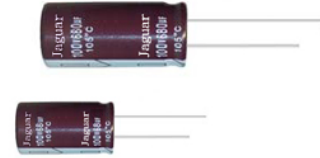


### ALUMINUM ELECTROLYTIC CAPACITORS

# LHR 105°C 低阻抗 標準型品

## Low Impedance, Standard Series

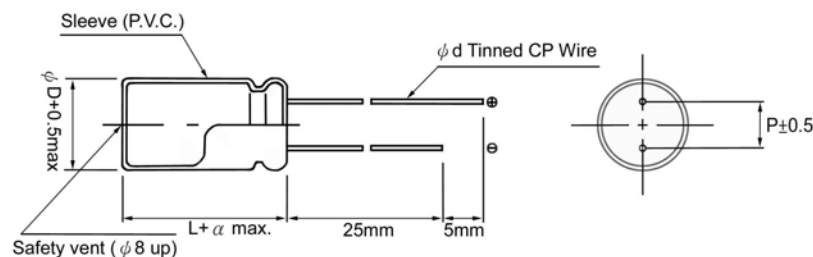
- 小型化低阻抗品, 適用於交換式電源供應器及高頻應用之電子迴路
- 產品壽命保證 2,000 小時/105°C
- Suitable for used in switching power supply.  
Lower impedance at high frequency and ripple current.
- Life guaranteed 2,000 hrs./105°C



#### • Specifications

Item	Performance Characteristics											
Operating Temperature range 使用溫度範圍	-55 + 105°C (6.3 ~ 100V)			-40 + 105°C (160 ~ 400V)				-25 + 105°C (450V)				
Rated Voltage 額定電壓	6.3V ~ 450V											
Capacitance Range 容量範圍	0.47 ~ 15,000 μF											
Capacitance Tolerance 靜電容量容許差	±20% (120Hz, 20°C)											
Leakage Current 洩漏電流	6.3V ~ 100V						160V ~ 450V					
	I ≤ 0.03CV or 4 μA, whichever is greater after 2 minutes application of rated voltage.						CV ≤ 1000 : I = 0.1CV + 40 μA max. (2 minutes) CV ≥ 1000 : I = 0.4CV + 100 μA max. (2 minutes)					
Dissipation Factor 散逸因素 (120Hz, 20°C)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160~250	350	400~450
	Tan δ (max.)	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20	0.25
For capacitance of more than 1,000μF, add 0.02 for every increase of 1,000μF.												
Temperature Characteristics 溫度特性 (120Hz)	Impedance Ratio / Stability at Low Temperature											
	Rated voltage (V)	6.3~10	16~25	35~50	63~100	160~200	250	350	400	450		
	Z (-55°C) / Z (20°C)	5	4	3	-	-	-	-	-	-		
	Z (-40°C) / Z (20°C)	-	-	-	3	4	6	8	10	-		
Z (-25°C) / Z (20°C)	-	-	-	2	3	3	4	6	15			
Load Life 高溫度荷特性	After 2,000 hours application of rated voltage and ripple current at 105°C, capacitor shall meet the characteristics requirements mentioned below.											
	Capacitance change	Within ±20% of initial value										
	Tan δ	200% or less of initial specified value										
	Leakage current	Initial specified value or less										
Shelf Life 擺置壽命	After leaving capacitors under no load at 105°C for 1,000 hours and applying voltage according to JIS C5102 4-3, capacitor shall meet the specified value as load life characteristics listed above.											

#### • Dimension



#### • Frequency coefficient of allowable ripple current

Dφ	5	6.3	8	10	13	16	18	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	12.5
φd	0.5		0.6		0.8		1.0		
α	~100V	1.0		1.5		1.5		2.0	
	160V~	1.5		2.0		2.0		2.0	

WV	Cap(μF) \ Frequency	50Hz	120Hz	300Hz	1KHz	10KHz~
		6.3 ~ 100	~ 47	-	0.17	0.40
	100 ~ 220	0.30	0.50	0.65	0.80	1.00
	330 ~ 680	0.57	0.71	0.82	0.90	1.00
	1000 ~ 15000	0.75	0.87	0.96	0.98	1.00
160 ~ 450	0.47 ~ 220	0.80	1.00	1.25	1.40	1.60
	330 ~ 470	0.90	1.00	1.10	1.13	1.15

## ALUMINUM ELECTROLYTIC CAPACITORS

• Size, ripple current & impedance

Unit: DxL(mm)

Cap(μF) \ WV	6.3V			10V			16V			25V		
	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple
4.7										5 x 11	1.50	160
10										5 x 11	1.50	160
22	5 x 11	1.50	160	5 x 11	1.50	160	5 x 11	1.50	160	5 x 11	1.50	160
33	5 x 11	1.50	160	5 x 11	1.50	160	5 x 11	1.50	160	5 x 11	1.50	160
47	5 x 11	1.50	160	5 x 11	1.50	160	5 x 11	1.50	160	5 x 11	1.50	160
100	5 x 11	1.50	160	5 x 11	1.50	160	6 x 11	0.50	250	6 x 11	0.50	250
220	6 x 11	0.50	250	6 x 11	0.50	250	8 x 11	0.28	410	8 x 11	0.28	410
330	6 x 11	0.50	250	8 x 11	0.28	410	8 x 11	0.28	410	10 x 12	0.19	600
470	8 x 11	0.28	410	8 x 11	0.28	410	10 x 12	0.19	600	10 x 16	0.14	800
680	10 x 12	0.19	600	10 x 12	0.19	600	10 x 16	0.14	800	10 x 20	0.11	1000
1000	10 x 12	0.19	600	10 x 16	0.14	800	10 x 20	0.11	1000	13 x 20	0.075	1250
1500	10 x 20	0.11	1000	10 x 20	0.11	1000	13 x 20	0.075	1250	16 x 25	0.038	1900
2200	13 x 20	0.075	1250	13 x 20	0.075	1250	13 x 25	0.057	1550	16 x 25	0.038	1900
3300	13 x 20	0.075	1250	13 x 25	0.057	1550	16 x 25	0.038	1900	16 x 31	0.033	2350
4700	16 x 25	0.038	1900	16 x 25	0.038	1900	16 x 31	0.033	2350	18 x 35	0.030	2700
6800	16 x 25	0.038	1900	16 x 31	0.033	2350	18 x 35	0.030	2700	18 x 40	0.027	3300
10000	16 x 31	0.033	2350	18 x 35	0.030	2700	18 x 40	0.027	3300			
15000	18 x 35	0.030	2700	18 x 40	0.027	3300						

Cap(μF) \ WV	35V			50V			63V			100V		
	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple
0.47				5 x 11	7.50	25				5 x 11	43.0	20
1				5 x 11	5.30	40				5 x 11	20.0	30
2.2				5 x 11	4.50	55				5 x 11	9.80	44
3.3				5 x 11	3.90	65				5 x 11	6.60	58
4.7	5 x 11	1.50	160	5 x 11	3.50	90	5 x 11	4.70	68	5 x 11	4.60	74
10	5 x 11	1.50	160	5 x 11	2.10	120	5 x 11	2.10	110	6 x 11	1.80	130
22	5 x 11	1.50	160	5 x 11	1.80	150	6 x 11	0.98	180	8 x 11	0.68	230
33	5 x 11	1.50	160	6 x 11	0.65	250	6 x 11	0.71	220	10 x 12	0.46	320
47	6 x 11	0.50	250	6 x 11	0.65	250	8 x 11	0.65	310	10 x 16	0.37	420
100	8 x 11	0.28	410	8 x 11	0.36	340	10 x 12	0.31	390	13 x 20	0.18	580
150	8 x 11	0.28	410	10 x 12	0.26	490	10 x 16	0.25	440	13 x 25	0.13	710
220	10 x 12	0.19	600	10 x 16	0.18	650	10 x 20	0.20	700	16 x 25	0.10	890
330	10 x 16	0.14	800	10 x 20	0.15	810	13 x 20	0.12	980	16 x 25	0.090	1080
470	10 x 20	0.11	1000	13 x 20	0.13	1100	13 x 25	0.081	1200	16 x 31	0.076	1310
680	13 x 20	0.075	1250	13 x 25	0.10	1200	16 x 25	0.058	1300	16 x 35	0.064	1410
1000	13 x 25	0.057	1550	16 x 25	0.058	1600	16 x 31	0.049	1380	18 x 40	0.047	4520
1500	16 x 25	0.038	1900	16 x 31	0.040	2000	18 x 35	0.038	1750			
2200	16 x 31	0.033	2350	18 x 35	0.035	2300	18 x 40	0.032	2120			
3300	18 x 35	0.030	2700									
4700	18 X 40	0.027	3300									

• Impedance: (Ω) Max. 20°C 100KHz

• Allowable Ripple Current: (mA rms) at 105°C 100KHz