SK [For General]

85°C Single-Ended Lead Aluminum Electrolytic Capacitors

Miniature Aluminum Electrolytic Capacitors

ELECTRICAL CHARACTERISTICS

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

Rated Voltage Range : 6.3 ~ 100V / 160 ~ 450V

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

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

DC Leakage Current (μA) : I = 0.01CV (μA) or 3μA / I = 0.03CV (μA) + 10μA whichever is greater. (After Rated Voltage Applied for 2 Minutes)

Dissipation Factor

WV (V) :	6.3	10	16	25	35	50	63	100	160 ~ 250	350 ~ 450
D.F (%) :	24	20	16	14	12	10	10	10	20	24

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

Endurance : After the rated voltage has been applied at 85°C for 2000 hours, the capacitors shall meet following requirements.

(a) Capacitance Change : Within 20% of Initial Value
(b) Dissipation Factor : 200% or Less of Initial Specified Value
(c) Leakage Current : Initial Specified Value or Less

Shelf Life : After have been placed at 85°C without voltage applied for 1000 hours the capacitors shall meet following requirements.

(a) Capacitance Change : Within 20% of Initial Value
(b) Dissipation Factor : 200% or Less of Initial Specified Value
(c) Leakage Current : Initial Specified Value or Less



DESCRIPTION

Lower-cost capacitors suitable for high density printed circuit boards.

Very high volumetric efficiency

Ideally suited for general purpose applications, decoupling bypass, and filtering circuit in entertainment electronics.

Featuring high CV products 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

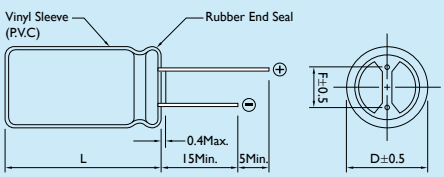
TEMPERATURE (°C)	50	70	85
FACTOR	1.30	1.15	1.00

DIAGRAM OF DIMENSIONS

Dimensions: mm

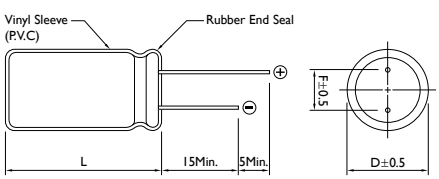
Dø	F	dø
4.0	1.5	0.45
5.0	2.0	0.5
6.3	2.5	
8.0	3.5	0.6
10.0	5.0	
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	

Rubber Stand-off



L ≤ 16 L + 1.5Max.
L > 16 L + 2Max.
Dø = 8 & 10 L + 2.5Max.

Dø < 20 Dø + 0.5
Dø ≥ 20 Dø + 1



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) SIZE	RIPPLE	10 (13) SIZE	RIPPLE	16 (20) SIZE	RIPPLE	25 (32) SIZE	RIPPLE	35 (44) SIZE	RIPPLE	50 (63) SIZE	RIPPLE	63 (79) SIZE	RIPPLE
0.10											5 x 11	1		
0.22											5 x 11	2		
0.33											5 x 11	3	5 x 11	3
0.47											5 x 11	5	5 x 11	5
0.68											5 x 11	7		
1.0			5 x 11	10	5 x 11	10					5 x 11	10	5 x 11	10
2.2			5 x 11	20							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
													6.3 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	6.3 x 11	130
											6.3 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	120	6.3 x 11	140	6.3 x 11	160
							6.3 x 11	135	6.3 x 11	140	8 x 11	150	8 x 11	190
68					5 x 11	150	6.3 x 11	145	8 x 11	180				
100	5 x 11	130	5 x 11	180	5 x 11	165	6.3 x 11	160	6.3 x 11	185	8 x 11	230	10 x 12	300
					6.3 x 11	185	8 x 11	200	8 x 11	230	10 x 12	250	10 x 15	300
150					6.3 x 11	205								
220	5 x 11	200	5 x 11	215	6.3 x 11	260	8 x 11	290	8 x 11	290	10 x 12	380	10 x 15	410
	6.3 x 11	240	6.3 x 11	250	8 x 11	320	10 x 12	340	10 x 12	370	10 x 15	440	10 x 19.5	490
									10 x 15	370				
330	6.3 x 11	260	6.3 x 11	265	6.3 x 11	290	8 x 11	315	8 x 15	386	10 x 15	490	10 x 19.5	540
	8 x 11	300	8 x 11	330	8 x 11	360	8 x 15	380	10 x 12	420	10 x 19.5	580	13 x 20	680
							10 x 12	420	10 x 15	490	13 x 13	530		
470	6.3 x 11	330	6.3 x 11	320	8 x 11	400	8 x 15	420	10 x 15	430	10 x 19.5	610	13 x 20	755
	8 x 11	380	8 x 11	400	10 x 12	470	10 x 12	460	10 x 19.5	510	13 x 20	760	13 x 25	880
							10 x 15	540	13 x 20	640			16 x 25	880

Note: 1. Ripple Current: (mA/rms) 85°C, 120Hz

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) SIZE	RIPPLE	10 (13) SIZE	RIPPLE	16 (20) SIZE	RIPPLE	25 (32) SIZE	RIPPLE	35 (44) SIZE	RIPPLE	50 (63) SIZE	RIPPLE	63 (79) SIZE	RIPPLE
680	8 x 11	410	10 x 12	460	10 x 12	510	10 x 15	540	13 x 20	705			13 x 25	965
					10 x 15	565	10 x 19.5	595	13 x 25	780			16 x 25	1085
1000	8 x 11	460	10 x 12	580	10 x 12	530	10 x 19.5	760	10 x 19.5	770	13 x 25	1100	16 x 25	1310
	10 x 12	580	10 x 15	630	10 x 15	630	12 x 16	760	13 x 20	950	16 x 25	1350	16 x 32	1550
					10 x 19.5	790	13 x 16	760	13 x 25	1100				
							13 x 20	950						
1200	10 x 12	620	10 x 15	754										
1500			10 x 19.5	700	13 x 16	825			16 x 25	1240				
2200	10 x 19.5	840	10 x 19.5	880	10 x 19.5	925	13 x 20	1100	16 x 25	1600	16 x 36	1850	18 x 40	2200
	13 x 20	1050	13 x 20	1100	13 x 20	1100	13 x 25	1300	16 x 32	1800	18 x 36	2090	22 x 35	2200
					13 x 25	1350	16 x 25	1550					22 x 40	2200
							18 x 20	1550						
3300	10 x 19.5	1000	13 x 20	1250	13 x 20	1200	16 x 25	1660	16 x 36	1970	18 x 36	2170	22 x 40	2500
	13 x 20	1250	13 x 25	1400	13 x 25	1400	16 x 32	1950	18 x 36	2220	18 x 40	2400		
					16 x 25	1700								
4700	13 x 20	1300	13 x 25	1500	13 x 40	1882	16 x 32	1950	16 x 36	2136	18 x 50	2350		
	13 x 25	1437	16 x 25	1800	16 x 25	1800	18 x 36	2360	18 x 36	2400	22 x 35	2240		
	16 x 25	1700			16 x 32	2100					22 x 40	2500		
6800	16 x 25	1900	16 x 25	1900	16 x 32	1980	18 x 36	2550	18 x 40	2200				
			16 x 32	2150	16 x 36	2200			22 x 40	2600				
					18 x 36	2500								
10000	16 x 25	1900	16 x 36	2225	18 x 36	2700	22 x 40	2800						
	16 x 32	2250	18 x 36	2500										
15000	16 x 36	2500	18 x 36	2950	22 x 40	3150	22 x 40	3200						
	18 x 36	2880												
22000	18 x 40	3650	22 x 40	3700	22 x 40	3800								

Note: 1. Ripple Current: (mA/rms) 85°C, 120Hz

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)													
	100 (125)		160 (200)		200 (250)		250 (300)		350 (400)		400 (450)		450 (500)	
	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE
0.22	5 x 11	5												
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
1.0	5 x 11	21	5 x 11	17	5 x 11	19	5 x 11	17	6.3 x 11	19	6.3 x 11	16	6.3 x 11	15
			6.3 x 11	17			6.3 x 11	19			8 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	45	10 x 15	50
			8 x 11	40	10 x 12	45	10 x 12	45	10 x 12	39			10 x 19.5	50
									10 x 15	45				
6.8	5 x 11	55					8 x 11	40					10 x 15	50
							10 x 12	50					10 x 19.5	50
10	5 x 11	65	8 x 11	50	10 x 12	57	10 x 15	70	10 x 15	70	10 x 15	50	13 x 20	60
	6.3 x 11	75	10 x 12	65	10 x 15	70	10 x 19.5	70	13 x 20	70	10 x 19.5	56	13 x 25	75
			10 x 15	65							13 x 20	70		
15	8 x 11	93					10 x 19.5	75	10 x 19.5	90			13 x 20	93
							13 x 20	90						
22	6.3 x 11	105	10 x 15	110	10 x 15	120	10 x 19.5	130	13 x 20	130	13 x 20	100	16 x 20	100
	8 x 11	130	10 x 19.5	110							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 16	145	13 x 20	160	13 x 20	180	16 x 25	220	16 x 25	180	18 x 36	200
	10 x 15	230	12 x 25	180	13 x 25	190	13 x 25	210			16 x 32	220	18 x 40	230
			13 x 20	180			16 x 25	210			16 x 36	220		
68	10 x 15	280			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	16 x 36	320	22 x 40	370
			16 x 25	300					18 x 36	360	18 x 36	360		

Note: 1. Ripple Current: (mA/rms) 85°C, 120Hz

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE W V (SURGE VOLTAGE W V)													
	100 (125)		160 (200)		200 (250)		250 (300)		350 (400)		400 (450)		450 (500)	
	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE	SIZE	RIPPLE
150	13 x 20	500					18 x 40	410						
220	13 x 25	710	16 x 32	450	18 x 25	485	18 x 36	540			18 x 40	800		
			16 x 36	510	18 x 32	540	18 x 40	600						
					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 32	685								
					18 x 36	725								
					18 x 40	800								
470	13 x 40	1100	22 x 40	900	18 x 40	750								
	16 x 25	1100			22 x 35	1000								
	16 x 32	1100												
680	16 x 36	1260												
1000	18 x 40	1350												
	22 x 35	1680												
2200	22 x 40	2300												

Note: 1. Ripple Current: (mA/rms) 85°C, 120Hz