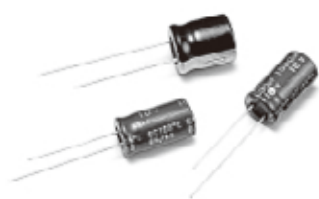




Miniature Size Aluminum Electrolytic Capacitors

SY [For Low Impedance and Low E.S.R Suitable for Output of Mother Board]

105°C Single-Ended Lead Aluminum Electrolytic Capacitors For High Frequency Applications



DESCRIPTION

Used in switching regulator applications in computers. Especially for high frequency.

Low impedance and E.S.R., high permissible ripple current at high frequency and higher operating temperature (-40°C to +105°C).

High Temperature Load Life at 105°C for 6000 Hours

ELECTRICAL CHARACTERISTICS

Operating Temperature : -40° ~ +105°C

Working Voltage : 6.3 ~ 50V

Rate Capacitance Range : 1 ~ 18000µF

Capacitance Tolerance : -20 ~ +20%

DC Leakage Current (µA) : I = 0.01 CV(µA) or 3µA Whichever is greater.

(Measurements shall be Made After a 2 Minute Charge at Rated Working Voltage)

Dissipation Factor : at 120 Hz, 25°C

WV (V) :	6.3	10	16	25	35	50
D.F (%) :	22	19	16	14	12	10

For capacitor whose capacitance exceeds 1000µF. The value of D.F.(%) is increased by 2% for every addition of 1000µF.

WV (V) :	Rated Voltage (V)	6.3	10	16	25	35	50
Impedance :	Z - 25°C / Z + 20°C	4	3	2	2	2	2
Impedance :	Z - 40°C / Z + 20°C	8	6	4	3	3	3

Load Life

Dø : 5ø~6.3ø 8ø~10øx12 10øx15~10øx30 12ø~18ø

Life : 3000hrs 4000hrs 5000hrs 6000hrs

If dimension is down size , Endurance will be less 1000 hrs than standard.

- (a) Capacitance Change : Within 25% of Initial Value
- (b) Dissipation Factor : Not Exceed 200% of Initial Requirement
- (c) Leakage Current : Not Exceed the Initial Requirement

Shelf Life : 500 Hours, No Voltage Applied, at 105°C

- (a) Capacitance Change : Within 25% of Initial Value
- (b) Dissipation Factor : Not more than 200% of specified value
- (c) Leakage Current : Not more than 200% of specified value



RoHS COMPLIANT

Frequency coefficient

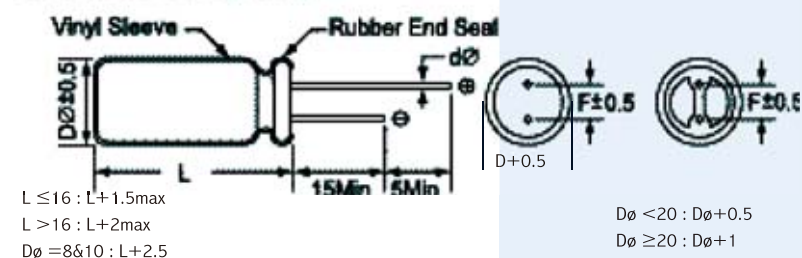
Frequency(Hz)	120	1K	10K	100K
22~180µF	0.40	0.75	0.90	1.00
220~560µF	0.50	0.85	0.94	1.00
680~1800µF	0.60	0.87	0.95	1.00
2200~3900µF	0.75	0.90	0.95	1.00
4700µF Higher	0.85	0.95	0.98	1.00

Temperature coefficient

Temperature(°C)	65	85	105
Factor	1.80	1.50	1.00

DIAGRAM OF DIMENSIONS

Dimensions [mm]



Dimensions : mm

Dø	F	dø
4.0	1.5	0.45
5.0	2.0	0.5
6.0	2.5	
8.0	3.5	
10.0	5.0	0.6
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	0.8



CASE SIZE OF STANDARD PRODUCTS $D \geq \varnothing 6\text{mm}$ with Safety Vent at Can Bottom

CAP. (μF)	RATED VOLTAGE								
	6.3			10			16		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
47							5 x 11	184	0.754
68							5 x 11	184	0.754
56							5 x 11	184	0.580
82				5 x 11	184	0.754	5 x 11	184	0.754
100	5 x 11	184	0.754	5 x 11	184	0.754	6.3 x 11	298	0.286
120							6.3 x 11	298	0.286
150	5 x 11	210	0.754	6.3 x 11	298	0.286			
180				6.3 x 11	298	0.286	8 x 11	561	0.169
220	6.3 x 11	298	0.286	6 x 11	298	0.286	8 x 11	561	0.169
				8 x 11	561	0.169			
330	6.3 x 11	298	0.286	8 x 11	561	0.169	8 x 11	561	0.169
	8 x 11	340	0.220						
390	8 x 11	561	0.169	8 x 11	561	0.169	10 x 12	561	0.169
470	8 x 11	561	0.169	8 x 11	561	0.169	8 x 15	737	0.113
	8 x 11	561	0.169				10 x 12	759	0.104
560	8 x 11	561	0.169				10 x 15	1061	0.078
680	8 x 11	640	0.130	8 x 15	737	0.113	8 x 20	921	0.090
				10 x 12	759	0.104	10 x 15	1061	0.078
820	8 x 15	737	0.113	10 x 12	865	0.080	10 x 19.5	1228	0.060
	10 x 12	759	0.104	10 x 15	1061	0.078			
1000	8 x 15	840	0.087	8 x 20	921	0.090	10 x 19.5	1228	0.006
	10 x 12	759	0.104	10 x 15	1061	0.078	10 x 25	1447	0.055
							13 x 15	1450	0.049
1200	8 x 20	921	0.090	10 x 19.5	1228	0.060	10 x 25	1447	0.055
	10 x 15	1061	0.078						
1500	10 x 19.5	1228	0.060	10 x 25	1272	0.055	10 x 30	1675	0.040
				13 x 15	1450	0.049	13 x 20	1666	0.046
							16 x 15	1570	0.072
1800	10 x 25	1447	0.055	10 x 19.5	1666	0.060	13 x 25	1863	0.039
	13 x 15	1450	0.049						
2200	10 x 25	1447	0.055	10 x 30	1675	0.040	13 x 25	1863	0.039
				13 x 20	1666	0.046	18 x 15	2210	0.043
				16 x 15	1940	0.042			
2700	10 x 30	1675	0.040	18 x 15	1772	0.066	13 x 30	2214	0.034
	13 x 20	1666	0.046	13 x 25	1863	0.039	16 x 20	1938	0.046
	16 x 15	1940	0.042						
3300	13 x 20	1900	0.035	13 x 25	2210	0.034	13 x 35	2406	0.029
							18 x 20	2157	0.044
3900	13 x 25	1863	0.039	13 x 30	2406	0.029	13 x 40	3350	0.017
	18 x 15	2210	0.043	16 x 20	1938	0.046	16 x 25	2238	0.036
							18 x 20	2188	0.044
4700	13 x 30	2214	0.034	13 x 25	2798	0.025	16 x 32	2657	0.029
				16 x 25	2238	0.036	18 x 25	2430	0.031
5600	13 x 35	2406	0.029	13 x 40	3350	0.017	16 x 36	2740	0.026
	16 x 20	1938	0.046	16 x 25	2238	0.036	18 x 32	3157	0.026
				18 x 20	2188	0.044			
6800	13 x 40	2798	0.025	16 x 32	2657	0.029	16 x 40	3408	0.022
	16 x 25	2238	0.036	18 x 25	2430	0.031			
	18 x 20	2188	0.044						
8200	16 x 32	2657	0.029	16 x 36	2740	0.026	18 x 36	3191	0.025
				18 x 32	3157	0.026	18 x 40	4280	0.012
				18 x 36	4170	0.015			
10000	16 x 36	2740	0.026	16 x 40	4080	0.013	18 x 40	3316	0.020
	18 x 25	2430	0.031	18 x 36	3191	0.025			
12000	16 x 40	3408	0.022	18 x 40	3316	0.020			
	18 x 32	3157	0.026						
15000	18 x 36	3191	0.025						
18000	18 x 40	3316	0.020						

Note : * I. D x L : mm

*2. Ripple Current : (mA r.m.s 105°C / 100KHz), Impedance (Ω Max25°C / 100KHz)



CASE SIZE OF STANDARD PRODUCTS $D \geq \varnothing 6\text{mm}$ with Safety Vent at Can Bottom

CAP. (μF)	RATED VOLTAGE								
	25			35			50		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
1							5 x 11	30	4.0
2.2							5 x 11	43	2.5
3.3							5 x 11	53	2.2
4.7							5 x 11	88	1.9
10							5 x 11	100	1.5
12							5 x 11	100	1.5
15							5 x 11	158	0.910
18							5 x 11	158	0.910
22				5 x 11	184	0.754	5 x 11	158	0.910
27				5 x 11	184	0.754	5 x 11	158	0.910
33				5 x 11	184	0.754	6 x 11	259	0.390
39	5 x 11	184	0.754	5 x 11	184	0.754	6 x 11	259	0.390
47	5 x 11	184	0.754	6 x 11	298	0.286	6 x 11	259	0.390
56	5 x 11	184	0.754	6 x 11	298	0.286	6 x 11	295	0.300
							8 x 11	487	0.221
68				6 x 11	298	0.286	8 x 11	487	0.221
82	6 x 11	298	0.286	8 x 11	561	0.169	8 x 11	481	0.221
100	6 x 11	298	0.286	8 x 11	561	0.169	8 x 11	555	0.170
							10 x 12	667	0.156
120	8 x 11	561	0.169	8 x 11	561	0.169	8 x 15	640	0.156
							10 x 12	667	0.156
150				8 x 11	759	0.169	10 x 12	760	0.120
							10 x 15	921	0.1096
180	8 x 11	561	0.169	10 x 12	759	0.104	8 x 20	798	0.1183
							10 x 15	921	0.1092
220	8 x 11	561	0.169	8 x 15	737	0.113	10 x 15	1050	0.084
				10 x 12	759	0.104	10 x 19	1070	0.780
270	10 x 12	759	0.104	8 x 20	1050	0.069	10 x 19	1220	0.060
				10 x 15	1061	0.078	10 x 25	1263	0.715
							13 x 15	1260	0.061
330	8 x 15	737	0.113	10 x 15	1061	0.078	10 x 25	1440	0.055
	10 x 12	759	0.104	8 x 20	921	0.090	10 x 30	1482	0.0559
							13 x 20	1456	0.0585
390	10 x 15	1061	0.078	10 x 19	1228	0.060	13 x 20	1456	0.0585
470	8 x 20	921	0.090	10 x 19	1228	0.006	10 x 30	1482	0.0559
	10 x 15	1210	0.060	13 x 15	1450	0.049	13 x 20	1660	0.045
							13 x 25	1710	0.0442
							16 x 15	1690	0.055
560	10 x 19	1228	0.060	10 x 25	1447	0.55	13 x 25	1710	0.0442
				13 x 20	1666	0.046	18 x 15	1693	0.0702
680	10 x 19	1228	0.060	10 x 30	1650	0.042	13 x 30	2026	0.039
	13 x 15	1450	0.049	13 x 20	1910	0.031			
				13 x 25	1666	0.046			
				16 x 15	1814	0.072			
820	10 x 25	1447	0.055	13 x 20	1940	0.042	13 x 35	2201	0.0325
	13 x 20	1666	0.046	13 x 25	2151	0.039	16 x 20	2210	0.034
							18 x 20	2184	0.0468
1000	10 x 30	1675	0.040	13 x 25	2151	0.039	13 x 40	2920	0.021
	13 x 20	1666	0.046	18 x 15	2210	0.043	16 x 25	2241	0.0325
	16 x 15	1570	0.072				18 x 20	2490	0.036
1200	18 x 15	1687	0.073	13 x 30	2557	0.034	16 x 32	2640	0.0286
	13 x 25	1863	0.039	16 x 20	2238	0.046	18 x 25	2403	0.0338
1500	13 x 25	1863	0.039	13 x 35	2779	0.029	16 x 36	2763	0.0247
				16 x 25	2586	0.036			
1800	13 x 30	2214	0.034	13 x 40	2355	0.025	16 x 40	3254	0.0208
	16 x 20	1938	0.046	16 x 25	2586	0.036	18 x 32	2635	0.0273
				18 x 20	2528	0.044			
2200	13 x 35	2406	0.029	16 x 32	3068	0.029	18 x 36	3228	0.0221
	18 x 20	2188	0.044	18 x 25	2807	0.031			
2700	13 x 40	3350	0.017	16 x 36	2610	0.026	18 x 40	3333	0.0182
	16 x 25	2238	0.036	18 x 32	3647	0.026			
3300	16 x 32	2657	0.029	16 x 40	4080	0.013			
	18 x 25	2430	0.029	18 x 36	3685	0.025			
3900	18 x 32	3157	0.026	18 x 36	3830	0.020			
	16 x 36	2740	0.031						
4700	18 x 36	3191	0.025						
5600	18 x 40	3316	0.020						

Note : * I. D x L : mm

* 2. Ripple Current : (A r.m.s 105°C / 100KHz), Impedance (Ω Max25°C / 100KHz)