

FEATURES

- Doesn't spark with DC over voltage.
- Load life: 2,000 hours at 105°C.



SPECIFICATIONS

Item	Performance Characteristics				
Operating Temperature Range	-25 to +105°C				
Rated Working Voltage Range	200 to 450V				
Nominal Capacitance Range	56 to 1200μF				
Capacitance Tolerance	±20% at 120Hz, +20°C				
Leakage Current	$I \leq 3\sqrt{CV}$ (μA) after 5 minutes application of rated working voltage at +20°C				
tan δ (120Hz, +20°C)	Working Voltage (V)	200	250	400	450
	tan δ (max.)	0.15	0.15	0.20	0.20
Low Temperature Characteristics	Impedance ratio max. at 120Hz				
	Rated Voltage (V)	200	250	400	450
	Z-25°C / Z+20°C	8	8	8	8
High Temperature Loading	Test time	: 2,000 hours			Post test requirements at +20°C
	Test temperature	: +105°C			Leakage current : ≤Initial specified value
	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
Shelf Life	At +105°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 ±15% of the initial measured value			
	tan δ	: ≤150% of the initial specified value			
Industrial Standard	JIS C - 5101-4 (IEC 60384-4)				

RIPPLE CURRENT MULTIPLIER

Frequency Coefficient

Coefficient	Freq. (Hz)	Rated Voltage			
		60	120	1k	10k~50k
200~250V	60	0.80	1.00	1.25	1.47
	120	0.80	1.00	1.30	1.47

PART NUMBER SYSTEM (EXAMPLE : 200V 220μF)

1	2 3	4 5 6	7	8 9	10	11 12	13 14
E	UP	227	M	2D	N	25	SW

Type (Terminal Code)
 Case Length (25mm)
 Diameter (22mm)
 Voltage (200V)
 Tolerance (±20%)
 Capacitance (220μF)
 Series
 E-CAP

STANDARD RATINGS

Voltage (Code)		200V (2D)		250V (2E)		400V (2G)		450V (2W)	
Cap. (μF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
56	566					22 x 25	0.45		
68	686					22 x 25	0.51		
82	856					22 x 30	0.58		
100	107					22 x 30	0.66		
120	127			22 x 25	0.68	22 x 35	0.76		
						25 x 30	0.76		
150	157					22 x 40	0.85		
						25 x 35	0.85		
						30 x 30	0.85		
180	187	22 x 25	0.82	22 x 30	0.87	22 x 45	0.94	30 x 35	1.00
				25 x 25	0.93	25 x 40	0.95		
						30 x 30	0.95		
220	227	22 x 25	0.90	22 x 30	1.00	25 x 40	1.24	30 x 40	1.20
						30 x 35	1.24		
						35 x 30	1.24		
270	277	22 x 30	1.02	22 x 35	1.14	25 x 50	1.30		
				25 x 30	1.13	30 x 40	1.30		
				30 x 25	1.25	35 x 30	1.30		
330	337	22 x 35	1.20	22 x 40	1.28	30 x 45	1.47		
		25 x 30	1.20	25 x 35	1.29	35 x 35	1.47		
390	397	22 x 35	1.35	22 x 45	1.42			35 x 45	1.60
		25 x 30	1.35	25 x 40	1.46				
				30 x 30	1.52				
470	477	22 x 40	1.45	25 x 45	1.64				
		25 x 35	1.45						
		30 x 30	1.47	30 x 35	1.67				
560	567	22 x 45	1.62	25 x 50	1.82				
		25 x 35	1.60	30 x 40	1.87				
		30 x 30	1.60	35 x 30	1.99				
		25 x 40	1.82	30 x 45	2.12				
680	687	30 x 35	1.81	35 x 35	2.19				
		35 x 30	1.86						
820	827	25 x 50	2.11	30 x 50	2.39				
		30 x 40	2.11						
		35 x 30	2.11	35 x 40	2.42				
1000	108	30 x 45	2.40						
		35 x 35	2.40						
1200	128	30 x 50	2.69						
		35 x 40	2.65						

Maximum Allowable Ripple Current (Arms) at 105°C 120Hz

Case Size $\Phi D \times L$ (mm)

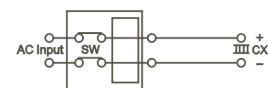
DC OVERVOLTAGE TEST CONDITIONS

The vent will operate and the capacitor shall become an open circuit without burning materials when the following test DC voltage is applied.

- Test DC voltage

Rated voltage	Normal Capacitance	Current Limit	Test Voltage
200Vdc	<330	4A	300/375Vdc
	330μF ≤ C < 470μF	5A	
	≥470μF	7A	
250Vdc	<330μF	4A	350/450Vdc
	330μF ≤ C < 470μF	5A	
	<470μF	7A	
400Vdc	<100μF	2A	500/600Vdc
	100μF ≤ C < 220μF	4A	
	≥220μF	7A	
450Vdc	<100μF	2A	550/675Vdc
	100μF ≤ C < 220μF	4A	
	≥220μF	7A	

• Test circuit



Constant DC voltage/current power supply

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.