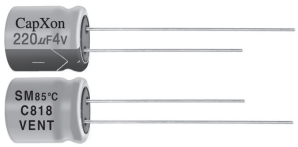
SM Series 7 mm 85℃ Standard

Features

- Design for space-saving and high density insertion.
- Applications: VTR, car radio, car stereos, charger, etc.
- For detail specifications, please refer to Engineering Bulletin No. E104
- RoHS Compliant



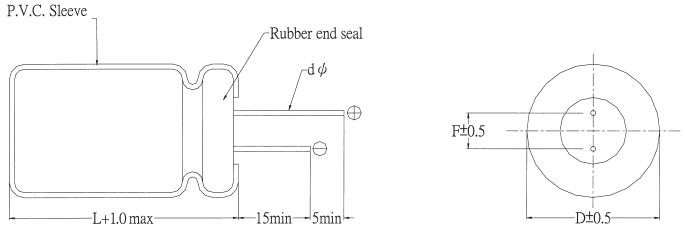
Specifications

Item	Performance Characteristics
Operating Temperature Range	-40 to +85℃
Rated Voltage Range	4 to 63 VDC
Capacitance Range	0.1 to 470 μF
Capacitance Tolerance	±20% (120Hz, +20℃)
Leakage Current(+20℃, max)	I≦0.01 CV or 3 (μA) After 1 minute, whichever is greater measured with rated working voltage applied.
Dissipation Factor (tanδ ,at 20℃ ,120Hz)	Working Voltage (VDC): 4 / 6.3 / 10 / 16 / 25 / 35 / 50 / 63 D.F. (%)max: 25 / 22 / 20 / 16 / 14 / 12 / 10 / 9
Low Temperature Characteristics (at 120Hz)	Impedance ratio max Working Voltage (VDC): 4 / 6.3 / 10 / 16 / 25 / 35 / 50 / 63 Z-25℃ / Z+20℃: 7 / 4 / 3 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 15 / 8 / 6 / 4 / 4 / 3 / 3 / 3
Load Life	Test conditions Duration time :1000 Hrs Ambient temperature :+85℃ Applied voltage :Rated DC working voltage After test requirements at +20℃ Capacitance change :≦ ±20% of the initial measured value (4V : ≦ ±30%) Dissipation factor :≦ 200% of the initial specified value Leakage current :≦ The initial specified value
Shelf Life	Test conditions Duration time :1000 Hrs Ambient temperature :+85℃ Applied voltage :None After test requirements at +20℃ : Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.

Multiplier for Ripple Current vs. Frequency

CAP(μF)＼Frequency(Hz)	60(50)	120	400	1K	10K	50K-100K
CAP≦10	0.8	1	1.30	1.45	1.65	1.70
10＜CAP≦100	0.8	1	1.23	1.36	1.48	1.53
100＜CAP≦1000	0.8	1	1.16	1.25	1.35	1.38

Diagram of Dimensions:(unit:mm)



Dφ	4	5	6.3	8
F	1.5±0.5	2.0±0.5	2.5±0.5	3.5±0.5
dφ	0.45		0.5	

Case Size

φDxL(mm)

WV (SV) / Cap(μF)	4 (5)		6.3 (8)		10 (13)		16 (20)		25 (32)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7							4x7	15	4x7	20
6.8							4x7	20	4x7	22
10							4x7	28	4x7	30
15			4x7	28	4x7	32	4x7	35	5x7	37
22			4x7	35	4x7	36	4x7	40	4x7	46
					5x7	38	5x7	42	5x7	50
33	4x7	33	4x7	40	4x7	43	4x7	45	5x7	52
			5x7	42	5x7	45	5x7	55	6.3x7	58
47	4x7	35	4x7	46	4x7	50	5x7	65	6.3x7	71
			5x7	48	5x7	58	6.3x7	68		
68	4x7	42	5x7	50	5x7	60	6.3x7	70	6.3x7	79
100	4x7	55	5x7	75	5x7	82	6.3x7	98	8x7	113
	5x7	61	6.3x7	80	6.3x7	90	8x7	105		
150	5x7	72	6.3x7	82	6.3x7	95	8x7	111		
			8x7	85						
220	6.3x7	110	6.3x7	120	6.3x7	136	8x7	152		
			8x7	133	8x7	140				
330	6.3x7	120	8x7	160	8x7	182				
	8x7	165								
470	8x7	235								

WV (SV) / Cap(μF)	35 (44)		50 (63)		63 (79)	
	Size	Ripple	Size	Ripple	Size	Ripple
0.1			4x7	1.3	4x7	1.3
0.15			4x7	2	4x7	2.0
0.22			4x7	3	4x7	3.0
0.33			4x7	3.5	4x7	4.0
0.47			4x7	5	4x7	6.3
0.68			4x7	7.5	4x7	8
1			4x7	10	4x7	12
1.5			4x7	13	4x7	14
2.2			4x7	17	4x7	18
3.3	4x7	18	4x7	23	5x7	25
4.7	4x7	22	4x7	24	5x7	30
			5x7	26	6.3x7	33
6.8	5x7	25	5x7	28	6.3x7	31
10	4x7	31	5x7	35	6.3x7	48
	5x7	33	6.3x7	38		
15	5x7	37	6.3x7	42	8x7	45
22	5x7	47	6.3x7	59	8x7	65
	6.3x7	55	8x7	63		
33	6.3x7	65	8x7	75		
	8x7	68				
47	8x7	85	8x7	88		
68	8x7	88				
100	8x7	119				

Ripple Current (mA, rms) at 85℃ 120Hz