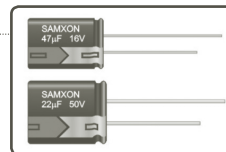


FEATURES

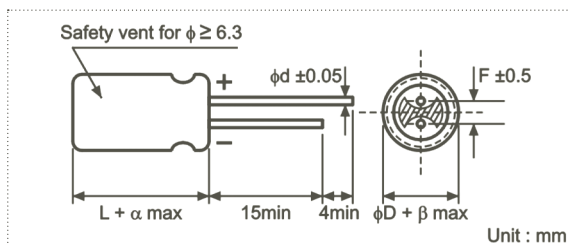
- Wide operating temperature range, it as long load life product at 125°C.
- Suitable for use in DC or pulse circuits in various electronic and industrial.



SPECIFICATIONS

Item	Performance Characteristics																		
Operating Temperature Range	-40 to +125°C																		
Rated Working Voltage Range	10 to 50V																		
Nominal Capacitance Range	3.3 to 3900µF																		
Capacitance Tolerance	±20% at 120Hz, +20°C																		
Leakage Current	$I \leq 0.03CV$ or 4 (µA) whichever is greater measured after 1 minute application of rated working voltage at +20°C																		
tan δ (120Hz, +20°C)	<table border="1"> <tr> <th>Working Voltage (V)</th> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <th>tan δ (max.)</th> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table>	Working Voltage (V)	10	16	25	35	50	tan δ (max.)	0.22	0.18	0.16	0.14	0.12						
	Working Voltage (V)	10	16	25	35	50													
tan δ (max.)	0.22	0.18	0.16	0.14	0.12														
For capacitance value >1000µF, add 0.02 per another 1000µF																			
Low Temperature Characteristics	Impedance ratio max. at 120Hz																		
	<table border="1"> <tr> <th>Working Voltage (V)</th> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <th>Z-25°C / Z+20°C</th> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <th>Z-40°C / Z+20°C</th> <td>6</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table>	Working Voltage (V)	10	16	25	35	50	Z-25°C / Z+20°C	3	2	2	2	2	Z-40°C / Z+20°C	6	4	4	4	4
	Working Voltage (V)	10	16	25	35	50													
Z-25°C / Z+20°C	3	2	2	2	2														
Z-40°C / Z+20°C	6	4	4	4	4														
High Temperature Loading	Test time : ϕD <8 ≥8 Load life 1,000h 2,000h Test temperature : +125°C Test conditions : Rated DC working voltage with rated ripple current																		
	Post test requirements at +20 Leakage current : ≤Initial specified value Cap. change : within ±20% of the initial measured value tan δ : ≤200% of the initial specified value																		
Shelf Life	At +125°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				

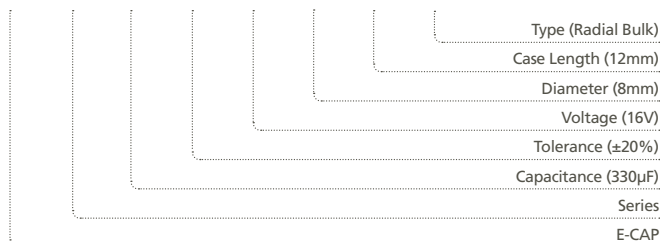
RIPPLE CURRENT MULTIPLIER

Frequency Coefficient

Rated Voltage	Coefficient Cap (µF)	Freq. (Hz)				
		50	120	300	1k	10k~100k
10~50V	≤47	0.75	1.00	1.35	1.57	2.00
	100~470	0.80	1.00	1.23	1.34	1.50
	≥560	0.85	1.00	1.10	1.13	1.15

PART NUMBER SYSTEM (EXAMPLE : 16V 330µF)

1	23	456	7	89	10	11 12	13 14
E	BD	337	M	1C	F	12	RR



STANDARD RATINGS

Voltage (Code)		10V (1A)		16V (1C)		25V (1E)		35V (1E)		50V (1H)	
Cap. (µF)	Code	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
3.3	335									5 x 11	21
4.7	475									5 x 11	26
10	106									5 x 11	38
22	226							5 x 11	47	5 x 11	55
33	336					5 x 11	53	5 x 11	56	6.3 x 11	81
47	476			5 x 11	56	5 x 11	59	6.3 x 11	84	6.3 x 11	93
100	107	5 x 11	74	5 x 11	88	6.3 x 11	111	6.3 x 11	118	8 x 12	160
220	227	6.3 x 11	135	6.3 x 11	149	8 x 12	200	10 x 12.5	240		
330	337	6.3 x 11	167	8 x 12	221	8 x 12	238				
470	477	8 x 12	237	8 x 12	256	10 x 16	366				
1000	108					10 x 20	575				
2200	228					12.5 x 25	908				
3900	398					16 x 30	1356				

Maximum Allowable Ripple Current (mArms) at 125°C 120Hz

Case Size Φ D x L (mm)