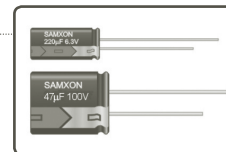


FEATURES

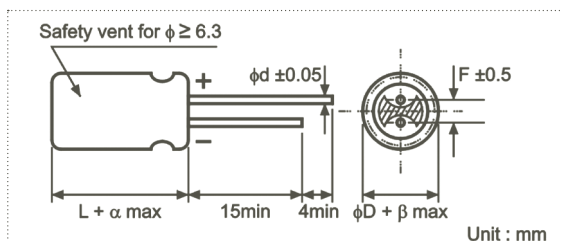
- For general purpose, -55°C to +105°C, 1,000 to 2,000 hours.
- Wide CV value range.
- Safety vent construction products.



SPECIFICATIONS

Item	Performance Characteristics									
Operating Temperature Range	-55 to +105°C									
Rated Working Voltage Range	6.3 to 100V									
Nominal Capacitance Range	2.2 to 22000µF									
Capacitance Tolerance	±20% at 120Hz, +20°C									
Leakage Current	$I \leq 0.01CV$ or 3 (µA) whichever is greater measured after 2 minutes application of rated working voltage at +20°C									
tan δ (120Hz, +20°C)	Working Voltage (V)	6.3	10	16	25	35	50	63	100	
	tan δ (max.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	
	For capacitance value >1000µF, add 0.02 per another 1000µF									
Low Temperature Characteristics	Impedance ratio max. at 120Hz									
	Working Voltage (V)	6.3	10	16	25	35	50	63	100	
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	
	Z-40°C / Z+20°C	10	8	6	4	3	3	3	3	
For capacitance value >1000µF, add 0.5 per another 1000µF for Z-25°C / Z+20°C add 1.0 per another 1000µF for Z-40°C / Z+20°C										
High Temperature Loading	Test time	WV	6.3 to 100		Post test requirements at +20°C					
		ΦD	5 to 8	10 to 18	Leakage current : ≤Initial specified value					
		Load life	1,000h	2,000h	Cap. change : within ±20% of the initial measured value					
	Test temperature	+105°C			tan δ : ≤200% of the initial specified value					
Test conditions	Rated DC working voltage with rated ripple current									
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 ±20% of the initial measured value								
	tan δ	≤200% of the initial specified value								
Industrial Standard	JIS C - 5101-4 (IEC 60384-4)									

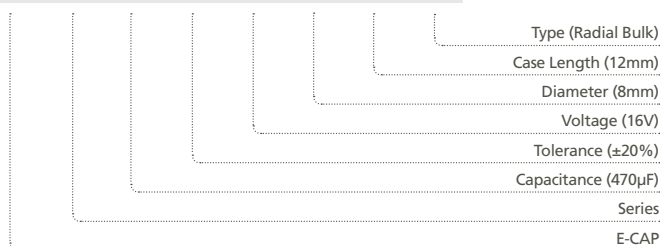
CASE SIZE TABLE



ΦD	5	6.3	8 (L < 20)	8 (L ≥ 20)	10	12.5	16	18
F	2.0	2.5	3.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.8
α	(L < 20) 1.5			(L ≥ 20) 2.0				
β	(D < 20) 0.5			(D ≥ 20) 1.0				

PART NUMBER SYSTEM (EXAMPLE : 16V 470µF)

1	23	456	7	89	10	11 12	13 14
E	KG	477	M	1C	F	12	RR



STANDARD RATINGS

Voltage (Code)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)	
Cap. (µF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
47	476							5 x 11	91
100	107					5 x 11	110	6.3 x 11	130
220	227	5 x 11	140			6.3 x 11	180	8 x 12	230
330	337			6.3 x 11	200	8 x 12	260	8 x 12	310
470	477	6.3 x 11	230	6.3 x 11	240	8 x 12	310	10 x 12.5	380
1000	108	8 x 12	380	10 x 12.5	460	10 x 16	560	10 x 20	680
2200	228	10 x 16	710	10 x 20	760	12.5 x 20	920	12.5 x 20	988
3300	338	10 x 20	840	12.5 x 20	1000	12.5 x 25	1170	16 x 25	1400
4700	478	12.5 x 20	1090	12.5 x 25	1260	16 x 25	1480	16 x 30	1750
6800	688	12.5 x 25	1350	16 x 25	1570	16 x 30	1780	16 x 35	1910
10000	109	16 x 25	1650	16 x 30	1890	16 x 35	1930		
15000	159	16 x 30	2010	16 x 40	2170				
22000	229	18 x 35	2350						

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

Case Size Φ D x L (mm)

Voltage (Code)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
Cap. (µF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
2.2	225			5 x 11	18			5 x 11	21
3.3	335			5 x 11	22			5 x 11	31
4.7	475			5 x 11	26			5 x 11	38
10	106			5 x 11	39	5 x 11	46	6.3 x 11	54
22	226			5 x 11	65	5 x 11	71	6.3 x 11	93
33	336			5 x 11	90	6.3 x 11	100	8 x 12	130
47	476	5 x 11	90	6.3 x 11	110	6.3 x 11	120	10 x 12.5	165
100	107	6.3 x 11	150	8 x 12	180	10 x 12.5	215	10 x 20	265
220	227	8 x 12	270	10 x 16	330	10 x 20	370	12.5 x 25	440
330	337	10 x 12.5	350	10 x 16	410	12.5 x 20	578	12.5 x 25	600
470	477	10 x 16	460	10 x 20	530	12.5 x 20	640	16 x 25	715
1000	108	12.5 x 20	810	12.5 x 25	950	16 x 25	930	18 x 40	1040
2200	228	16 x 25	1260	16 x 35	1570	18 x 35	1610		
3300	338	16 x 30	1610	18 x 35	1770				
4700	478	18 x 35	1910						

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

Case Size Φ D x L (mm)

RIPPLE CURRENT MULTIPLIER

Frequency Coefficient

Coefficient Cap. (µF)	60	120	1k	10k	100k
0.1~33	0.75	1.00	1.55	1.80	2.00
47~470	0.80	1.00	1.35	1.50	1.50
1000~22000	0.85	1.00	1.10	1.15	1.15

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.