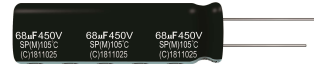




SP Series

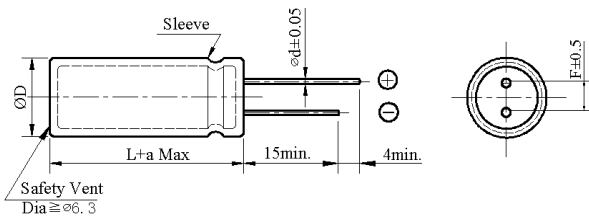
- Counter-plan product for safety
- Load life 10,000 hours at 105°C



◆ SPECIFICATIONS

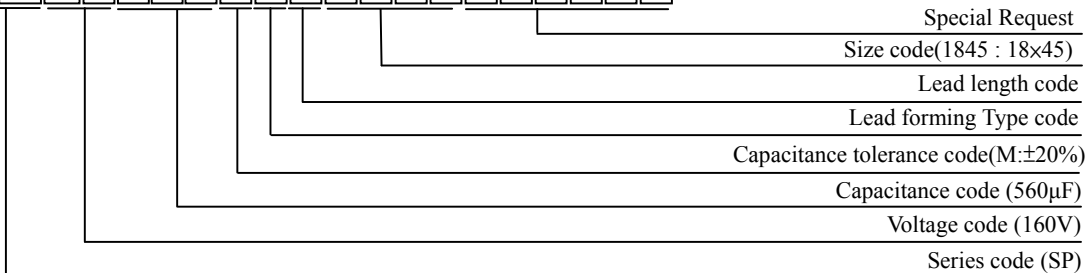
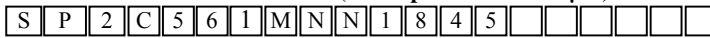
Item	Performance Characteristics			
Category Temperature Range	-25 ~ +105°C			
Working Voltage Range	160 ~ 450Vdc			
Capacitance Range	22 ~ 680 µF			
Capacitance Tolerance	±20% (at 25°C and 120Hz)			
Dissipation Factor (tanδ) (at 25°C, 120Hz)	Rated Voltage (V)	160 ~ 250	400 ~ 450	
	tanδ(Max)	0.12	0.15	
Leakage Current	I=0.02CV or 3000 µA whichever is smaller I : Leakage current (µA) C : Rated capacitance (µF) V : Rated voltage (V) Impress the rated voltage for 2 minutes			
Low Temperature Characteristics Impedance Ratio(MAX)	Rated voltage (V)	160~250	400	420 ~ 450
	Z(-25°C)/Z(+20°C)	3	5	6
Endurance	The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated ripple current is applied for 10,000 hours at 105°C.			
	Capacitance change	≒ ±20% of the initial value		
	Dissipation factor(tanδ)	≒ 200% of the specified value		
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after the rated voltage applied for 1,000 hours at 105°C without voltage applied.			
	Capacitance change	≒ ±20% of the initial value		
	Dissipation factor(tanδ)	≒ 200% of the specified value		
Others	Leakage current			
	≒ 200% of the specified value			
Conforms to JIS-C-5101-4 (1998), characteristic W				

◆ DIMENSIONS (mm)



ΦD	10	12.5 L < 35	12.5 L ≥ 35	16	18
ΦD	ΦD + 0.5 Max				
Φd	0.6	0.6	0.8	0.8	0.8
F	5.0	5.0		7.5	7.5
a	L + 1.5 Max	≒ 35 L + 1.5 Max ≒ 40 L + 2.0 Max		L + 1.5 Max	

◆ PART NUMBER SYSTEM(Example : 160V 560µF)





SP Series

◆ Case size & Permissible rated ripple current: (mA rms) at 105°C / 120Hz

uF \ Vdc	160		200		220		250	
	ΦD × L	RC	ΦD × L	RC	ΦD × L	RC	ΦD × L	RC
68					10×40	425	10×45	440
82			10×40	460	10×45	480	10×50	505
100	10×35	445	10×45	490	10×50	545	12.5×40	570
120	10×40	525	10×50	555	12.5×40	580	12.5×50	610
							16×30	590
150	10×50	610	12.5×40	650	12.5×45	670	16×35.5	735
	12.5×35	595						
180	12.5×40	670	12.5×45	745	12.5×50	765	16×40	820
220	12.5×45	785	12.5×50	900	16×40	930	16×50	1050
	16×30	760	16×35.5	885			18×40	1010
270	12.5×50	905	16×40	910	16×45	990	18×45	1120
	16×35.5	880	18×31.5	890	18×35.5	975		
	18×30	870						
330	16×40	960	16×45	1210	16×50	1270	18×50	1380
	18×31.5	945	18×35.5	1285	18×40	1300		
470	18×40	1270	18×45	1450	18×50	1475		
560	18×45	1400	18×50	1550				
680	18×50	1520						

uF \ Vdc	400		420		450	
	ΦD × L	RC	ΦD × L	RC	ΦD × L	RC
22			10×35	240	10×40	260
27	10×35	280	10×40	285	10×45	310
33	10×40	295	10×45	320	10×50	340
					12.5×35	330
39	10×45	325	10×50	345	12.5×40	365
47	10×50	370	12.5×40	385	12.5×45	440
	12.5×35	360				
56	12.5×40	400	12.5×45	420	12.5×50	510
68	12.5×45	475	12.5×50	520	16×40	630
			16×35.5	515		
82	12.5×50	580	16×40	620	16×45	690
	16×35.5	575			18×35.5	670
100	16×40	655	16×45	730	18×40	800
	18×31.5	635	18×35.5	715		
120	16×45	780	18×45	800	18×50	880
	18×40	765				
150	18×45	890	18×50	955		
180	18×50	1000				

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	50/60	120	1K	10K	100K
160 ~ 450	0.80	1.00	1.30	1.40	1.50