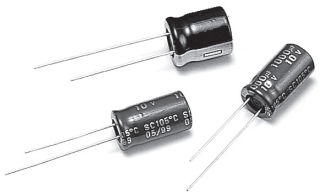
Miniature Aluminum Electrolytic Capacitors

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 comprter, 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) :	6.3	10	16	25	35	50	63	100
tan δ :	0.15	0.14	0.12	0.10	0.10	0.08	0.08	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

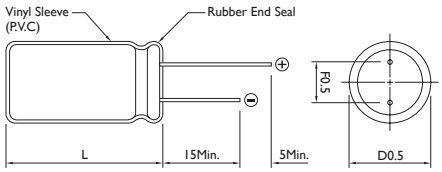
Endurance : After applying rated voltage with ripple current for 3000 hours at 105°C, the capacitors shall meet the following requirements.
If dimension is down size, Endurance will be less 1000 hours than standard

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

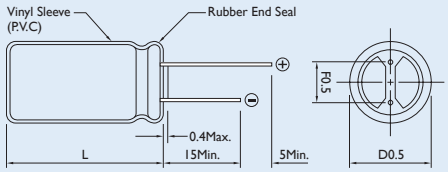
Shelf Life : After placed at 105°C without voltage applied for 1000 horus, the capacitors shall meet the same requirement as Endurance.

DIAGRAM OF DIMENSIONS

Dimensions : mm



Rubber Stand-off



L ≤16 : L+1.5max
L >16 : L+2max
Dø =8&10 : L+2.5

Dø <20 : Dø+0.5
Dø ≥20 : Dø+1

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	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 Dø ≥ 6mm 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	40	2.00
										5 x 11	50	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	200	0.370	6 x 11	250	0.220
							6 x 7	164	0.240			
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	620	0.120
										8 x 15	750	0.100
270	*6 x 11	300	0.220							10 x 12	865	0.08
	*6 x 11	320	0.230	8 x 11	550	0.140	*8 x 11	623	0.120	*8 x 15	660	0.100
330	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
	*6 x 11	440	0.180				*8 x 15	730	0.093	*8 x 20	1000	0.067
470	8 x 11	550	0.140	8 x 15	750	0.100	10 x 12	800	0.085	8 x 15	835	0.086
										10 x 12	900	0.086
				8 x 11	620	0.120	8 x 11	644	0.150	10 x 15	1050	0.064
560							10 x 12	846	0.073			
680	8 x 11	580	0.120	8 x 11	640	0.110	10 x 15	1050	0.064	10 x 19	1100	0.039
	8 x 15	700	0.100	10 x 12	800	0.085	8 x 15	880	0.076			
820	8 x 15	620	0.100									
	8 x 20	750	0.085	10 x 15	1050	0.064	10 x 19	1100	0.044	10 x 19	1250	0.039
	*8 x 11	580	0.150	8 x 20	1080	0.065				10 x 20	1160	0.047
1000	*8 x 15	670	0.085	8 x 15	900	0.077						
	8 x 20	800	0.069	10 x 12	930	0.075	10 x 19	1250	0.039	*10 x 25	1310	0.042
	10 x 12	690	0.080	10 x 15	990	0.085	10 x 15	1140	0.043	13 x 20	1450	0.038
1200	10 x 15	1000	0.064	10 x 19	1250	0.044	*10 x 25	1310	0.042	13 x 25	1600	0.029
	8 x 15	840	0.076				13 x 20	1450	0.038			
	*10 x 15	1070	0.055	10 x 19	1450	0.039	10 x 20	1200	0.045			
1500	10 x 19	1250	0.044				13 x 20	1600	0.035	16 x 25	2000	0.028
	8 x 15	980	0.085									
	8 x 20	1070	0.051									
	10 x 19	1220	0.051	*10 x 19	1330	0.047	10 x 30	1780	0.032	13 x 30	1810	0.029
2200	*10 x 25	1310	0.048	10 x 25	1450	0.025	13 x 20	1720	0.033	16 x 25	1660	0.032
							10 x 25	1644	0.034			
	13 x 20	1450	0.043	13 x 20	1600	0.038	13 x 25	2000	0.028	16 x 32	2200	0.024
	10 x 19	1236	0.048	10 x 30	1740	0.032				16 x 36	2540	0.019
3300	13 x 25	1700	0.035	13 x 25	2000	0.028	16 x 25	2200	0.024			
	10 x 25	1400	0.043				13 x 40	2200	0.026	18 x 36	2550	0.019
3900	13 x 25	1750	0.032									
	*13 x 30	1570	0.033	13 x 25	1860	0.028				18 x 36	2800	0.019
4700				16 x 25	2200	0.024	16 x 36	2550	0.019			
	16 x 25	1800	0.028									
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			
				18 x 36	2800	0.019						
10000	16 x 36	2350	0.019									
15000	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 Dø ≥ 6mm with Safety Vent at Can Bottom

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

Note : * 1. D x L : mm

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

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