

Miniature Aluminum Electrolytic Capacitors

SC [Low Impedance and Low ESR Suitable for Motherboard Output Termination]

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



DESCRIPTION

Applicable for switching regulator of computers, especially for high frequency

MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

FREQUENCY (Hz)	50	120	300	1K	10K
~4.7μF	0.30	0.40	0.50	0.70	0.80
5.6~33μF	0.40	0.50	0.60	0.80	0.90
34~330μF	0.60	0.70	0.80	0.90	0.95
331~1000μF	0.65	0.90	0.90	0.98	1.00
1200μF Higher	0.85	0.90	0.95	0.98	1.00

ELECTRICAL CHARACTERISTICS

Operating Temperature Range : -40 ~ +105°C

Rated Voltage Range : 6.3 ~ 100V

Rated Capacitance Range : 4.7 ~ 15000μF

Capacitance Tolerance : -20 ~ +20% at 120Hz, 20°C

DC Leakage Current (μA) : I = 0.01CV or 3μA whichever is greater.
(After Rated Voltage Applied for 2 Minutes)

Dissipation Factor

WV (V) :	6.3	10	16	25	35	50	63	100
D.F. (%) :	22	19	16	14	12	10	9	8

When nominal capacitance is over 1000μF, tan δ shall be added 0.02 to listed value with increase of every 1000μF.

WV (V) :					6.3	10	16	25	35	50	63	100
Impedance :					Z(120Hz) Z - 25°C / Z + 20°C	4	3	3	3	2	2	2
					Z(120Hz)Z - 40°C / Z + 20°C	8	6	4	4	4	4	4

Endurance : After the rated voltage has been applied at 105°C for 3000 hours, the capacitors shall meet the following requirements.

If Dimension is Down Size, Endurance will be Less 1000 hours than Standard

(a) Capacitance Change : Within ±20% of Initial Value

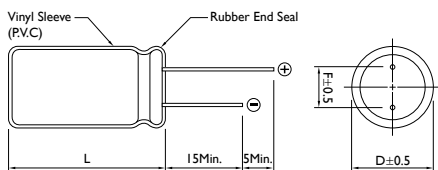
(b) Dissipation Factor: Not Exceeding 200% of Specified Value

(c) Leakage Current: Not Exceeding the Specified Value

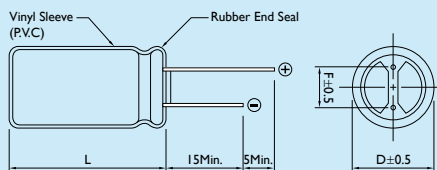
CASE SIZE	5×11 ~ 10×12	10×15 higher
LIFE	2000	3000

Shelf Life : After having been placed at 105°C without voltage applied for 1000 hours, the capacitors shall meet the same requirements as Endurance.

DIAGRAM OF DIMENSIONS



Rubber Stand-off



L ≤ 16 L + 1.5Max.
L > 16 L + 2Max.

Dø = 8 & 10 L + 2.5Max.

Dø < 20 Dø + 0.5
Dø ≥ 20 Dø + 1

Dimensions: mm

Dø	F	dø
4.0	1.5	0.45
5.0	2.0	0.5
6.3	2.5	
8.0	3.5	0.6
10.0	5.0	
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	0.8 (1.0)

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)											
	6.3 (8)			10 (13)			16 (20)			25 (32)		
	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR
10										*4 x 7	40	2.000
										5 x 11	50	0.550
47										5 x 11	150	0.450
56							5 x 11	100	0.630	5 x 11	150	0.420
68							5 x 11	150	0.420	6.3 x 11	200	0.370
100				5 x 11	150	0.420	5 x 11	200	0.370	6.3 x 11	250	0.220
120				5 x 11	200	0.370	6.3 x 11	250	0.320	8 x 11	300	0.200
150	5 x 11	200	0.420	6.3 x 11	250	0.320	6.3 x 11	300	0.220	8 x 11	550	0.140
220	6.3 x 11	250	0.320	6.3 x 11	300	0.220	8 x 11	550	0.140	*8 x 11	620	0.120
										8 x 15	750	0.100
270	*6.3 x 11	300	0.220									
330	*6.3 x 11	320	0.230	8 x 11	550	0.140	*8 x 11	620	0.120	*8 x 15	660	0.100
	8 x 11	400	0.180				8 x 15	750	0.100	8 x 20	800	0.069
							10 x 12	688	0.080	10 x 15	900	0.086
470	*6.3 x 11	440	0.180	*8 x 11	620	0.120	*8 x 15	730	0.093	*8 x 20	1000	0.067
	8 x 11	550	0.140	8 x 15	750	0.100	10 x 12	800	0.085	*10 x 12	900	0.086
										10 x 15	1050	0.064
680	*8 x 11	580	0.120	*8 x 11	640	0.110	10 x 15	1050	0.064	10 x 19.5	1100	0.039
	8 x 15	700	0.100	10 x 12	800	0.085						
820	8 x 20	750	0.085	10 x 15	1050	0.064	10 x 19.5	1100	0.044	10 x 19.5	1250	0.039
1000	*8 x 11	580	0.150	8 x 20	1080	0.065	*10 x 15	1140	0.043	*10 x 19.5	1160	0.047
	*8 x 15	670	0.085	10 x 12	930	0.075	10 x 19.5	1250	0.039	*10 x 25	1310	0.042
	8 x 20	800	0.069	10 x 15	990	0.085				13 x 20	1450	0.038
	10 x 12	690	0.080	10 x 19.5	1100	0.050						
1200	10 x 15	1000	0.064	10 x 19.5	1250	0.044	*10 x 25	1310	0.042	13 x 25	1600	0.029
							13 x 20	1450	0.038			
1500	*8 x 15	980	0.085	10 x 19.5	1450	0.039	*10 x 19.5	1200	0.045	*12 x 30	1750	0.032
	*8 x 20	1070	0.051				13 x 20	1600	0.034	16 x 25	2000	0.028
	*10 x 15	1070	0.055									
	10 x 19.5	1250	0.044									

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz
 2. ESR: 100KHz / 20°C (Ω Max.)
 3. * Down Size: 1000 Hours less than standard



CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)											
	6.3 (8)			10 (13)			16 (20)			25 (32)		
	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR
2200	*10 × 19.5	1220	0.051	*10 × 19.5	1330	0.047	*10 × 30	1780	0.032	*13 × 30	1810	0.029
	*10 × 25	1310	0.048	*10 × 25	1450	0.039	*13 × 20	1720	0.033	*16 × 25	1660	0.032
	13 × 20	1450	0.043	13 × 20	1600	0.038	13 × 25	2000	0.028	16 × 32	2200	0.024
3300	*10 × 25	1400	0.043	*10 × 30	1740	0.032	*13 × 40	2200	0.026	*16 × 36	2540	0.019
	13 × 25	1700	0.035	13 × 25	2000	0.028	16 × 25	2200	0.024	18 × 36	2550	0.019
3900	13 × 25	1750	0.032									
4700	*12 × 30	1570	0.033	*13 × 25	1860	0.028	16 × 36	2550	0.019	18 × 36	2800	0.019
	*13 × 25	1520	0.032	16 × 25	2200	0.024						
	16 × 25	1800	0.028									
6800	16 × 32	2000	0.024	16 × 36	2550	0.019	18 × 36	2800	0.019	18 × 36	2800	0.019
8200	16 × 32	2350	0.019	18 × 36	2800	0.019						
10000	16 × 36	2550	0.019									
15000	18 × 36	3000	0.019									

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CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)											
	35 (44)			50 (63)			63 (79)			100 (125)		
	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR
4.7	5 x 11	115	1.200	5 x 11	115	2.000	5 x 11	115	2.200	5 x 11	120	2.000
6.8	5 x 11	120	1.000	5 x 11	120	1.850	5 x 11	120	2.000	5 x 11	140	1.850
10	5 x 11	140	0.900	5 x 11	140	1.700	5 x 11	140	1.850	6.3 x 11	200	1.500
15	5 x 11	170	0.690	5 x 11	180	1.200	5 x 11	200	1.700	6.3 x 11	250	1.200
22	5 x 11	190	0.420	5 x 11	200	0.700	6.3 x 11	250	1.200	8 x 11	300	0.790
33	5 x 11	200	0.420	6.3 x 11	250	0.600	6.3 x 11	300	0.900	8 x 15	450	0.590
47	6.3 x 11	250	0.370	6.3 x 11	300	0.520	8 x 11	450	0.700	10 x 15	550	0.350
68	6.3 x 11	300	0.220	8 x 11	450	0.350	8 x 11	550	0.520	10 x 19.5	650	0.240
100	*6.3 x 11	360	0.180	*8 x 11	480	0.290	8 x 20	650	0.350	13 x 20	800	0.180
	8 x 11	450	0.140	8 x 15	550	0.250						
120	8 x 11	550	0.130	8 x 20	650	0.210	10 x 15	800	0.300	13 x 25	1050	0.150
150	8 x 15	650	0.100	10 x 12	800	0.160	10 x 15	1050	0.200	13 x 25	1300	0.110
220	*8 x 15	730	0.100	*10 x 15	1050	0.100	10 x 19.5	1300	0.150	16 x 25	1400	0.071
	10 x 12	800	0.069	10 x 25	1050	0.068						
330	*10 x 15	900	0.052	10 x 19.5	1300	0.072	13 x 20	1400	0.100	16 x 32	1550	0.049
	10 x 19.5	1050	0.044									
470	10 x 19.5	1300	0.039	*10 x 19.5	1390	0.075	13 x 25	1550	0.064	18 x 36	1770	0.038
				13 x 20	1400	0.060						
680	13 x 20	1400	0.038	13 x 25	1550	0.050	16 x 25	1700	0.052			
820	13 x 20	1550	0.034	16 x 25	1700	0.040	16 x 32	1900	0.048			
1000	13 x 25	1700	0.029	16 x 25	1900	0.039	16 x 32	2100	0.042			
1200	16 x 25	1900	0.028	16 x 32	2100	0.025	16 x 36	2550	0.036			
1500	16 x 25	2100	0.024	16 x 36	2550	0.025	18 x 36	2800	0.033			
2200	*16 x 32	2300	0.021	18 x 40	2800	0.025						
	16 x 36	2550	0.019									
3300	18 x 36	2880	0.019									

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz
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