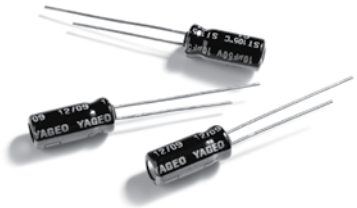
Miniature Aluminum Electrolytic Capacitors

ST [Low Impedance and Long Life]

105°C 4000 ~ 10000 Hours, Low Impedance and Long Life



DESCRIPTION

Applicable for SMPS, Adaptor, Charger, Monitor/ Computer

MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

FREQUENCY (Hz)	120	1K	10K	100K
6.8~180μF	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

ELECTRICAL CHARACTERISTICS

Operating Temperature Range : -40 ~ +105°C

Rated Voltage Range : 6.3 ~ 63V

Rated Capacitance Range : 6.8 ~ 15000μF

Capacitance Tolerance : ±20% at 120Hz, 20°C

Leakage Current (Max.) (20°C): I = 0.01CV or 3μA whichever is greater. (After Rated Voltage Applied for 2 Minutes) I = Leakage Current (μA), C = Nominal Capacitance (μF), V = Rated Voltage (V)

Dissipation Factor (Max.) (tanδ) (120Hz, 20°C)

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

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

Low Temperature Stability Impedance Ratio (Max.)

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

Endurance

VDC :	5ø~6.3ø	8ø~10ø	12.5ø~18ø
6.3~10 (V) :	4000hrs	6000hrs	8000hrs
16~100 (V) :	5000hrs	7000hrs	10000hrs

After the rated voltage has been applied at 105°C for 4000~10000 hours. The capacitors shall meet the following requirements.

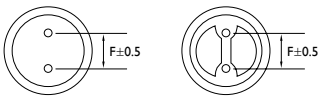
(a) Capacitance Change: Within ±25% of Initial Value

(b) Dissipation Factor: 200% or Less of Initial Specified Value

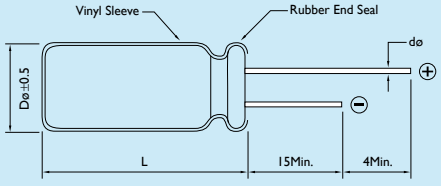
(c) Leakage Current: Initial Specified Value or Less

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

DIAGRAM OF DIMENSIONS



Dø < 20 Dø + 0.5
Dø ≥ 20 Dø + 1



Dimensions: mm

Dø	F	dø
5.0	1.5	0.5
6.3		
8.0		0.6
10.0		
13.0	2.0	
16.0		0.8
18.0		

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE W V (SURGE VOLTAGE W V)											
	6.3 (8)			10 (13)			16 (20)			25 (32)		
	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR
47										5 x 11	210	0.720
56							5 x 11	210	0.720			
100				5 x 11	210	0.720	6.3 x 11	340	0.380	6.3 x 11	340	0.380
150	5 x 11	210	0.720							8 x 11	640	0.200
220				6.3 x 11	340	0.380	8 x 11	640	0.200	8 x 11	640	0.200
330	6.3 x 11	340	0.380				8 x 15	701	0.160	8 x 15	840	0.160
470				8 x 11	640	0.200	8 x 15	840	0.160	10 x 15	1210	0.084
680	8 x 11	640	0.200	8 x 15	840	0.160	10 x 15	1210	0.084	10 x 19.5	1400	0.062
820	8 x 15	840	0.160									
1000	10 x 12	865	0.120	10 x 15	1210	0.084	10 x 19.5	1400	0.062	13 x 20	1900	0.046
1500	8 x 20	1050	0.110	10 x 19.5	1400	0.062	10 x 25	1650	0.052	13 x 25	2230	0.034
	10 x 15	1210	0.084									
2200	10 x 19.5	1400	0.062	10 x 25	1650	0.052	13 x 25	2230	0.034	13 x 35	2880	0.027
2700	10 x 25	1650	0.052	13 x 20	1900	0.046	13 x 30	2650	0.030	16 x 25	2930	0.028
3300	13 x 20	1900	0.046	13 x 25	2230	0.034	13 x 35	2880	0.027	16 x 32	3450	0.025
3900	13 x 25	2230	0.034	13 x 30	2650	0.030	13 x 40	3350	0.024	18 x 32	4170	0.015
4700	13 x 30	2650	0.030	13 x 35	2880	0.027	16 x 25	3450	0.028	18 x 36	4280	0.014
5600	13 x 35	2880	0.027	13 x 40	3550	0.024	16 x 36	3610	0.018			
				16 x 25	2930	0.028	18 x 32	4170	0.015			
6800	13 x 40	3350	0.024	16 x 32	3450	0.025	18 x 36	4220	0.014			
	16 x 25	2930	0.028									
8200	16 x 32	3450	0.025	16 x 36	3610	0.018						
10000	16 x 36	3610	0.018	18 x 36	4220	0.014						
12000	18 x 32	4170	0.015									
15000	18 x 36	4220	0.014									

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz
2. ESR: 100KHz / 20°C (Ω)

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)		
	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR	SIZE	RIPPLE	ESR
10							5 x 11	55	2.300
22				5 x 11	210	2.300			
33	5 x 11	210	0.720	6.3 x 11	340	1.200	6.3 x 11	115	1.200
47	6.3 x 11	340	0.380	6.3 x 11	340	1.200			
56							8 x 11	232	0.630
100				8 x 11	555	0.630			
120				8 x 15	730	0.450	10 x 15	357	0.310
150	8 x 11	640	0.200	8 x 20	910	0.330			
180							10 x 19.5	466	0.210
220	8 x 15	840	0.160	10 x 15	1050	0.310	10 x 25	531	0.200
270							10 x 30	663	0.150
							13 x 20	690	0.160
330	10 x 19.5	1400	0.062	10 x 19.5	1400	0.210	13 x 25	784	0.120
470	10 x 25	1650	0.052	10 x 30	1690	0.150	13 x 30	905	0.100
				13 x 20	1660	0.160			
560				13 x 25	1950	0.120	13 x 35	1050	0.083
680	10 x 30	1910	0.044	13 x 30	2310	0.100	13 x 40	1180	0.071
	13 x 20	1900	0.046						
820	13 x 25	2230	0.034	13 x 35	2510	0.083	16 x 32	1570	0.054
1000	13 x 25	2230	0.034	16 x 25	2555	0.073	16 x 36	1790	0.045
1200	13 x 30	2650	0.030	16 x 32	3010	0.054	16 x 40	2020	0.040
1500	13 x 35	2880	0.027	16 x 36	3150	0.045			
1800	13 x 40	3350	0.024	18 x 32	3635	0.047			
2200	16 x 32	3450	0.025	18 x 36	3680	0.040			
2700	16 x 36	3610	0.018	18 x 40	3800	0.036			
3300	18 x 36	4220	0.014						

Note: 1. Ripple Current: (mA/rms) 105°C, 100KHz
2. ESR: 100KHz / 20°C (Ω)