

# Miniature Aluminum Electrolytic Capacitors

# SN [ For Non-Polar ]

105°C Single-Ended Lead Aluminum Electrolytic Capacitors For Non-Polar General Purpose



## DESCRIPTION

Non-polar for used in reversing polarity DC voltage circuits.

### MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

FREQUENCY (Hz)	60	120	300	1K	10K
FACTOR	0.75	1.00	1.20	1.32	1.65

Temperature Coefficient

TEMPERATURE (°C)	65	85	105
FACTOR	1.30	1.20	1.00

## ELECTRICAL CHARACTERISTICS

Operating Temperature Range : -40 ~ +105°C / -25 ~ +105°C

Rated Voltage Range : 6.3 ~ 100V / 160 ~ 250V

Rated Capacitance Range : 0.22 ~ 2200μF / 0.47 ~ 100μF

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

DC Leakage Current (μA) :  $I = 0.03 CV + 3\mu A$   
(After Rated Voltage Applied for 2 Minutes)

Dissipation Factor

WV (V) :	6.3	10	16	25	35	50	63 ~ 100	160 ~ 250
D.F. (%) :	24	20	17	15	14	12	10	20

For capacitors whose capacitance exceeds 1000μF. The value of D.F is increased by 2% for every addition of 1000μF.

Endurance : 1000 Hours at 105°C with the Polarity Inverted Every 250 Hours

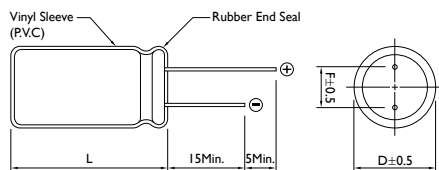
(a) Capacitance Change : Within 25% of Initial Value

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

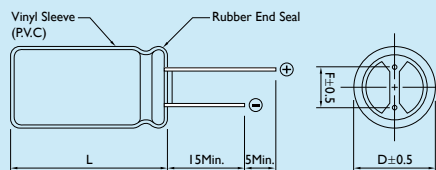
(c) Leakage Current : Not Exceeding the Specified Value

Shelf Life : After having been placed at 105°C without voltage applied for 500 hours, the capacitors shall meet the same requirements as Endurance.

## DIAGRAM OF DIMENSIONS



Rubber Stand-off



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

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

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	
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	

**CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS**

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)									
	6.3 (8) SIZE		10 (13) SIZE		16 (20) SIZE		25 (32) SIZE		35 (44) SIZE	
	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE
4.7									5 x 11	34
10					6.3 x 11	45	5 x 11	42	6.3 x 11	54
							6.3 x 11	50		
22			5 x 11	57	5 x 11	59	6.3 x 11	69	8 x 11	94
					6.3 x 11	69	8 x 11	86		
33	5 x 11	63	6.3 x 11	77	8 x 11	98	8 x 11	105	10 x 12	125
47	6.3 x 11	84	6.3 x 11	93	8 x 11	115	10 x 12	140	10 x 15	165
100	8 x 11	140	8 x 11	193	8 x 11	140	10 x 19.5	240	13 x 20	285
					10 x 12	175				
					10 x 15	205				
220	10 x 12	235	10 x 15	255	10 x 19.5	330	13 x 20	390	16 x 25	520
330	10 x 15	310	10 x 19.5	380	13 x 20	445	16 x 25	580	16 x 25	630
470	10 x 19.5	400	13 x 20	470	13 x 25	570	16 x 25	690	16 x 32	820
1000	13 x 25	690	16 x 25	885	16 x 32	1020				
2200	16 x 32	1250	16 x 36	1450						

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



## CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)							
	50 (63) SIZE		63 (79) SIZE		80 (100) SIZE		100 (125) SIZE	
	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE
0.22	5 x 11	5						
0.47	5 x 11	11	5 x 11	11	5 x 11	11	5 x 11	14
1.0	5 x 11	17	5 x 11	17	5 x 11	17	5 x 11	21
2.2	5 x 11	25	5 x 11	25	5 x 11	29	6.3 x 11	34
3.3	6.3 x 11	31	6.3 x 11	37	6.3 x 11	39	8 x 11	49
4.7	5 x 11	34	5 x 11	37	8 x 11	47	8 x 11	58
	6.3 x 11	41	6.3 x 11	44				
10	6.3 x 11	56	8 x 11	74	10 x 12	88	8 x 11	80
	8 x 11	70					10 x 12	100
22	6.3 x 11	75	8 x 11	95	10 x 19.5	150	13 x 20	180
	8 x 11	97	10 x 15	130				
	10 x 12	115						
33	8 x 11	110	8 x 11	115	13 x 20	205	13 x 20	220
	10 x 15	150	10 x 19.5	175				
47	8 x 11	130	13 x 20	230	13 x 20	245	13 x 25	285
	10 x 19.5	190						
100	13 x 20	310	16 x 25	410	16 x 25	435	16 x 32	510
220	16 x 25	570	16 x 32	660				
330	16 x 36	790						

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

**CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS**

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)					
	160 (200) SIZE		200 (250) SIZE		250 (300) SIZE	
		RIPPLE		RIPPLE		RIPPLE
0.47	6.3 x 11	14				
1.0	6.3 x 11	21	6.3 x 11	21	8 x 11	25
2.2	8 x 11	34	8 x 11	34	10 x 12	38
3.3	10 x 12	49	10 x 12	49	10 x 12	49
4.7	10 x 12	58	10 x 15	62	10 x 17	66
10	10 x 17	80	13 x 20	100	13 x 20	100
22	13 x 25	180	13 x 25	180	16 x 26	200
33	16 x 26	220	16 x 26	220	16 x 32	250
47	16 x 26	285	16 x 32	315	16 x 36	330
100	18 x 36	510				

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