

# SP Series

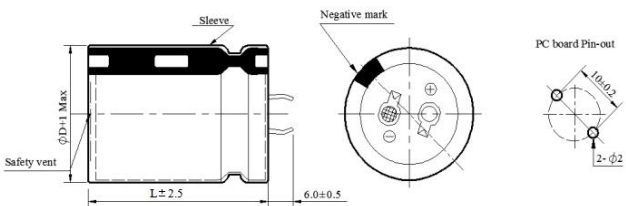
- Endurance with ripple current: 2,000 hours at 105°C.

## SPECIFICATIONS

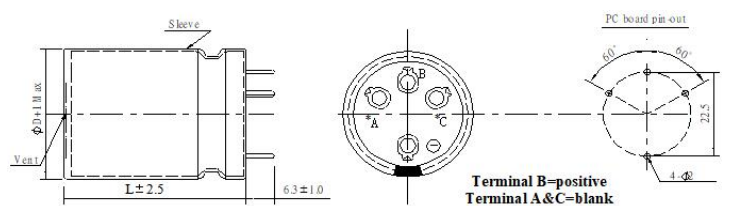
Item	Performance Characteristics			
Category Temperature Range	-25 ~ +105°C			
Working Voltage Range	400~450Vdc			
Capacitance Range	68~680μF			
Capacitance Tolerance	±20% (at 20°C and 120Hz)			
Dissipation Factor (tan δ) (at 20°C, 120Hz)	Rated Voltage (V)	400	420	450
	tan δ (Max)	0.15	0.20	0.20
The above values should be increased by 0.02 for every additional 1000μF				
Leakage Current	$I \leq 3 \sqrt{CV}$			
	I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V) Apply rated voltage the rated voltage for 5 minutes.			
Low Temperature Characteristics Impedance Ratio(MAX)	Rated Voltage (V)	400	420	450
	Z(-25°C)/Z(+20°C)	4	8	8
(at 120Hz)				
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 2,000 hours at 105°C.			
	Capacitance change	≒ ±20% of the initial value		
	Dissipation factor(tan δ)	≒ 200% of the specified value		
	Leakage current	≒ specified value		
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 20°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(tan δ)	≒ 200% of the specified value		
	Leakage current	≒ 200% of the specified value		
Others	Conforms to JIS-C-5101-4 (1998) and IEC 60384-4			

## DIMENSIONS(mm)

Terminal Code :S2



Terminal Code :S4



## PART NUMBER SYSTEM( Example : 420V 680μF )

E	S	P	4	2	0	M	6	8	1	R	5	5	S	2	6	0	A	A
																	Special Request	
																	Lead size	
																	Lead type	
																	Height code (L: 55mm)	
																	Diameter code (R: φ35)	
																	Capacitance code (680 μF)	
																	Capacitance tolerance code (M: ±20%)	
																	Voltage code (420V)	
																	Series code (SP)	
																	Category code	

# SP Series

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

Vdc ΦD uF	400								420							
	Φ 22		Φ 25		Φ 30		Φ 35		Φ 22		Φ 25		Φ 30		Φ 35	
	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC
82									22×25	600						
100	22×25	660							22×30	630	25×25	630				
120	22×30	670							22×35	770	25×25	770				
150	22×35	840	25×30	840					22×40	800	25×30	800	30×25	800		
180	22×40	900	25×30	900					22×45	860	25×35	860	30×30	860		
220	22×45	1050	25×35	1050	30×30	1050			22×50	990	25×40	990	30×30	990	35×25	990
270	22×50	1160	25×40	1160	30×30	1160	35×30	1160			25×45	1180	30×40	1180	35×30	1180
330			25×50	1360	30×35	1360	35×30	1360			25×55	1350	30×40	1350	35×35	1350
390			25×55	1470	30×40	1470	35×35	1470					30×45	1530	35×40	1530
470					30×45	1500	35×40	1500					30×50	1760	35×40	1760
560					30×55	1800	35×40	1800							35×50	1990
680							35×50	2010							35×55	2090

Vdc ΦD uF	450							
	Φ 22		Φ 25		Φ 30		Φ 35	
	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC
68	22×25	480						
82	22×30	530						
100	22×30	600	25×25	600				
120	22×35	680	25×30	680				
150	22×40	750	25×35	750	30×25	750		
180	22×50	820	25×40	820	30×30	820		
220			25×45	950	30×35	950	35×30	950
270			25×50	1130	30×40	1130	35×30	1130
330					30×45	1380	35×35	1380
390					30×50	1580	35×40	1600
470							35×45	1650
560							35×50	1800

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)					
	50	120	300	1K	10K	50K
400 ~ 450	0.77	1.00	1.16	1.30	1.41	1.43