

# SK [ For General ]

85°C Single-Ended Lead Aluminum Electrolytic Capacitors

## Miniature Aluminum Electrolytic Capacitors

### ELECTRICAL CHARACTERISTICS

Operating Temperature : -40° ~ +85°C / -25° ~ +85°C

Working Voltage : 6.3 ~ 100V / 160 ~ 450V

Rate Capacitance Range : 0.1 ~ 22000μF / 0.47 ~ 470μF

Capacitance Tolerance : -20 ~ +20%

DC Leakage Current (μA) : 0.01 CV or 3 μA / 0.03 CV +10 Whichever is greater.  
( After 2 Minutes Application of DC Working Voltage at 25°C )

Dissipation Factor : at 120Hz, 25°C

WV (V):	6.3	10	16	25	35	50	63	100	160 ~ 250	350 ~ 450
D.F (%) :	22	19	16	14	12	10	9	8	15	20

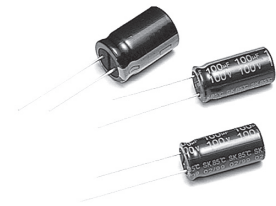
For capacitor whose capacitance exceeds 1000μF. The value of DF(%) is increased by 2% for every addition of 1000μF.

Load Life : 2000 Hours at 85°C Assured with Full Rated Maximum Ripple Current Applied

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

Shelf Life : 1000 Hours, No Voltage Applied at 85°C

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



### DESCRIPTION

Lower-cost capacitors expressly intended for high density printed circuit board.

Very High Volumetric Efficiency

Ideally suited for general-purpose applications, decoupling, by pass, and filtering circuit in entertainment electronics.

Feature High CV Product with Moderate Cost

### Multiplier for Ripple Current

Frequency coefficient

Frequency (Hz)	120	300	1K	10K~100K
6.3~100V Below~68μF	1.00	1.20	1.30	1.50
6.3~100V 100~680μF	1.00	1.10	1.15	1.20
6.3~110V 1000~22000μF	1.00	1.05	1.10	1.15
160~450V Below~220μF	1.00	1.25	1.40	1.40
160~450V 220μF Above	1.00	1.10	1.13	1.13

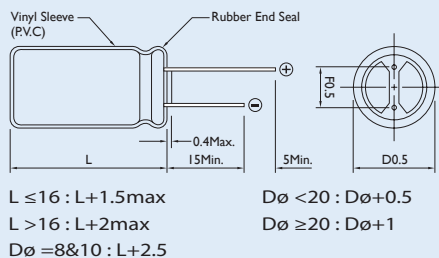
Temperature coefficient

Temperature(°C)	50	70	85
Factor	1.30	1.15	1.00

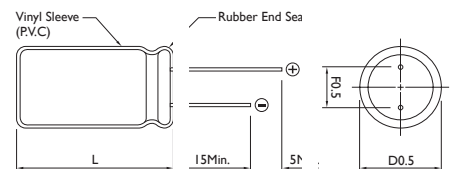
### DIAGRAM OF DIMENSIONS

Dø	F	dø
4.0	1.5	0.45
5.0	2.0	0.5
6.3	2.5	
8.0	3.5	
10.0	5.0	0.6
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	0.8

Rubber Stand-off



Dimensions : mm





## CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

CAP. (μF)	RATED VOLTAGE WV															
	6.3		10		16		25		35		50		63			
	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE		
0.1											5 x 11	1				
0.22											5 x 11	2				
0.33											5 x 11	3				
0.47											5 x 11	5	5 x 11	5		
0.68																
1.0											5 x 11	10	5 x 11	10		
2.2					5 x 11	18					5 x 11	23	5 x 11	29		
3.3											5 x 11	35	5 x 11	40		
4.7			5 x 11	20	5 x 11	25	5 x 11	30	5 x 11	35	5 x 11	40	5 x 11	45		
6.8											5 x 11	50				
10			5 x 11	35	5 x 11	40	5 x 11	50	5 x 11	60	5 x 11	65	5 x 11	70		
15					5 x 11	50					5 x 11	80				
22	5 x 11	35	5 x 11	55	5 x 11	75	5 x 11	90	5 x 11	95	5 x 11	100	5 x 11	95		
													6 x 11	115		
33	5 x 11	55	5 x 11	80	5 x 11	110	5 x 11	115	5 x 11	120	5 x 11	105	6 x 11	130		
												6 x 11	125	8 x 11	140	
47	5 x 11	75	5 x 11	95	5 x 11	130	5 x 11	135	5 x 11	130	6 x 11	140	8 x 11	150		
										6 x 11	140	8 x 11	150			
68							6 x 11	160	8 x 11	180						
100	5 x 11	130	5 x 11	180	5 x 11	185	6 x 11	200	6 x 11	185	8 x 11	230	10 x 15	300		
					6 x 11	185			8 x 11	230	10 x 12	250	10 x 12	300		
220	5 x 11	200	5 x 11	215	6 x 11	320	8 x 11	290	10 x 12	370	10 x 12	380	10 x 15	410		
	6 x 11	240	6 x 11	250	8 x 11	320	10 x 12	340	10 x 15	370	10 x 15	440	10 x 19	490		
									8 x 11	290						
330	6 x 11	260	6 x 11	265	6 x 11	290	8 x 11	316	10 x 12	420	10 x 15	490	10 x 19	540		
	8 x 11	300	8 x 11	330	8 x 11	360	8 x 15	380	10 x 15	490	10 x 19	580	13 x 20	680		
							10 x 12	420	8 x 15	386						
470	6 x 11	330	6 x 11	320	8 x 11	400	8 x 15	420	10 x 15	437	10 x 19	610	13 x 20	755		
	8 x 11	380	8 x 11	400	10 x 12	470	10 x 12	460	10 x 19	510	13 x 20	760	13 x 25	850		
							10 x 15	540	13 x 20	640			16 x 25	880		
680	8 x 11	410	10 x 12	502	10 x 12	500			13 x 25	780			13 x 25	965		
					10 x 15	565			10 x 19	762			16 x 25	1085		
									13 x 20	705						
1000	8 x 11	460	10 x 12	580	10 x 15	630	10 x 19	760	13 x 25	1100	13 x 25	1100	16 x 25	1310		
	10 x 12	530	10 x 15	630	10 x 19	790	13 x 15	760	13 x 25	1100	16 x 25	1350	16 x 32	1550		
							13 x 20	950								
1200			10 x 15	754												
1500			10 x 19	700	13 x 15	825										
2200	10 x 19	840	10 x 19	880	10 x 19	925	13 x 25	1300	16 x 25	1600	16 x 25	1600	16 x 36	1850	18 x 40	2200
	13 x 20	1050	13 x 20	1100	13 x 25	1350	16 x 25	1550	16 x 32	1800	16 x 32	1800	18 x 36	2090	22 x 35	2200
					13 x 20	1100	18 x 20	1550							22 x 40	2200
3300	10 x 19	1000	13 x 20	1250	13 x 25	1400	16 x 25	1660	16 x 32	1950	16 x 36	1970	18 x 36	2170	22 x 40	2500
	13 x 20	1250	13 x 25	1400	16 x 25	1700	16 x 32	1950	18 x 36	2220	18 x 36	2220	18 x 40	2400		
4700	13 x 20	1300	13 x 25	1500	16 x 25	1800	16 x 32	1950	18 x 36	2400						
	13 x 25	1437	16 x 25	1800	16 x 32	2100	18 x 36	2360					22 x 35	2240		
	16 x 25	1700			13 x 40	1882							22 x 40	2500		
6800	16 x 25	1900	16 x 25	1900			18 x 36	2550	22 x 40	2600						
			16 x 32	2150	16 x 36	2200										
					18 x 36	2500										
10000	16 x 25	1900	18 x 36	2500	18 x 36	2700	22 x 40	2800								
	16 x 32	2250	16 x 36	2500												
15000	18 x 36	2880	18 x 36	2950	22 x 40	3150	22 x 40	3200								
	16 x 36	2500														
22000	18 x 40	3650	22 x 40	3700	22 x 40	3800										

Note: \* 1. D x L : mm

\* 2. mA rms at 85°C, 120Hz



## CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

CAP. (μF)	RATED VOLTAGE WV													
	100		160		200		250		350		400		450	
	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE
0.22														
0.47	5 x 11	10	5 x 11	12	5 x 11	14	5 x 11	14	5 x 11	14	6.3 x 11	14	6.3 x 11	14
	5 x 11	21	5 x 11	17	5 x 11	19	5 x 11	17	6 x 11	19	6.3 x 11	16	8 x 11	19
1.0														
							6.3 x 11	19			8 x 11	19		
2.2	5 x 11	30	6.3 x 11	26	6.3 x 11	22	6.3 x 11	24	8 x 11	33	8 x 11	26	10 x 12	33
					8 x 11	27	8 x 11	30	10 x 12	33	10 x 12	33		
3.3	5 x 11	45	6.3 x 11	30	6.3 x 11	30	8 x 11	30	8 x 11	33	10 x 12	40	10 x 15	42
			8 x 11	35	8 x 11	37	10 x 12	38	10 x 12	39				
4.7	5 x 11	50	6.3 x 11	32	8 x 11	36	8 x 11	36	8 x 11	36			10 x 15	50
			8 x 11	40	10 x 12	45	10 x 12	45	10 x 12	45	10 x 15	45	10 x 19	50
									10 x 15	45				
6.8							8 x 11	40					10 x 15	50
							10 x 12	50					10 x 19	56
10	6.3 x 11	75	8 x 11	50	10 x 12	57	10 x 15	70	10 x 15	70	10 x 15	50	13 x 20	60
			10 x 12	65	10 x 15	70	10 x 19	70	13 x 20	70	10 x 19.5	56	13 x 25	75
			10 x 15	65							13 x 20	70	13 x 25	75
15							10 x 19	75	10 x 19	90			13 x 20	77
							13 x 20	90						
22	8 x 11	130	10 x 15	110	10 x 15	120	10 x 19.5	130			13 x 20	100	16 x 20	100
			10 x 19	110					13 x 20	130	13 x 25	110	16 x 25	110
											16 x 25	130	16 x 32	130
33	8 x 11	140	10 x 19.5	150	10 x 19.5	160	13 x 20	140	13 x 25	170	13 x 25	140	16 x 25	145
	10 x 12	170					13 x 25	160	16 x 25	170	16 x 20	145	16 x 32	160
											16 x 25	170	16 x 36	180
47	10 x 12	190	12 x 15	145	13 x 20	160	13 x 25	210	16 x 25	220	16 x 25	180	18 x 36	200
	10 x 15	230	12 x 25	180	13 x 25	190	16 x 5	210			16 x 36	220	18 x 40	230
			13 x 20	180							16 x 32	220		
68					13 x 25	230					18 x 25	236	18 x 32	265
100	10 x 19.5	400	13 x 25	250	16 x 25	330	16 x 32	310	16 x 36	320	18 x 36	360	22 x 40	370
			16 x 25	300										
120					16 x 25	375			18 x 36	360				
150					16 x 25	440	18 x 40	410						
180					16 x 32	472								
220	13 x 25	710	16 x 32	450	18 x 25	485	18 x 36	540						
					18 x 32	540	18 x 40	600						
			16 x 36	510	18 x 36	600								
330	13 x 25	720	18 x 36	540	16 x 40	710								
	16 x 25	860	18 x 40	600	16 x 45	750								
					18 x 36	725								
					18 x 32	685								
					18 x 40	800								
470	16 x 25	1100	22 x 40	900	18 x 40	750								
	16 x 32	1164			22 x 35	1000								
680														
1000	18 x 40	1680												
2200	22 x 40	2300												

Note : \* I. D x L : mm

\* 2. mA rms at 85°C, 120Hz