

SQ [For Adapter and Power Supply Applications Series]

105°C 2000 Hours, Wide Temperature Range and Low Impedance

Miniature Aluminum Electrolytic Capacitors

ELECTRICAL CHARACTERISTICS

Operating Temperature Range : -40 ~ +105°C

Rated Voltage Range : 160V ~ 450DC

Rated Capacitance Range : 2.2 ~ 220μF

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

DC Leakage Current (μA) : $I \leq 0.03CV + 10\mu A$ (After Rated Voltage Applied for 3 Minutes)
 I = Leakage Current (μA), C = Nominal Capacitance (μF), V = Rated Voltage (V)

Dissipation Factor

WV (V) :	160	200	250	350	400	450	
D.F. (%) :	15	15	15	24	24	24	

WV (V) :		160	200	250	350	400	450
Impedance : Z - 25°C / Z + 20°C		3	3	3	3	3	3
Z - 40°C / Z + 20°C		6	6	6	6	6	6

Endurance : After the rated voltage has been applied at 105°C for 2000 hours. The capacitors shall meet the following requirements.

- (a) Capacitance Change : Within 20% of Initial Value
- (b) Dissipation Factor : Not Exceeding 200% of the Specified Value
- (c) Leakage Current : Not Exceeding the Specified Value

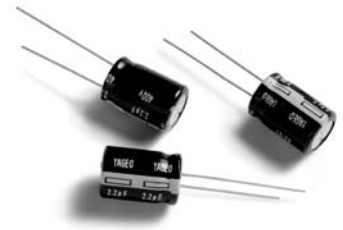
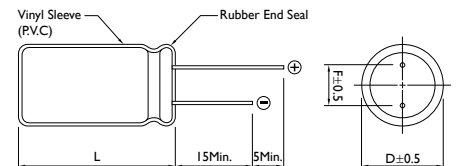
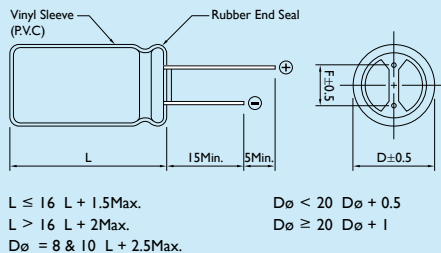
Shelf Life: After leaving capacitors under no load at 105°C for 1000 hours, the capacitors shall meet the same requirements as Endurance.

DIAGRAM OF DIMENSIONS

Dimensions: mm

Rubber Stand-off

Dø	F	dø
10.0	5.0	0.6
13.0		
16.0	7.5	0.8
18.0		



DESCRIPTION

Recommended Applications: AV (TV, Video, Audio), Monitor / Computer, OA / HA / Communication, Converter / Inverter, Energy Saving Lamp, PFC Circuit, SMPS, Ballast, Adapter

MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

FREQUENCY (Hz)	50	120	1K	10K	100K
< 33μF	0.80	1.00	1.36	1.54	1.80
≥ 34μF	0.85	1.00	1.28	1.35	1.40



CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)								
	160 (200)			200 (250)			250 (300)		
	SIZE	RRIPPLE 120Hz	100KHz	SIZE	RRIPPLE 120Hz	100KHz	SIZE	RRIPPLE 120Hz	100KHz
10							10 x 19.5	120	220
22	10 x 19.5	195	350	10 x 19.5	195	350	13 x 25	165	300
33	13 x 20	315	450	13 x 20	365	520	13 x 25	280	400
47	13 x 25	420	600	13 x 25	420	600	16 x 25	505	720
68	13 x 25	420	600	16 x 25	665	950	16 x 32	570	810
100	16 x 25	665	950	16 x 32	840	1200	18 x 36	735	1050
220	18 x 36	980	1400						

Note: I. Ripple Current: (mA/rms) 105°C, 120Hz & 100KHz

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)								
	350 (400)			400 (450)			450 (500)		
	SIZE	RIPPLE 120Hz	100KHz	SIZE	RIPPLE 120Hz	100KHz	SIZE	RIPPLE 120Hz	100KHz
2.2	10 × 15	30	50	10 × 15	80	140	10 × 15	60	110
3.3	10 × 15	35	60	10 × 19.5	110	195	10 × 19.5	75	135
4.7	10 × 19.5	45	78	10 × 25	120	220	13 × 20	105	190
10	13 × 20	75	130	13 × 25	200	360	13 × 25	140	250
22	16 × 25	115	205	16 × 25	315	570	16 × 32	265	480
33	16 × 32	180	255	16 × 32	490	700	18 × 36	455	650
47	18 × 32	225	320	18 × 32	600	860			
82							18 × 36	520	720
100	18 × 45	370	530						
120							18 × 40	720	1000

Note: I. Ripple Current: (mA/rms) 105°C, 120Hz & 100KHz