

LH [For 85°C, 2000 Hours Miniature]

For Printed Circuit Board High-Performance Aluminum Electrolytic Power Supply Input and Output Filter Capacitors

Large Can Aluminum Electrolytic Capacitors

ELECTRICAL CHARACTERISTICS

Operating Temperature Range	-40 to+85℃					-25 to+85℃				
Rated Voltage Range	6.3~100V					160 to 450VDC				
Capacitance Tolerance	820~120000μF 56~2200μF									
Leakage Current	I = 0.02CV or 3mA Whichever is smaller. (At 20℃,After 5 Minutes Application of DC Working Voltage at 20℃)									
Dissipation Factor	Rate Voltage (V)	6.3	10	16	25	35	50	63~100	160~400	450
	tan δ	0.60	0.55	0.55	0.45	0.35	0.30	0.25	0.15	0.20
	Rated Voltage(v)	6.3~16	25	35	50~63	80~100	160~400	450		
	Z(-25℃) / Z(20℃)	3	3	3	2	2	4	8		
	Z(-40℃) / Z(20℃)	12	10	8	6	5	-	-		
Endurance	After applying rated voltage with rated Pipple current for 2000hrs at 85℃, the capacitor shall meet the following requirements. Capacitance Change Within 20% of the Inital Value Dissipation Factor 200% or less of initial specified value Leakage Current initial specified value or less									
Shelf Life	After placed at 85℃ without voltage applied for 1000 hours, the capacitor shall meet the same requirement as Endurance. 25℃									



DESCRIPTION

Endurance : 85°C 2000 hours

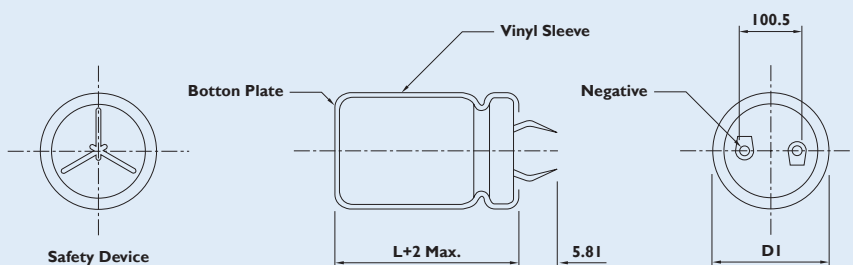
Ideally suitable for using in Switching Power Supplies and other industrial / commercial applications

Multiplier for Ripple Current

Frequency coefficient

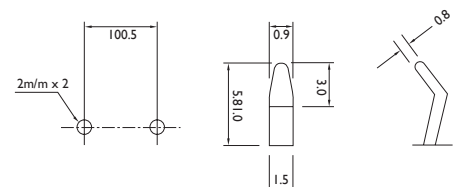
Frequency(Hz)	50	60	120	1K	10K
6.3~100V	0.88	0.90	1.00	1.15	1.16
160~250V	0.75	0.78	1.00	1.16	1.23
350~450V	0.74	0.76	1.00	1.10	1.15

DIAGRAM OF DIMENSIONS



Unit : mm

Location of P.C.B. Holes





CASE SIZE OF STANDARD PRODUCTS AND PERMISSIBLE RIPPLE CURRENT

CAP. (μF)	RATED VOLTAGE WV							
	6.3 SIZE	RIPPLE	10 SIZE	RIPPLE	16 SIZE	RIPPLE	25 SIZE	RIPPLE
5600							22 x 25	2.20
6800							22 x 30	2.40
							25 x 25	2.45
8200					22 x 25	2.60	22 x 35	2.70
							25 x 25	2.75
10000					22 x 30	2.70	22 x 40	3.10
					25 x 25	2.75	25 x 30	3.15
							30 x 25	3.20
12000			22 x 25	2.40	22 x 30	2.90	22 x 45	3.50
							25 x 35	3.45
							30 x 30	3.50
					25 x 25	2.95	35 x 25	3.55
15000	22 x 25	2.44	22 x 30	2.75	22 x 35	3.30	22 x 50	4.00
			25 x 25	2.75			25 x 40	3.95
					30 x 25	3.50	30 x 35	4.00
					25 x 30	3.45		
							35 x 30	4.05
18000	22 x 30	2.60	22 x 35	3.15	22 x 40	3.70	25 x 45	4.45
	25 x 25	2.62	25 x 25	3.05	25 x 35	3.70	30 x 35	4.45
					30 x 30	3.80	35 x 30	4.60
22000	22 x 30	3.06	22 x 40	3.55	22 x 50	4.35	30 x 40	5.20
	25 x 25	3.07	25 x 30	3.50	25 x 40	4.30	35 x 35	5.15
					30 x 30	4.25		
			30 x 25	3.55	35 x 25	4.20		
27000	22 x 25	3.49	22 x 45	4.05	25 x 45	4.70	30 x 45	5.95
	25 x 30	3.52	25 x 35	4.00	30 x 35	4.65	35 x 40	5.90
	30 x 25	3.57	30 x 30	4.05	35 x 30	4.65		
33000	22 x 40	3.97	22 x 50	4.60	30 x 40	5.35	30 x 50	6.70
	25 x 35	4.02	25 x 40	4.55	35 x 30	5.40		
	30 x 30	4.05	30 x 30	4.50			35 x 45	6.75
	35 x 25	4.10	35 x 25	4.50				
39000	22 x 50	4.56	25 x 45	5.10	30 x 45	6.00		
	25 x 40	4.50	30 x 35	5.05	35 x 35	5.95	35 x 50	7.55
	30 x 30	4.46	35 x 30	5.05				
	35 x 25	4.51						
47000	25 x 45	5.09	25 x 50	5.75	30 x 50	6.80		
	30 x 35	5.06	30 x 40	5.70	35 x 40	6.75		
	35 x 30	5.03	35 x 30	5.65				
56000	25 x 50	5.71	30 x 45	6.45	35 x 45	7.60		
	30 x 40	5.70	35 x 35	6.40				
	35 x 30	5.75						
68000	30 x 45	6.48	30 x 50	7.05	35 x 50	8.00		
	35 x 35	6.42	35 x 40	7.10				
82000	30 x 50	7.32	35 x 50	7.50				
	35 x 40	7.29						
100000	35 x 45	8.31						
120000	35 x 50	8.60						

Note : *1. D L : mm

*2. Ripple Current : (A r.m.s 85°C / 120Hz)



CASE SIZE OF STANDARD PRODUCTS AND PERMISSIBLE RIPPLE CURRENT

CAP. (μF)	RATED VOLTAGE WV							
	35 SIZE	RIPPLE	50 SIZE	RIPPLE	63 SIZE	RIPPLE	80 SIZE	RIPPLE
1000								
1200							22 × 25	1.65
1500							22 × 30	1.90
							25 × 25	1.90
					22 × 25	1.85	22 × 35	2.20
1800							25 × 30	2.20
							30 × 25	2.20
			22 × 25	1.90	22 × 30	2.30	22 × 40	2.45
2200					25 × 25	2.30	25 × 30	2.45
							30 × 25	2.50
			22 × 30	2.10	22 × 35	2.45	22 × 45	2.80
2700			25 × 25	2.20	25 × 30	2.45	25 × 35	2.80
					30 × 25	2.50	30 × 30	2.85
							35 × 25	2.85
			22 × 30	2.35	22 × 40	2.60	22 × 50	3.15
3300			25 × 25	2.35	25 × 30	2.65	25 × 40	2.80
					30 × 25	2.70	30 × 30	3.20
							35 × 25	3.20
	22 × 25	2.20	22 × 35	2.65	22 × 45	2.95	25 × 45	3.60
3900			25 × 30	2.65	25 × 35	2.95	30 × 35	3.60
			30 × 25	2.65	30 × 30	3.00	35 × 30	3.60
	22 × 30	2.40	22 × 40	3.00	22 × 50	3.40	25 × 50	4.05
4700	25 × 25	2.40	25 × 35	3.00	25 × 40	3.35	30 × 40	4.05
			30 × 25	2.95	30 × 30	3.35		
					35 × 25	3.40	35 × 35	4.10
	22 × 35	2.75	22 × 45	3.35	25 × 45	3.70	30 × 45	4.55
5600	25 × 25	2.75	25 × 40	3.35	30 × 35	3.75	35 × 35	4.50
			30 × 30	3.35	35 × 30	3.75		
			35 × 25	3.40				
	22 × 40	2.85			30 × 40	4.25	30 × 50	5.15
6800	25 × 30	2.85	25 × 40	3.80	35 × 30	4.20	35 × 40	5.15
			22 × 40	3.26				
	30 × 25	2.90	35 × 30	3.85				
			30 × 35	3.85				
6900								
	22 × 45	3.45	25 × 50	4.35	30 × 45	4.80	35 × 45	5.85
8200	25 × 35	3.10	30 × 40	4.35	35 × 35	4.80		
	30 × 30	3.15	35 × 30	4.40				
	22 × 50	3.55	30 × 45	5.00	30 × 50	5.50	35 × 50	6.60
10000	25 × 40	3.50	35 × 35	4.95				
	30 × 30	3.45			35 × 40	5.45		
	35 × 25	3.40						
	25 × 45	3.95	30 × 50	5.60	35 × 45	6.20		
12000	30 × 35	4.05	35 × 40	5.55				
	35 × 30	4.05						
	25 × 50	4.95	35 × 45	6.45				
15000	30 × 40	4.95						
	35 × 35	5.00						
	30 × 45	5.55	35 × 50	6.70				
18000	35 × 40	5.55						
	30 × 50	6.00						
22000	35 × 45	6.05						
27000	35 × 50	6.90						

Note : *1. D × L : mm

*2. Ripple Current : (A r.m.s 85°C / 120Hz)



CASE SIZE OF STANDARD PRODUCTS AND PERMISSIBLE RIPPLE CURRENT

CAP. (μF)		RATED VOLTAGE WV						
	100 SIZE	RIPPLE	160 SIZE	RIPPLE	180 SIZE	RIPPLE	200 SIZE	RIPPLE
180					22 x 20	1.00	22 x 25	0.95
220					22 x 25	1.10	22 x 25	1.10
270					22 x 25	1.25	22 x 25	1.25
					25 x 20	1.25	22 x 30	1.25
330			22 x 25	1.40			22 x 30	1.45
			25 x 20	1.35	22 x 30	1.40	22 x 30	1.45
					25 x 25	1.40		
390			22 x 30	1.55	22 x 30	1.60	22 x 30	1.60
			25 x 25	1.55	25 x 25	1.60	25 x 25	1.55
			30 x 25	1.50				
470			22 x 30	1.75	22 x 35	1.80	22 x 35	1.80
			25 x 25	1.75	25 x 30	1.80	25 x 30	1.80
			30 x 25	1.70	30 x 25	1.80	30 x 25	1.80
560			22 x 30	1.95			22 x 40	2.00
			25 x 30	1.95	22 x 40	2.00	25 x 35	2.00
			30 x 25	1.90			30 x 25	2.00
					30 x 25	2.00		
680			22 x 40	2.20	22 x 45	2.25	22 x 45	2.35
			25 x 30	2.20	25 x 35	2.20	25 x 40	2.30
			30 x 25	2.15	30 x 30	2.20	30 x 30	2.30
					30 x 25	2.20	35 x 25	2.30
	22 x 25	1.85	22 x 45	2.50	22 x 50	2.55	25 x 45	2.60
					25 x 40	2.55		
820			25 x 35	2.55			30 x 35	2.60
			30 x 30	2.50	30 x 35	2.60	35 x 30	2.60
			35 x 25	2.50	35 x 25	2.60		
	22 x 30	2.10	22 x 50	2.85	25 x 45	2.85	25 x 50	3.00
			25 x 40	2.80				
1000	25 x 25	2.10	30 x 35	2.80	30 x 35	2.85	30 x 40	3.05
			35 x 25	2.80	35 x 30	2.90	35 x 30	3.00
1200	22 x 35	2.40	25 x 45	3.15	30 x 40	3.25	30 x 45	3.30
	25 x 30	2.45	30 x 35	3.15			35 x 35	3.30
			35 x 30	3.20	35 x 35	3.30		
1500	22 x 40	2.70	30 x 45	3.75	30 x 45	3.85	30 x 50	3.80
	25 x 30	2.75	35 x 35	3.70	35 x 40	3.80	35 x 40	3.80
	30 x 25	2.75						
1800	22 x 45	3.10	30 x 50	4.20			35 x 45	4.35
	25 x 35	3.15	35 x 40	4.20	35 x 50	4.30		
	30 x 30	3.15						
	35 x 25	3.15						
2200	22 x 50	3.50						
	25 x 40	3.55	35 x 45	4.80	35 x 50	4.90	35 x 50	4.95
	30 x 30	3.55						
	35 x 25	3.60						
2700	25 x 45	4.10						
	30 x 35	4.05						
	35 x 30	4.05						
3300	25 x 50	4.50						
	30 x 40	4.55						
	35 x 30	4.50						
3900	30 x 45	5.15						
	35 x 35	5.10						
4700	35 x 40	5.75						
5600	35 x 50	6.20						
10000								

Note : *1. D x L : mm

*2. Ripple Current : (A r.m.s 85°C / 120Hz)



CASE SIZE OF STANDARD PRODUCTS AND PERMISSIBLE RIPPLE CURRENT

CAP.(μF)	RATED VOLTAGE WV							
	250 SIZE	RIPPLE	350 SIZE	RIPPLE	400 SIZE	RIPPLE	450 SIZE	RIPPLE
47								
56					22 x 20	0.55	25 x 25	0.65
68			22 x 20	0.55	22 x 25	0.60	22 x 30	0.70
					25 x 20	0.60	22 x 25	0.70
82			22 x 25	0.65	22 x 25	0.80	22 x 30	0.80
			25 x 20	0.65	25 x 20	0.80	25 x 25	0.80
100			22 x 30	0.90	22 x 30	0.90	22 x 35	0.95
			25 x 20	0.90	25 x 25	0.90	25 x 30	0.95
							30 x 25	0.95
120	22 x 20	0.78	22 x 30	1.00	22 x 35	1.05	22 x 40	1.05
			25 x 25	1.00	25 x 25	1.05	25 x 30	1.05
							30 x 25	1.05
150	22 x 25	0.90	22 x 35	1.15	22 x 35	1.05	22 x 45	1.20
			25 x 30	1.15	25 x 30	1.15	25 x 35	1.20
			30 x 25	1.15	30 x 25	1.15	30 x 30	1.20
180	22 x 25	1.05	22 x 40	1.30	22 x 45	1.30	25 x 40	1.35
	25 x 20	1.00	25 x 30	1.25	25 x 35	1.30		
			30 x 25	1.25	30 x 30	1.35	30 x 35	1.25
220	22 x 30	1.15	22 x 45	1.45	22 x 50	1.50	25 x 50	1.55
			25 x 35	1.45	25 x 40	1.50	30 x 40	1.55
	25 x 25	1.15	30 x 30	1.45	30 x 30	1.50	35 x 30	1.55
			35 x 25	1.45	35 x 25	1.50		
	22 x 30	1.30	25 x 40	1.65	25 x 40	1.65	30 x 45	1.75
270	25 x 25	1.30	30 x 35	1.65	30 x 35	1.65	35 x 35	1.70
			35 x 25	1.65				
					35 x 30	1.65		
300								
	22 x 35	1.50						
330			25 x 50	1.80	30 x 40	1.90	30 x 50	2.00
	25 x 30	1.50	30 x 40	1.80				
	30 x 25	1.50	35 x 30	1.80	35 x 30	1.85	35 x 40	2.00
	22 x 40	1.66	30 x 40	2.00	30 x 45	2.15	35 x 45	2.25
390			35 x 30	2.00				
	25 x 35	1.65			35 x 35	2.10		
	30 x 25	1.65						
	22 x 45	1.85	30 x 45	2.25	30 x 50	2.40	35 x 50	2.50
			35 x 35	2.25	35 x 40	2.40		
470	25 x 35	1.85						
	30 x 30	1.90						
	35 x 25	1.90						
	22 x 50	2.09	35 x 40	2.50	35 x 45	2.70		
560	25 x 40	2.10						
	30 x 35	1.99						
	35 x 25	2.10						
	25 x 50	2.43	35 x 45	2.90	35 x 50	2.90		
680	30 x 40	2.46						
	35 x 30	2.49						
820	30 x 45	2.75						
	35 x 35	2.77						
1000	30 x 45	3.30						
	35 x 45	3.30						
1200	35 x 40	3.55						

Note : *1. D x L : mm

*2. Ripple Current : (A r.m.s 105°C / 120Hz)