

FEATURES

- High voltage and capacitance, high ripple, high reliability, guarantee 5,000 hours load life at 85°C.
- Suitable for use in changeable current circuits in changeable frequencies air-condition etc.



SPECIFICATIONS

Item	Performance Characteristics											
Operating Temperature Range	-40 to +85°C	-25 to +85°C										
Rated Working Voltage Range	10 to 100V	160 to 550V										
Nominal Capacitance Range	1000 to 1500000µF											
Capacitance Tolerance	±20% at 120Hz, +20°C											
Leakage Current	I ≤ 0.02CV (µA) or 5 (mA) whichever is smaller measured after 5 minutes application of rated working voltage at +20°C											
tan δ (120Hz, +20°C)	Φ D	L	V	10	16	25	35	50	63	80	100	
	35	80~100	120	0.6	0.4	0.4	0.3	0.3	0.3	0.2	0.1	
				0.7	0.6	0.4	0.3	0.3	0.2	0.2		
	51	70~100	120~140	0.9	0.6	0.5	0.4	0.3	0.3	0.2	0.2	
				1	0.8	0.5	0.4	0.3	0.3	0.2	0.2	
	63.5	100	105~220	0.9	—	—	0.5	0.4	0.3	0.3	—	—
				1.2	0.8	0.7	—	—	0.3	0.3	0.2	
	76	100	120~140	1.6	—	—	0.7	—	—	—	—	—
				1.6	1.1	0.8	0.8	0.6	0.5	0.4	0.3	
	90	140~220	2	2	1.5	1	0.9	0.8	0.6	0.4	0.3	
				100	250	2.4	1.5	1	0.9	0.8	0.6	0.4
	Low Temperature Characteristics	Φ D	L	V	160~250	350~450						
35		80~120	120	0.15	0.25							
				0.15	0.25							
51		70~140	120	0.15	0.25							
				0.20	0.25							
63.5		90~190	120	0.20	0.25							
	0.20			0.25								
90	130~230	120	0.20	0.25								
			0.25	0.25								
High Temperature Loading	Impedance ratio max. at 120Hz		Working Voltage (V)		10~100	160~500						
	Z-25°C / Z+20°C				—	8						
	Z-40°C / Z+20°C				15	—						
Shelf Life	Test time		: 5,000 hours		Post test requirements at +20°C							
	Test temperature		: +85°C		Leakage current		: ≤ Initial specified value					
Industrial Standard	Test conditions		: Rated DC working voltage with rated ripple current		Cap. change		: within ±20% of the initial measured value					
					tan δ		: ≤ 200% of the initial specified value					
Frequency Coefficient	At +85°C no voltage applied after 1,000 hours and then being stabilized at +20°C the capacitors shall meet the following limits											
	Leakage current		: ≤ Initial specified value									
	Cap. change		: within ±20% of the initial measured value									
tan δ		: ≤ 200% of the initial specified value										
JIS C - 5101-4 (IEC 60384-4)												

RIPPLE CURRENT MULTIPLIER

Frequency Coefficient

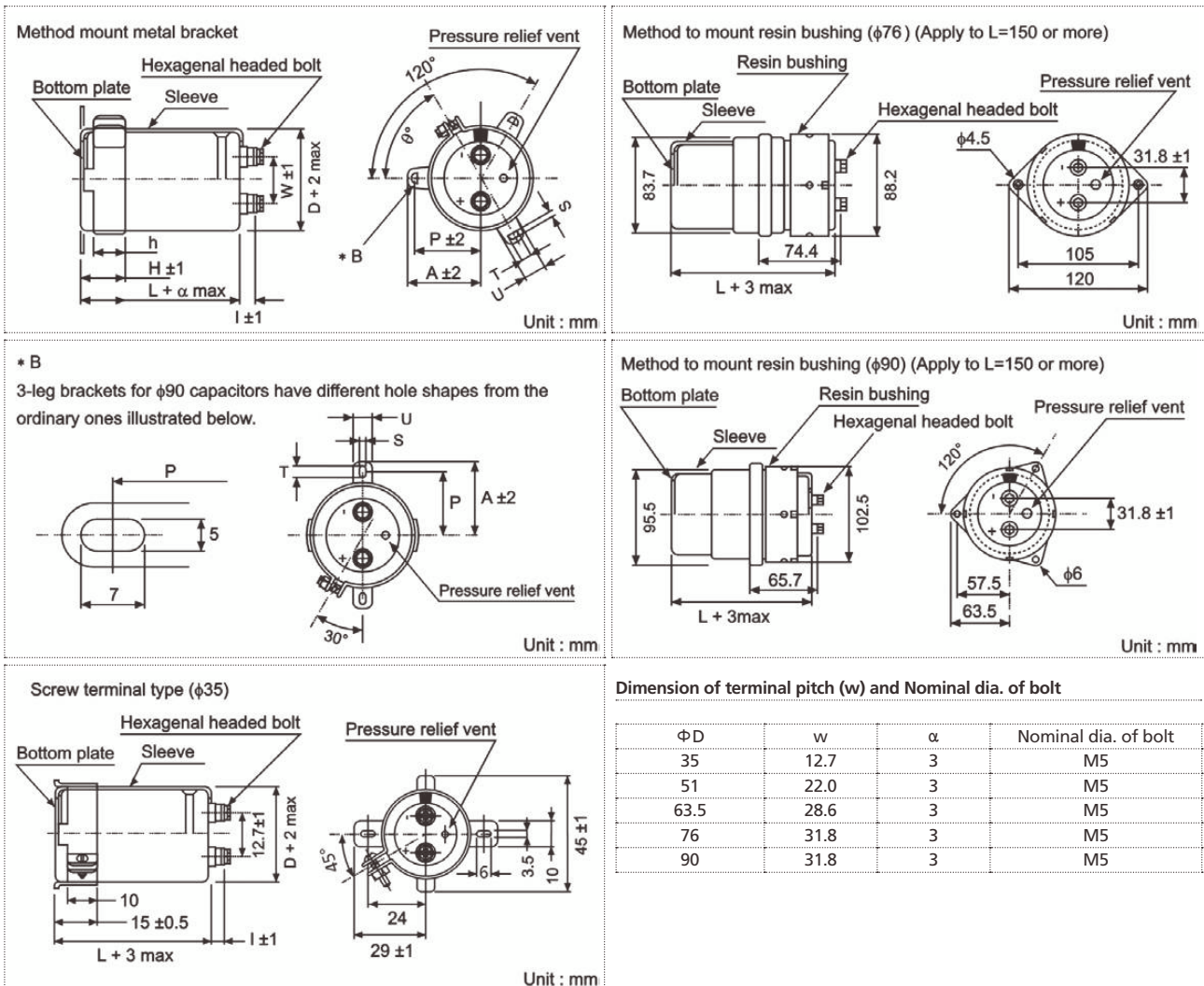
Coefficient	Rated Voltage	50	120	300	1k	10k~
<160V		0.80	1.00	1.08	1.15	1.15
≥160V		0.80	1.00	1.08	1.15	1.20

PART NUMBER SYSTEM (EXAMPLE : 400V 2200µF)

1	23	456	7	89	10	11 12	13 14
E	WX	228	M	2G	S	1M	OO

Type (Terminal Code)
 Case Length (110mm)
 Diameter (51mm)
 Voltage (400V)
 Tolerance (±20%)
 Capacitance (2200µF)
 Series
 E-CAP

CASE SIZE TABLE



Dimensions of mounting bracket

Voltage (Code)		3 - Leg				2 - Leg				
Symbol	ΦD	51	63.5	76	90	35	51	63.5	76	90
P		32.5	38.1	44.5	50.8	24	33.2	40.5	46.5	53
A		38.5	43	49.2	58.5	29	40	46.5	53	59
T		7.5	8.0	7.0	8.0	6.0	6.0	7.0	6.0	6.0
S		5.0	5.0	5.0	5.0	3.5	4.5	4.5	4.5	4.5
U		12	14	14	18	10	14	14	14	14
θ°		60	60	60	60	30	30	30	30	30
H		20	25	30	35	15	25	35	35	35
h		15	20	24	25	10	15	20	20	20

STANDARD RATINGS

Voltage (Code)		10V (1A)		16V (1C)		25V (1E)		35V (1V)	
SV		13		20		32		44	
Cap. (µF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
33000	339					35 x 80	6.2	35 x 80	6.2
47000	479	35 x 80	6.0	35 x 80	6.4	35 x 100	8.2	35 x 120	8.2
68000	689	35 x 80	7.2	35 x 100	7.9	35 x 120	9.4	51 x 80	9.3
100000	10T	35 x 100	8.8	35 x 120	10.6	51 x 100	12.0	51 x 120	13.6
150000	15T	51 x 80	10.7	51 x 100	11.5	51 x 120	15.3	63.5 x 100	14.5
220000	22T	51 x 100	13.0	51 x 120	15.6	63.5 x 120	18.9	76 x 100	16.8
330000	33T	63.5 x 100	15.9	63.5 x 120	25.1	76 x 120	24.8	76 x 140	24.8
470000	47T	63.5 x 120	19.0	76 x 120	30.5	90 x 170	30.8	90 x 170	32.6
680000	68T	76 x 120	22.8	90 x 170	33.0	90 x 220	33.3	90 x 220	35.2
1000000	10M	90 x 170	27.7	90 x 220	36.0				
1500000	15M	90 x 220	33.9						

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz

Case Size Φ D x L (mm)

Voltage (Code)		50V (1H)		63V (1J)		80V (1K)		100V (2A)	
SV		63		79		100		125	
Cap. (µF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
4700	478							35 x 80	3.8
6800	688							35 x 100	4.5
10000	109			35 x 80	4.1	35 x 100	4.6	51 x 80	5.4
15000	159	35 x 80	5.4	35 x 100	5.5	35 x 120	6.0	51 x 100	6.6
22000	229	35 x 100	6.1	35 x 120	7.1	51 x 100	7.2	63.5 x 100	7.7
33000	339	51 x 70	7.0	51 x 100	9.7	51 x 120	9.2	76 x 100	10.8
47000	479	51 x 90	8.6	51 x 120	11.7	63.5 x 120	13.8	76 x 120	14.9
68000	689	51 x 120	11.9	63.5 x 120	16.2	63.5 x 140	15.5	76 x 150	18.8
100000	10T	63.5 x 100	14.2	63.5 x 140	20.8	90 x 140	23.4	90 x 170	22.1
150000	15T	76 x 120	18.6	90 x 140	28.6	90 x 170	26.5	90 x 220	27.0
220000	22T	90 x 140	20.3	90 x 170	28.3	90 x 220	28.9		
330000	33T	90 x 170	25.3	90 x 220	31.2				
470000	47T	90 x 220	33.2						

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz

Case Size Φ D x L (mm)

Voltage (Code)		160V (2C)		200V (2D)		250V (2E)		350V (2V)	
SV		200		250		300		400	
Cap. (µF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
1000	108					35 x 80	2.4		
1500	158			35 x 80	2.9	35 x 100	3.0		
2200	228	35 x 80	3.2	35 x 100	3.5	51 x 80	4.0	51 x 100	7.7
2700	278							51 x 120	9.3
3300	338	35 x 120	4.7	51 x 80	4.8	51 x 100	5.4	51 x 130	10.8
3900	398							63.5 x 120	12.1
4700	478	51 x 80	5.0	51 x 100	6.3	63.5 x 100	7.3	63.5 x 130	14.0
5600	568							63.5 x 160	16.6
6800	688	51 x 100	6.4	51 x 140	7.3	63.5 x 120	8.9	76 x 120	16.1
8200	828							63.5 x 190	20.0
10000	109	63.5 x 100	9.1	63.5 x 120	9.8	76 x 120	11.8	76 x 130	18.6
12000	129							76 x 160	22.2
15000	159	76 x 100	12.0	76 x 120	13.0	90 x 140	16.4	76 x 170	25.2
22000	229	76 x 140	16.9	90 x 140	15.9	90 x 170	17.9	90 x 160	29.1
33000	339	90 x 140	19.2	90 x 170	19.5	90 x 220	19.7	90 x 190	35.7
47000	479	90 x 170	20.6	90 x 220	20.9				
68000	689	90 x 220	22.3						

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz

Case Size Φ D x L (mm)

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately.

STANDARD RATINGS

Voltage (Code)		400V (2G)		450V (2W)		500V (2H)		550V (25)	
SV		450		500		550		600	
Cap. (μF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
1000	108	51 x 80	5.0	51 x 80	5.0	51 x 110	4.2	51 x 130	4.3
1200	128	51 x 80	5.8	51 x 100	5.7	63.5 x 90	4.8	63.5 x 110	5.0
1500	158	51 x 100	6.4	51 x 100	6.3	63.5 x 90	5.5	63.5 x 130	6.0
1800	188	51 x 100	7.0	51 x 120	7.6	63.5 x 110	6.5	76 x 100	6.4
2200	228	63.5 x 90	8.3	51 x 130	8.8	63.5 x 130	7.7	76 x 110	7.4
		51 x 140	8.5	63.5 x 100	8.5				
2700	278	51 x 130	9.8	63.5 x 120	10.1	76 x 110	8.8	76 x 120	8.5
3300	338	63.5 x 120	11.1	63.5 x 130	11.7	76 x 130	10.4	76 x 140	10.1
				76 x 110	12.0				
3900	398	63.5 x 130	12.7	63.5 x 160	13.8	76 x 130	11.4	76 x 160	11.7
				76 x 120	13.4				
4700	478	63.5 x 130	13.8	76 x 130	15.5	90 x 130	13.7	90 x 150	13.7
		63.5 x 160	15.2	90 x 120	15.0				
		76 x 120	14.7						
5600	568	63.5 x 190	18.2	76 x 155	18.0	90 x 150	15.9	90 x 170	15.8
		76 x 130	16.9	90 x 155	18.3				
6800	688	76 x 150	18.2	76 x 170	20.7	90 x 170	18.5	90 x 200	18.6
				90 x 150	21.0				
8200	828	76 x 155	21.8	90 x 160	24.1	90 x 190	21.4		
		76 x 170	22.8						
		90 x 150	23.0						
10000	109	90 x 160	26.6	90 x 155	26.7				
				90 x 170	27.8				
12000	129	90 x 170	30.0	90 x 230	29.5				
15000	159	90 x 230	32.0						

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz

Case Size Φ D x L (mm)

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