

Screw Type Aluminum Electrolytic Capacitors

NP [For General]

For Large Power Source, Converter Circuit



DESCRIPTION

Endurance : 85°C, 2000 Hours

It is suitable for high ripple current, large power source, converter circuit, etc.

MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient

FREQUENCY (Hz)	50	100 (120)	300	1K
10~50V	0.95	1.00	1.04	1.10
63~100V	0.95	1.00	1.06	1.16
160~200V	0.90	1.00	1.10	1.20
250~450V	0.80	1.00	1.10	1.20

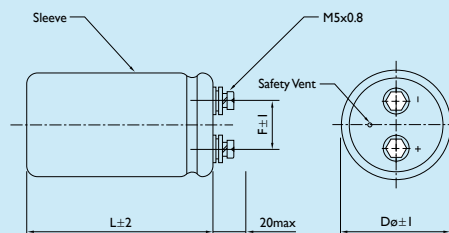
FREQUENCY (Hz)	3K	5K	10K	20K
10~50V	1.12	1.13	1.15	1.15
63~100V	1.20	1.25	1.30	1.36
160~200V	1.35	1.40	1.50	1.55
250~450V	1.35	1.40	1.50	1.55

ELECTRICAL CHARACTERISTICS

Operating Temperature Range	-40 to +85°C	-25 to +85°C
Rated Voltage Range	10 ~ 250V	315 ~ 450V
Rated Capacitance Range	1800 ~ 820000μF	
Capacitance Tolerance	±20% (120Hz, +20°C)	
Leakage Current	I = 0.02CV or 5mA whichever is smaller. (After 5 Minutes Application of DC Rated Voltage at 20°C)	
Dissipation Factor at 120Hz, +20°C	Less than the Value Specified in the Standard Product Tables	
Endurance	After the rated voltage has been applied at 85°C for 2000 hours, and then has resumed its original condition for 16 hours. (a) Capacitance Change: ±20% Initial Measured Value (b) Dissipation Factor: ≤ 2 Times Initial Specified Value (c) Leakage Current: ≤ Initial Specified Value	
Shelf Life	After having been stored for 1000 hours at 85°C, the rated voltage has been applied for 30 minutes, and then has resumed its original condition for 16 hours. (a) Capacitance Change: ±20% Initial Measured Value (b) Dissipation Factor: ≤ 2 Times Initial Specified Value (c) Leakage Current: ≤ Initial Specified Value	

DIAGRAM OF DIMENSIONS

Unit: mm



Dø	F
35	12.7
51	22
63.5	28.6
76	32
89	32

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μ F)	RATED VOLTAGE WV (SURGE VOLTAGE WV)											
	10 (13)			16 (20)			25 (32)			35 (44)		
	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR
10000										35 x 50	3.40	0.40
12000										35 x 50	3.70	0.40
15000							35 x 50	3.70	0.50	35 x 65	4.20	0.40
18000							35 x 50	4.10	0.50	35 x 80	4.90	0.40
22000				35 x 50	4.10	0.60	35 x 50	4.50	0.50	35 x 80	5.70	0.40
27000				35 x 50	4.50	0.60	35 x 65	5.00	0.50	35 x 100	6.30	0.40
33000	35 x 50	4.30	0.80	35 x 50	5.00	0.60	35 x 80	5.90	0.50	35 x 100	7.20	0.40
39000	35 x 50	4.70	0.80	35 x 65	5.90	0.60	35 x 80	6.70	0.50	35 x 120	7.30	0.50
47000	35 x 65	5.20	0.80	35 x 80	6.40	0.60	35 x 100	7.70	0.50	35 x 120	8.70	0.50
56000	35 x 80	6.10	0.80	35 x 80	7.30	0.60	35 x 100	7.90	0.60	51 x 95	8.60	0.60
68000	35 x 80	6.70	0.80	35 x 100	8.40	0.60	35 x 120	9.10	0.60	51 x 95	9.80	0.60
82000	35 x 100	7.70	0.80	35 x 100	8.30	0.80	35 x 120	10.40	0.60	51 x 115	11.60	0.60
100000	35 x 100	8.80	0.80	35 x 120	9.50	0.80	51 x 95	10.30	0.80	63.5 x 95	13.30	0.60
120000	35 x 120	10.00	0.80	35 x 120	10.90	0.80	51 x 115	11.70	0.80	63.5 x 115	14.80	0.60
150000	35 x 120	10.80	1.00	51 x 95	11.30	1.00	51 x 130	14.10	0.80	63.5 x 120	14.90	0.80
180000	51 x 95	12.00	1.00	51 x 115	12.80	1.00	63.5 x 95	15.70	0.80	63.5 x 130	17.00	0.80
220000	51 x 120	11.20	1.50	51 x 130	15.30	1.00	63.5 x 115	16.10	1.00	76 x 115	20.00	0.80
270000	51 x 120	12.80	1.50	63.5 x 95	17.60	1.00	63.5 x 130	18.60	1.00	76 x 130	20.30	1.00
330000	63.5 x 95	15.30	1.50	63.5 x 115	16.80	1.50	63.5 x 155	21.90	1.00	76 x 155	23.50	1.00
390000	63.5 x 115	17.30	1.50	63.5 x 130	18.30	1.50	76 x 120	22.00	1.20	89 x 130	26.40	1.00
470000	63.5 x 130	16.70	2.00	76 x 120	21.30	1.50	76 x 155	25.60	1.20	89 x 155	29.60	1.00
560000	76 x 115	19.00	2.00	76 x 130	23.60	1.50	89 x 130	27.90	1.20			
680000	76 x 130	21.70	2.00	76 x 155	27.60	1.50	89 x 155	32.50	1.20			
820000	76 x 155	24.70	2.00	89 x 155	27.10	2.00						

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

2. Dissipation Factor: 120Hz / 20°C



CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μ F)	RATED VOLTAGE WV (SURGE VOLTAGE WV)											
	50 (63)			63 (72)			80 (100)			100 (125)		
	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR
1800										35 x 50	1.90	0.25
2200										35 x 50	2.10	0.25
2700										35 x 50	2.30	0.25
3300							35 x 50	2.50	0.25	35 x 65	2.60	0.25
3900				35 x 50	2.70	0.25	35 x 50	2.80	0.25	35 x 80	3.00	0.25
4700				35 x 50	3.00	0.25	35 x 65	3.00	0.25	35 x 80	3.50	0.25
5600	35 x 50	3.00	0.30	35 x 50	3.30	0.25	35 x 80	3.60	0.25	35 x 100	3.90	0.25
6800	35 x 50	3.30	0.30	35 x 65	3.60	0.25	35 x 80	3.90	0.25	35 x 100	4.50	0.25
8200	35 x 50	3.60	0.30	35 x 80	4.30	0.25	35 x 80	4.50	0.25	35 x 120	5.10	0.25
10000	35 x 65	4.00	0.30	35 x 80	4.90	0.25	35 x 100	5.20	0.25	35 x 120	5.90	0.25
12000	35 x 80	4.70	0.30	35 x 100	5.60	0.25	35 x 100	5.90	0.25	51 x 75	6.40	0.25
15000	35 x 80	5.50	0.30	35 x 100	5.90	0.30	35 x 120	6.80	0.25	51 x 95	7.00	0.25
18000	35 x 100	6.20	0.30	35 x 120	6.70	0.30	35 x 120	7.80	0.25	51 x 115	8.30	0.25
22000	35 x 120	6.30	0.40	35 x 120	7.80	0.30	51 x 95	8.00	0.30	51 x 130	10.00	0.25
27000	35 x 120	7.10	0.40	51 x 95	7.40	0.40	51 x 95	9.20	0.30	63.5 x 115	11.50	0.25
33000	51 x 95	8.20	0.40	51 x 95	8.40	0.40	51 x 115	10.50	0.30	63.5 x 130	11.90	0.25
39000	51 x 95	8.10	0.50	51 x 115	9.50	0.40	51 x 130	12.00	0.30	76 x 115	13.40	0.25
47000	51 x 115	9.30	0.50	51 x 130	11.30	0.40	63.5 x 115	13.60	0.30	76 x 130	14.20	0.35
56000	63.5 x 95	10.50	0.50	63.5 x 115	12.80	0.40	63.5 x 130	13.40	0.40	76 x 155	16.00	0.35
68000	63.5 x 95	12.00	0.50	63.5 x 120	12.70	0.50	76 x 115	15.40	0.40	89 x 130	18.80	0.35
82000	63.5 x 115	13.70	0.50	63.5 x 130	14.50	0.50	76 x 130	17.50	0.40	89 x 155	20.50	0.35
100000	76 x 115	14.70	0.60	76 x 115	16.70	0.50	76 x 155	20.50	0.40	89 x 171	24.00	0.35
120000	76 x 120	16.70	0.60	76 x 130	18.90	0.50	89 x 130	22.70	0.40			
150000	76 x 130	19.30	0.60	76 x 155	22.40	0.50	89 x 155	26.50	0.40			
180000	76 x 155	21.90	0.60	89 x 130	22.40	0.60						
220000	89 x 130	21.40	0.60	89 x 155	26.20	0.60						
270000	89 x 155	24.60	0.60									

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

2. Dissipation Factor: 120Hz / 20°C

CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μ F)	RATED VOLTAGE WV (SURGE VOLTAGE WV)											
	160 (200)			200 (250)			250 (300)			350 (400)		
	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	SIZE	RIPPLE CURRENT	DISSIPATION FACTOR
390										35 x 50	1.67	0.20
470										35 x 80	2.15	0.20
560										35 x 80	2.37	0.20
680										35 x 80	2.59	0.20
820										35 x 100	3.07	0.20
1000										35 x 100	3.41	0.20
1200										51 x 75	3.81	0.20
1500							35 x 100	3.22	0.25	51 x 75	4.26	0.20
1800							35 x 100	3.52	0.25	51 x 95	5.14	0.20
2200				35 x 100	3.92	0.25	51 x 75	4.00	0.25	51 x 95	5.70	0.20
2700				35 x 120	4.70	0.25	51 x 75	4.44	0.25	51 x 130	7.14	0.20
3300	35 x 120	5.18	0.25	51 x 75	4.92	0.25	51 x 95	5.40	0.25	51 x 130	7.92	0.20
3900	51 x 75	5.33	0.25	51 x 75	5.33	0.25	51 x 115	6.29	0.25	63.5 x 115	9.00	0.20
4700	51 x 75	5.85	0.25	51 x 95	6.44	0.25	63.5 x 95	7.10	0.25	63.5 x 130	10.33	0.20
5600	51 x 95	7.03	0.25	51 x 115	7.55	0.25	63.5 x 95	7.77	0.25	76 x 115	11.36	0.20
6800	51 x 95	7.77	0.25	51 x 130	8.77	0.25	63.5 x 115	9.14	0.25	76 x 130	13.10	0.20
8200	51 x 115	9.14	0.25	63.5 x 95	9.40	0.25	63.5 x 115	10.03	0.25	76 x 155	15.43	0.20
10000	63.5 x 95	10.36	0.25	63.5 x 95	10.36	0.25	63.5 x 130	11.66	0.25	89 x 155	18.13	0.20
12000	63.5 x 95	11.32	0.25	76 x 95	12.06	0.25	76 x 115	12.88	0.25	89 x 155	20.02	0.20
15000	63.5 x 130	14.28	0.25	76 x 95	14.43	0.25	76 x 130	15.10	0.25	89 x 195	24.50	0.20
18000	63.5 x 130	15.61	0.25	76 x 130	16.50	0.25	76 x 155	17.69	0.25	89 x 235	28.83	0.20
22000	76 x 130	18.28	0.25	76 x 155	19.61	0.25	89 x 155	20.91	0.25			
27000	76 x 130	20.24	0.25	89 x 130	21.51	0.25						
30000	89 x 130	23.75	0.25	89 x 155	25.53	0.25						
39000	89 x 155	27.86	0.25									

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

2. Dissipation Factor: 120Hz / 20°C



CASE SIZE & PERMISSIBLE RIPPLE CURRENT OF STANDARD PRODUCTS

D x L: mm

CAP. (μF)	RATED VOLTAGE WV (SURGE VOLTAGE WV)					
	400 (450) SIZE	RIPPLE CURRENT	DISSIPATION FACTOR	450 (500) SIZE	RIPPLE CURRENT	DISSIPATION FACTOR
270				35 x 50	1.37	0.20
330	35 x 50	1.52	0.20	35 x 80	1.82	0.20
390	35 x 80	1.96	0.20	35 x 80	1.96	0.20
470	35 x 80	2.15	0.20	35 x 80	2.15	0.20
560	35 x 80	2.37	0.20	35 x 100	2.55	0.20
680	35 x 100	1.82	0.20	35 x 100	2.81	0.20
820	35 x 100	3.07	0.20	51 x 75	3.18	0.20
1000	51 x 75	3.48	0.20	51 x 75	3.48	0.20
1200	51 x 75	3.82	0.20	51 x 95	4.22	0.20
1500	51 x 95	4.70	0.20	51 x 115	5.07	0.20
1800	51 x 95	5.15	0.20	51 x 130	5.85	0.20
2200	51 x 130	6.44	0.20	63.5 x 95	6.29	0.20
2700	51 x 130	6.96	0.20	63.5 x 115	7.48	0.20
3300	63.5 x 95	8.22	0.20	63.5 x 130	8.66	0.20
3900	63.5 x 115	9.40	0.20	76 x 115	9.47	0.20
4700	63.5 x 130	10.44	0.20	76 x 130	10.88	0.20
5600	76 x 115	11.92	0.20	76 x 155	12.80	0.20
6800	76 x 155	14.06	0.20	89 x 155	15.00	0.20
8200	89 x 155	16.43	0.20	89 x 155	16.50	0.20
10000	89 x 155	18.28	0.20	89 x 195	20.00	0.20
12000	89 x 195	21.84	0.20	89 x 235	23.61	0.20
15000	89 x 235	26.31	0.20			

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

2. Dissipation Factor: 120Hz / 20°C