SE-K [For General]

105°C Single-Ended Lead Aluminum Electrolytic Capacitors Rated Voltage up to 450V

Miniature Aluminum Electrolytic Capacitors

ELECTRICAL CHARACTERISTICS

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

Rated Voltage Range : 6.3 ~ 100V / 160 ~ 250V / 350 ~ 450V

Rated Capacitance Range : 0.47 ~ 15000μF / 0.47 ~ 470μF / 0.47 ~ 150μF

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

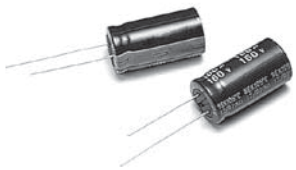
Leakage Current (μA) : I = 0.01CV (μA) + 3μA / 0.03CV (μA) + 10μA Whichever is greater.
(After Rated Voltage Applied for 2 Minutes)

Dissipation Factor

WV (V) :	6.3	10	16	25	35	50	63~100	160 ~ 250	350 ~ 450
D.F. (%) :	26	22	18	16	14	12	10	15	20

Endurance : After applying rated voltage for 1000 hours at 105°C. The capacitors shall meet the 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 leaving capacitors under no load at 105°C for 500 hours, the capacitors shall meet the same requirement as Endurance.



DESCRIPTION

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

Very High Volumetric Efficiency.

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

Feature High CV Product with Moderate Cost.

MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

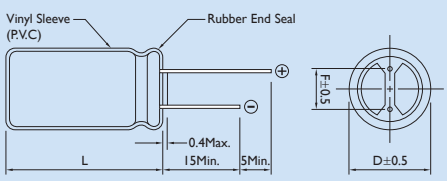
FREQUENCY (Hz)	120	300	1K	10K~100K
6.3~100V Below~68μF	1.00	1.20	1.30	1.45
6.3~100V 100~680μF	1.00	1.10	1.15	1.25
6.3~110V 1000~22000μF	1.00	1.05	1.10	1.15
160~450V ALL Cap(μF)	1.00	1.05	1.10	1.50

DIAGRAM OF DIMENSIONS

Dimensions: mm

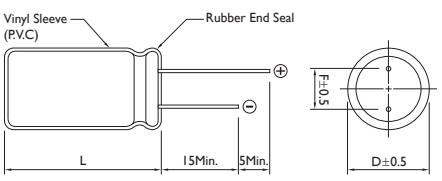
Dø	F	dø
5.0	2.0	0.5
6.3	2.5	
8.0	3.5	0.6
10.0	5.0	
12.0		
13.0		
16.0	7.5	0.8
18.0		
22.0	10.0	0.8 (1.0)

Rubber Stand-off



L ≤ 16 L + 1.5Max.
I > 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 WV (SURGE VOLTAGE WV)													
	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
0.47											5 x 11	7	5 x 11	8
0.68											5 x 11	7		
1.0											5 x 11	12	5 x 11	13
2.2											5 x 11	18	5 x 11	20
3.3											5 x 11	25	5 x 11	27
4.7							5 x 11	20	5 x 11	25	5 x 11	30	5 x 11	34
6.8							5 x 11	25	5 x 11	30	5 x 11	32	5 x 11	37
10					5 x 11	25	5 x 11	30	5 x 11	40	5 x 11	50	5 x 11	55
15					5 x 11	40	5 x 11	45	5 x 11	50	5 x 11	60	5 x 11	65
22			5 x 11	45	5 x 11	55	5 x 11	60	5 x 11	65	5 x 11	75	5 x 11	75
													6.3 x 11	90
33			5 x 11	60	5 x 11	70	5 x 11	75	5 x 11	85	6.3 x 11	105	6.3 x 11	110
													8 x 11	120
47	5 x 11	60	5 x 11	75	5 x 11	85	5 x 11	90	5 x 11	95	6.3 x 11	100	6.3 x 11	128
					6.3 x 11	97			6.3 x 11	115	8 x 11	125	8 x 11	155
68	5 x 11	75	5 x 11	80	5 x 11	100	6.3 x 11	125	8 x 11	130	8 x 11	159	10 x 12	198
100	5 x 11	100	5 x 11	110	5 x 11	110	6.3 x 11	145	6.3 x 11	150	8 x 11	160	8 x 15	230
			6.3 x 11	135	6.3 x 11	135	8 x 11	160	8 x 11	190	10 x 12	210	10 x 12	260
150	5 x 11	120	5 x 11	110	8 x 11	180	8 x 11	200	10 x 12	240	10 x 12	289	10 x 15	330
			6.3 x 11	130										
220	5 x 11	140	5 x 11	150	6.3 x 11	180	8 x 11	200	8 x 11	230	10 x 12	340	10 x 15	400
	6.3 x 11	165	6.3 x 11	180	8 x 11	235	10 x 12	250	8 x 15	280	10 x 15	400	10 x 19.5	460
									10 x 12	315				
270			8 x 11	210										
330	6.3 x 11	160	6.3 x 11	205	8 x 11	285	8 x 11	265	8 x 15	345	10 x 15	450	10 x 19.5	520
	8 x 11	200	8 x 11	255			8 x 15	320	8 x 20	420	10 x 19.5	535	13 x 20	650
							10 x 12	355	10 x 12	380				
									10 x 15	440				
470	6.3 x 11	220	6.3 x 11	245	8 x 11	310	8 x 15	365	10 x 15	415	10 x 19.5	580	13 x 20	700
	8 x 11	280	8 x 11	305	8 x 15	360	10 x 12	400	10 x 19.5	490	13 x 20	730	13 x 25	800
					10 x 12	395	10 x 15	470	13 x 20	580				
560									10 x 30	600				

Note: 1. Ripple Current: (mA/rms) 105°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	255	8 x 11	335	10 x 12	455	10 x 15	540	10 x 19.5	600	13 x 25	860	13 x 25	840
	10 x 12	320	8 x 15	385	10 x 15	530	10 x 19.5	650	13 x 20	730			16 x 25	1000
			10 x 12	420										
1000	8 x 11	370	8 x 11	390	8 x 20	600	10 x 19.5	680	13 x 20	850	13 x 25	930	16 x 25	1020
	10 x 12	470	8 x 15	450	10 x 15	590	13 x 20	855	13 x 25	995	16 x 25	1110	16 x 32	1200
			10 x 12	490	10 x 19.5	700								
			10 x 15	570										
1500	10 x 15	600	10 x 19.5	750	10 x 19.5	680	13 x 25	1020	13 x 25	935	16 x 32	1350	16 x 32	1300
					13 x 20	860			16 x 25	1110			16 x 36	1450
2200	10 x 19.5	740	10 x 19.5	800	10 x 25	895	13 x 25	1030	16 x 25	1230	16 x 36	1360	18 x 36	1455
	13 x 20	930	13 x 20	1010	12 x 25	1040	16 x 25	1230	16 x 32	1450	18 x 36	1530		
					13 x 20	990								
					13 x 25	1150								
3300	10 x 19.5	880	10 x 25	950	13 x 25	1140	13 x 25	1035	16 x 36	1470	18 x 36	1540		
	13 x 20	1100	10 x 30	1090	16 x 25	1350	16 x 25	1230	18 x 36	1660	18 x 40	1700		
			13 x 20	1050			16 x 32	1450						
			13 x 25	1220										
4700	13 x 25	1100	13 x 25	1190	16 x 25	1330	16 x 32	1420	18 x 36	1580	22 x 35	1900		
	16 x 25	1320	16 x 25	1410	16 x 32	1560	18 x 36	1690	18 x 40	1750				
6800	13 x 25	1250	16 x 25	1370	16 x 32	1400	18 x 36	1850	18 x 40	1600				
	16 x 25	1490	16 x 32	1610	16 x 36	1590			22 x 40	1885				
					16 x 40	1670								
					18 x 32	1600								
					18 x 36	1790								
10000	16 x 25	1560	16 x 36	1760	18 x 36	2100								
	16 x 32	1830	18 x 36	1980										
15000	18 x 36	2280	18 x 40	1960										

Note: 1. Ripple Current: (mA/rms) 105°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
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	15	5 x 11	17	5 x 11	19	6.3 x 11	19	6.3 x 11	20	6.3 x 11	16	8 x 11	20
											8 x 11	20		
2.2	5 x 11	22	6.3 x 11	25	6.3 x 11	22	6.3 x 11	23	8 x 11	35	8 x 11	28	10 x 12	35
					8 x 11	28	8 x 11	29			10 x 12	35		
3.3	5 x 11	29	6.3 x 11	30	6.3 x 11	32	8 x 11	33	8 x 11	37	8 x 11	38	10 x 15	54
			8 x 11	36	8 x 11	40	10 x 12	42	10 x 12	47	10 x 12	50		
4.7	5 x 11	37	6.3 x 11	34	8 x 11	40	8 x 11	41	8 x 11	37	8 x 11	40	10 x 15	60
			8 x 11	43	10 x 12	50	10 x 12	52	10 x 12	47	8 x 15	45		
									10 x 15	55	10 x 12	49		
											10 x 15	57		
6.8	5 x 11	46	10 x 12	54	10 x 12	60	8 x 15	57	10 x 15	65	10 x 15	60	10 x 19.5	80
							10 x 12	62			10 x 19.5	72		
10	5 x 11	55	8 x 11	56	10 x 12	69	10 x 15	88	10 x 15	95	10 x 15	65	10 x 19.5	70
	6.3 x 11	65	10 x 12	70	10 x 15	80	10 x 19.5	90			10 x 19.5	77	13 x 20	85
											13 x 20	97	13 x 25	100
15	8 x 11	82	10 x 15	90	10 x 15	110	10 x 15	120	10 x 19.5	140	10 x 19.5	100	16 x 25	160
											13 x 20	125		
											13 x 25	150		
22	8 x 11	115	8 x 20	125	10 x 15	140	10 x 19.5	155	13 x 20	165	13 x 20	150	13 x 25	125
			10 x 15	130							13 x 25	175	16 x 25	150
													16 x 32	180
33	8 x 11	120	10 x 19.5	180	10 x 19.5	190	13 x 20	170	13 x 25	220	13 x 25	190	16 x 25	190
	10 x 12	160					13 x 25	200			16 x 20	195	16 x 36	240
											16 x 25	230		
47	10 x 12	180	13 x 20	270	13 x 20	240	13 x 25	330	16 x 25	340	16 x 25	280	16 x 36	300
	10 x 15	210			13 x 25	290					16 x 32	315	18 x 40	360
											16 x 36	350		
											18 x 20	275		
											18 x 25	300		

Note: 1. Ripple Current: (mA/rms) 105°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
68	10 x 15	241	13 x 25	300	13 x 25	330	16 x 25	350	16 x 32	370	16 x 32	320	18 x 32	305
											16 x 36	335	22 x 40	400
											18 x 25	305		
											18 x 36	380		
100	10 x 19.5	385	13 x 25	330	13 x 25	340	16 x 32	430	18 x 36	460	16 x 36	425	22 x 40	450
			16 x 25	400	16 x 25	410					18 x 32	430		
											18 x 36	480		
120											18 x 36	480		
150	13 x 25	414	16 x 32	435	16 x 32	400	18 x 40	460	22 x 40	480	22 x 40	450		
					16 x 36	450								
180											18 x 40	350		
220	13 x 25	590	16 x 32	550	18 x 32	520	22 x 40	680						
			16 x 36	620	18 x 36	580								
					18 x 40	650								
330	13 x 25	600	18 x 36	770	18 x 36	705								
	16 x 25	720	18 x 40	850	18 x 40	780								
					22 x 40	920								
470	16 x 25	740	22 x 40	980										
	16 x 32	875												
680	16 x 36	1200												
1000	18 x 40	1340												
	22 x 40	1500												

Note: 1. Ripple Current: (mA/rms) 105°C, 120Hz