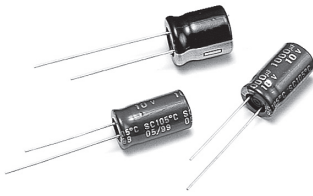


Miniature Aluminum Electrolytic Capacitors

SC [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

Recommended Applications: Applicable for switching regulator of computer, especially for high frequency

Multiplier for Ripple Current

Frequency coefficient

Frequency(Hz)	50	120	300	1K	10K	100K
~4.7μF	0.30	0.40	0.50	0.70	0.80	1.00
5.6~33μF	0.40	0.50	0.60	0.80	0.90	1.00
34~330μF	0.60	0.70	0.80	0.90	0.95	1.00
331~1000μF	0.65	0.90	0.90	0.98	1.00	1.00
1200μF Higher	0.85	0.90	0.95	0.98	1.00	1.00

ELECTRICAL CHARACTERISTICS

Operating Temperature : -40° ~ +105°C

Working Voltage : 6.3 ~ 100V

Rate Capacitance Range : 4.7 ~ 15000μF

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

WV (V): $\frac{6.3}{\tan \delta} : \frac{10}{0.15} - \frac{16}{0.14} - \frac{25}{0.12} - \frac{35}{0.10} - \frac{50}{0.10} - \frac{63}{0.08} - \frac{100}{0.07}$

When nominal capacitance is over 1000 μF,

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

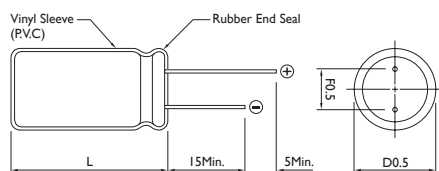
Endurance : After applying rated voltage with ripple current for 3000 hours at 105°C, the capacitors shall meet the following requirements.

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

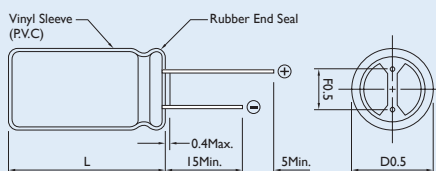
- (a) Capacitance Change : Within 20% of Initial Value
- (b) Not more than 200% of specified value
- (c) Not more than the specified value

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

DIAGRAM OF DIMENSIONS



Rubber Stand-off



$L \leq 16 : L+1.5\text{max}$
 $L > 16 : L+2\text{max}$
 $D\phi = 8 \& 10 : L+2.5$

$D\phi < 20 : D\phi + 0.5$
 $D\phi \geq 20 : D\phi + 1$

Dimensions : mm

Dφ	F	dφ
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	0.6
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	0.8 (1.0)



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

CAP. (μF)	RATED VOLTAGE WV											
	6.3 SIZE	RIPPLE	ESR	10 SIZE	RIPPLE	ESR	16 SIZE	RIPPLE	ESR	25 SIZE	RIPPLE	ESR
4.7												
6.8												
10							5 x 11	29	0.064	4 x 7 5 x 11	40 50	2.00 0.550
22							5 x 11	77	0.060			
39							5 x 11	95	0.500			
47							5 x 11	117	0.500			
56							5 x 11	100	0.630	5 x 11	150	0.042
68							5 x 11	150	0.420	6 x 11	200	0.370
82												
100				5 x 11	150	0.420	5 x 11 6 x 7	200 164	0.370 0.240	6 x 11	250	0.220
120				5 x 11	200	0.370	6 x 11	250	0.320	8 x 11	300	0.200
150	5 x 11	200	0.420	6 x 11	250	0.320	6 x 11	300	0.220	8 x 11	550	0.140
180				6 x 11	250	0.32						
220	6 x 11	250	0.320	6 x 11	300	0.220	8 x 11	550	0.140	*8 x 11 8 x 15	620 750	0.120 0.100
270	*6 x 11	300	0.220							10 x 12	865	0.08
330	*6 x 11 8 x 11	320 400	0.230 0.180	8 x 11	550	0.140	*8 x 11 8 x 15 10 x 12	623 750 688	0.120 0.100 0.080	*8 x 15 8 x 20 10 x 15	660 800 900	0.100 0.069 0.086
470	*6 x 11 8 x 11	440 550	0.180 0.140	8 x 15	750	0.100	*8 x 15 10 x 12	730 800	0.093 0.085	*8 x 20 8 x 15 10 x 12 10 x 15	1000 835 900 1050	0.067 0.086 0.086 0.064
560				8 x 11	620	0.120	8 x 11 10 x 12	644 846	0.150 0.073			
680	8 x 11 8 x 15	580 700	0.120 0.100	8 x 11 10 x 12	640 800	0.110 0.085	10 x 15 8 x 15	1050 880	0.064 0.076	10 x 19	1100	0.039
820	8 x 15 8 x 20	620 750	0.100 0.085	10 x 15	1050	0.064	10 x 19	1100	0.044	10 x 19	1250	0.039
1000	*8 x 11 *8 x 15 8 x 20 10 x 12	580 670 800 690	0.150 0.085 0.069 0.080	8 x 20 8 x 15 10 x 12 10 x 15	1080 900 930 990	0.065 0.077 0.075 0.085	10 x 19 10 x 15	1250 1140	0.039 0.043	*10 x 25 13 x 20	1310 1450	0.042 0.038
1200	10 x 15 8 x 15	1000 840	0.064 0.076	10 x 19	1250	0.044	*10 x 25 13 x 20	1310 1450	0.042 0.038	13 x 25	1600	0.029
1500	*10 x 15 10 x 19 8 x 15 8 x 20	1070 1250 980 1070	0.055 0.044 0.085 0.051	10 x 19	1450	0.039	10 x 20 13 x 20	1200 1600	0.045 0.035	16 x 25	2000	0.028
2200	10 x 19 *10 x 25	1220 1310	0.051 0.048	*10 x 19 10 x 25	1330 1450	0.047 0.025	10 x 30 13 x 20 10 x 25 13 x 25	1780 1720 1644 2000	0.032 0.033 0.034 0.028	13 x 30 16 x 25 16 x 32 16 x 36	1810 1660 2200 2540	0.029 0.032 0.024 0.019
3300	13 x 20 10 x 19 13 x 25 10 x 25	1450 1236 1700 1400	0.043 0.048 0.035 0.043	13 x 20 10 x 30 13 x 25	1600 1740 2000	0.038 0.032 0.028	16 x 25 13 x 40	2200 2200	0.024 0.026	18 x 36	2550	0.019
3900		1750	0.032									
4700	*13 x 30 16 x 25	1570 1800	0.033 0.028	13 x 25 16 x 25	1860 2200	0.028 0.024	16 x 36	2550	0.019	18 x 36	2800	0.019
6800	16 x 32	2000	0.024	16 x 36	2550	0.019	18 x 36	2800	0.019	18 x 36	2800	0.019
8200	16 x 32	2350	0.019				18 x 36	3638	0.019			
10000				18 x 36	2800	0.019						
15000	16 x 36	2350	0.019									
	18 x 36	3000	0.019									

Note : * 1. D x L : mm

* 2. Ripple Current : (mA r.m.s 105°C / 100KHz), ESR (Ω Max20°C/100KHz)

* 3. " * " is down size, Edurance is less 1000 hrs than standard



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

CAP. (μF)	RATED VOLTAGE WV											
	35 SIZE	RIPPLE	ESR	50 SIZE	RIPPLE	ESR	63 SIZE	RIPPLE	ESR	100 SIZE	RIPPLE	ESR
1.0				5 × 11	100	4.000						
2.2				5 × 11	100	3.000						
3.3												
4.7	5 × 11	115	1.200	5 × 11	115	2.000	5 × 11	115	2.200	5 × 11	120	2.000
6.8	5 × 11	120	1.000	5 × 11	120	1.850	5 × 11	120	2.000	5 × 11	140	1.850
10	5 × 11	140	0.900	5 × 11	140	1.700	5 × 11	140	1.850	6 × 11	200	1.500
12												
15	5 × 11	170	0.690	5 × 11	180	1.200	5 × 11	200	1.700	6 × 11	250	1.200
18												
22	5 × 11	190	0.420	5 × 11	200	0.700	6 × 11	250	1.200	8 × 11	300	0.790
27												
33	5 × 11	200	0.420	6 × 11	250	0.600	6 × 11	300	0.900	8 × 15	450	0.590
39												
47	6 × 11	250	0.370	6.3 × 11	300	0.520	8 × 11	450	0.700	10 × 15	550	0.350
56										8 × 20	362	0.264
68	6 × 11	340	0.220	8 × 11	450	0.350	8 × 11	550	0.520	10 × 19	650	0.240
82	8 × 11	640	0.130									
100	6 × 11	360	0.180	* 8 × 11	480	0.290	8 × 20	650	0.350	13 × 20	800	0.180
	8 × 11	450	0.140	8 × 15	550	0.250						
120	8 × 11	550	0.130	8 × 20	650	0.210	10 × 15	800	0.300	13 × 25	1050	0.150
150				10 × 12	800	0.160				13 × 25	1300	0.110
180	8 × 15	650	0.100				10 × 15	1050	0.200			
220	* 8 × 15	730	0.075	10 × 15	1050	0.100	10 × 19	1300	0.150	16 × 25	1400	0.071
				10 × 25	1050	0.068						
	10 × 12	800	0.069									
270												
330	* 10 × 15	900	0.052	10 × 19	1300	0.072				16 × 32	1550	0.049
	8 × 20	902	0.051				13 × 20	1400	0.100			
	10 × 19	1050	0.044									
390												
470	10 × 19.5	1300	0.039	10 × 19	1390	0.075	13 × 25	1550	0.064	18 × 36	1700	0.038
				13 × 20	1400	0.060						
560												
680	13 × 20	1400	0.038	13 × 25	1550	0.050	16 × 25	1700	0.052			
820	13 × 20	1550	0.034	16 × 25	1700	0.040	16 × 32	1900	0.048			
1000	13 × 25	1700	0.030	16 × 25	1900	0.039	16 × 32	2100	0.042			
	13 × 20	1724	0.034									
1200				16 × 32	2100	0.025	16 × 36	2550	0.036			
1500	16 × 25	1900	0.028									
1800	16 × 25	2100	0.024	16 × 36	2550	0.025	18 × 36	2800	0.033			
2200	* 16 × 32	2300	0.021	18 × 40	2800	0.025	18 × 40	2800	0.026			
	16 × 25	2062	0.023									
	16 × 36	2550	0.019									
2700												
3300	18 × 36	2880	0.019									
3900												
4700				22 × 40	2850	0.025						
6800												
8200												
10000												
15000												

Note : * 1. D × L : mm

* 2. Ripple Current : (mA r.m.s 105°C / 100KHz), ESR (Ω Max20°C / 100KHz)

* 3. “*” is down size, Edurance is less 1000 hrs than standard