.25	0.071
				3.40						4.30		
5600				35x50	0.25	0.059						
				3.80								

☆Size: D φ x L (mm). ☆tan δ : 20°C, 120Hz. ☆Ripple Current: 105°C, 120Hz, (A/rms) ☆ESR: 20°C, 120Hz, (Ω).

# ALUMINUM ELECTROLYTIC CAPACITORS



**High temperature and long life Series**

## ■ Dimensions, Max Dissipation Factor, Max Permissible Ripple Current, Max Equivalent Series Resistance

Capacitance (μF)	Rated (Surge) Voltage											
	160(200)						180(225)					
	φ DxL			tan δ	ESR	φ DxL			tan δ	ESR		
	Ripple Current					Ripple Current						
270	22x25			0.15	0.737	22x25			0.15	0.737		
	0.85					0.85						
330	22x30			0.15	0.603	22x30			0.15	0.603		
	1.00					1.10						
390	22x30	25x25		0.15	0.51	22x35	25x25		0.15	0.51		
	1.15	1.15				1.32	1.25					
470	22x35	25x30		0.15	0.423	22x40	25x30		0.15	0.423		
	1.30	1.30				1.47	1.40					
560	22x40	25x30	30x25	0.15	0.355	22x45	25x35	30x25	0.15	0.355		
	1.57	1.50	1.54			1.70	1.63	1.60				
680	22x45	25x35	30x30	0.15	0.293	22x50	25x40	30x30	35x25	0.15	0.293	
	1.75	1.70	1.77			1.87	1.82	1.80	1.84			
820	22x50	25x40	30x30	35x25	0.15	0.243		25x45	30x35	35x30	0.15	0.243
	2.03	1.97	1.95	1.99				2.05	2.05	2.11		
1000		25x45	30x35	35x30	0.15	0.199		25x50	30x40	35x30	0.15	0.199
		2.15	2.15	2.21				2.27	2.29	2.25		
1200			30x40	35x35	0.15	0.166		30x45	35x35	0.15	0.166	
			2.45	2.52				2.57	2.55			
1500			30x50	35x40	0.15	0.133			35x40	0.15	0.133	
			2.75	2.75				2.85				
1800			35x45		0.15	0.111			35x50	0.15	0.111	
			3.00					3.10				
2200			35x50		0.15	0.09						
			3.50									

Capacitance (μF)	Rated (Surge) Voltage											
	200(250)						250(300)					
	φ DxL			tan δ	ESR	φ DxL			tan δ	ESR		
	Ripple Current					Ripple Current						
150				0.15	1.330	22x25			0.15	1.330		
						0.75						
180				0.15	1.110	22x30			0.15	1.110		
						0.85						
220	22x25			0.15	0.905	22x30	25x25		0.15	0.905		
	0.85					1.00	1.00					
270	22x30			0.15	0.737	22x35	25x25		0.15	0.737		
	1.00					1.22	1.15					
330	22x30	25x25		0.15	0.603	22x40	25x30		0.15	0.603		
	1.15	1.15				1.36	1.30					
390	22x35	25x30		0.15	0.510	22x45	25x35	30x25	35x25	0.15	0.510	
	1.30	1.30				1.54	1.48	1.45	1.59			
470	22x40	25x35	30x25	0.15	0.423	22x50	25x40	30x30	35x30	0.15	0.423	
	1.52	1.54	1.49			1.78	1.75	1.72	1.88			
560	22x45	25x35	30x30	0.15	0.355		25x40	30x35	35x30	0.15	0.355	
	1.7	1.65	1.72				1.80	1.89	1.94			
680		25x45	30x35	35x30	0.15	0.293		25x50	30x40	35x35	0.15	0.293
		1.97	1.97	2.02				2.10	2.10	2.18		
820		25x45	30x35	35x30	0.15	0.243			30x45	35x40	0.15	0.243
		2.20	2.10	2.16				2.30	2.39			
1000			30x45	35x35	0.15	0.199			30x50	35x45	0.15	0.199
			2.32	2.30				2.55	2.65			
1200			30x50	35x40	0.15	0.166			35x50	0.15	0.166	
			2.75	2.75				2.90				
1500			35x45		0.15	0.133						
			2.90									

☆Size: D φ x L (mm). ☆tan δ : 20°C, 120Hz. ☆Ripple Current: 105°C, 120Hz, (A/rms) ☆ESR: 20°C, 120Hz, (Ω).

# ALUMINUM ELECTROLYTIC CAPACITORS



**High temperature and long life Series**

## ■ Dimensions, Max Dissipation Factor, Max Permissible Ripple Current, Max Equivalent Series Resistance

Capacitance (μF)	Rated (Surge) Voltage										
	315(365)					350(400)					
	φ DxL Ripple Current			tan δ	ESR	φ DxL Ripple Current			tan δ	ESR	
82	22x25					0.15	2.426	22x25			
	0.55					0.60					
100	22x30			0.15	1.989	22x30	25x25		0.15	1.989	
	0.65					0.70	0.70				
120	22x30	25x25		0.15	1.658	22x35	25x30		0.15	1.658	
	0.75	0.75				0.80	0.80				
150	22x35	25x30		0.15	1.326	22x40	25x35	30x25	0.15	1.326	
	0.8	0.80				0.86	0.87	0.85			
180	22x40	25x35	30x25	0.15	1.105	22x45	25x40	30x30	0.15	1.105	
	1.01	1.02	1.00			1.05	1.07	1.05			
220	22x45	25x40	30x30	0.15	0.905	22x50	25x45	30x35	35x25	0.15	0.905
	1.10	1.12	1.10			1.16	1.20	1.18	1.15		
270		25x45	30x35	0.15	0.737		25x50	30x40	35x30	0.15	0.737
		1.25	1.25				1.31	1.33	1.3		
330		25x50	30x40	35x30	0.15	0.603		30x45	35x35	0.15	0.603
		1.53	1.53	1.50				1.46	1.45		
390			30x45	35x30	0.15	0.510		30x50	35x40	0.15	0.510
			1.71	1.60				1.65	1.65		
470			30x50	35x35	0.15	0.423			35x45	0.15	0.423
			1.85	1.75					1.85		
560				35x40	0.15	0.355			35x50	0.15	0.355
				2.00					2.10		
680				35x45	0.15	0.293					
				2.20							

Capacitance (μF)	Rated (Surge) Voltage											
	400(450)					450(500)						
	φ DxL Ripple Current			tan δ	ESR	φ DxL Ripple Current			tan δ	ESR		
56								22x25				
						0.55						
68	22x25			0.15	2.926	22x30			0.25	4.876		
	0.55					0.65						
82	22x30	25x25		0.15	2.426	22x35	25x25		0.25	4.044		
	0.65	0.65				0.80	0.75					
100	22x35	25x25		0.15	1.989	22x40	25x30		0.25	3.316		
	0.79	0.75				0.89	0.85					
120	22x40	25x30	30x25	0.15	1.658	22x45	25x35	30x25	0.25	2.763		
	0.89	0.85	0.87			0.95	0.92	0.90				
150	22x45	25x35	30x30	35x25	0.15	1.326	22x50	25x40	30x30	0.25	2.210	
	0.93	0.90	0.94	0.96			1.14	1.11	1.10			
180	22x50	25x40	30x30	35x25	0.15	1.105		25x45	30x35	35x25	0.25	1.842
	1.14	1.11	1.10	1.12				1.25	1.24	1.20		
220		25x45	30x35	35x30	0.15	0.905		25x50	30x40	35x30	0.25	1.507
		1.20	1.20	1.24				1.36	1.38	1.35		
270		25x50	30x40	35x30	0.15	0.737			30x45	35x35	0.25	1.228
		1.36	1.38	1.35					1.51	1.50		
330			30x45	35x35	0.15	0.603			30x50	35x40	0.25	1.005
			1.51	1.50					1.70	1.70		
390			30x50	35x40	0.15	0.510				35x45	0.25	0.850
			1.70	1.70						1.90		
470				35x45	0.15	0.423				35x50	0.25	0.705
				1.90						2.10		

☆Size: D φ x L (mm). ☆tan δ : 20°C, 120Hz. ☆Ripple Current: 105°C, 120Hz, (A/rms) ☆ESR: 20°C, 120Hz, (Ω).