

# SPO Series

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

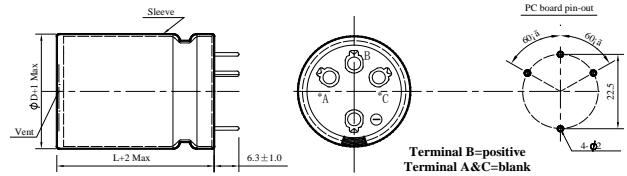
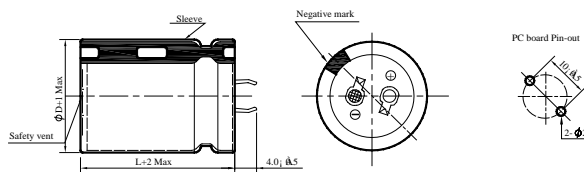
◆ SPECIFICATIONS

Item	Performance Characteristics								
Category Temperature Range	-25 ~ +105°C								
Working Voltage Range	400 ~ 450Vdc								
Capacitance Range	68 ~ 680μF								
Capacitance Tolerance	±20% (at 25°C and 120Hz)								
Dissipation Factor (tanδ) (at 25°C, 120Hz)	<table border="1"> <tr> <td>Rated Voltage (V)</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> </tr> </table>	Rated Voltage (V)	400	420	450	tanδ(Max)	0.15	0.20	0.20
Rated Voltage (V)	400	420	450						
tanδ(Max)	0.15	0.20	0.20						
Leakage Current	$I \leq 3 \sqrt{CV}$ I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V) Impress the rated voltage for 5 minutes.								
Endurance	The following requirements shall be satisfied when the capacitor are restored to 25°C after the rated voltage applied for 2,000 hours at 105°C. <table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±20% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≒ The initial specified value</td> </tr> </table>	Capacitance change	≒ ±20% of the initial value	Dissipation factor(tanδ)	≒ 200% of the specified value	Leakage current	≒ The initial specified value		
Capacitance change	≒ ±20% of the initial value								
Dissipation factor(tanδ)	≒ 200% of the specified value								
Leakage current	≒ The initial specified value								
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 1,000 hours at 105°C without voltage applied. <table border="1"> <tr> <td>Capacitance change</td> <td>≒ ±15% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≒ 150% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≒ The initial specified value</td> </tr> </table>	Capacitance change	≒ ±15% of the initial value	Dissipation factor(tanδ)	≒ 150% of the specified value	Leakage current	≒ The initial specified value		
Capacitance change	≒ ±15% of the initial value								
Dissipation factor(tanδ)	≒ 150% of the specified value								
Leakage current	≒ The initial specified value								
Others	Conforms to JIS-C-5101-4 (1998), characteristic W.								

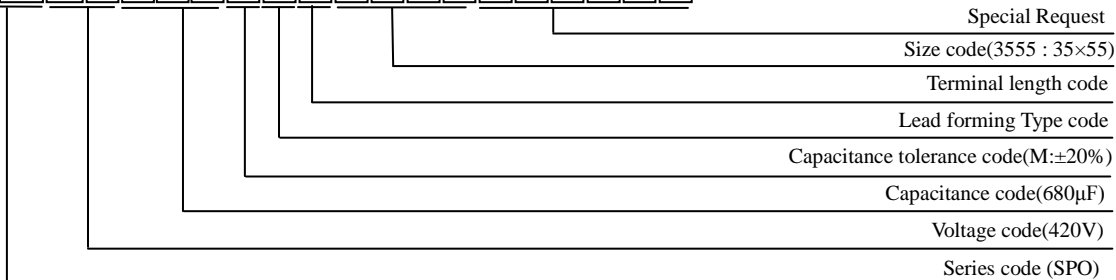
◆ DIMENSIONS (mm)

Terminal Code : ND : Standard

Terminal Code : K6 (ø35)



◆ PART NUMBERING SYSTEM( Example : 420V 680μF )



# SPO Series

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

Vdc ΦD uF	400								420							
	Φ 22		Φ 25.4		Φ 30		Φ 35		Φ 22		Φ 25.4		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	0.60						
100	22×25	0.66							22×30	0.63	25.4×25	0.63				
120	22×30	0.67							22×35	0.77	25.4×25	0.77				
150	22×35	0.84	25.4×30	0.84					22×40	0.80	25.4×30	0.80	30×25	0.80		
180	22×40	0.90	25.4×30	0.90					22×45	0.86	25.4×35	0.86	30×30	0.86		
220	22×45	1.05	25.4×35	1.05	30×30	1.05			22×50	0.99	25.4×40	0.99	30×30	0.99	35×25	0.99
270	22×50	1.16	25.4×40	1.16	30×30	1.16	35×30	1.16			25.4×45	1.18	30×40	1.18	35×30	1.18
330			25.4×50	1.36	30×35	1.36	35×30	1.36			25.4×55	1.35	30×40	1.35	35×35	1.35
390			25.4×55	1.47	30×40	1.47	35×35	1.47					30×45	1.53	35×40	1.53
470					30×45	1.50	35×40	1.50					30×50	1.76	35×40	1.76
560					30×55	1.80	35×40	1.80							35×50	1.99
680							35×50	2.01							35×55	2.09

Vdc ΦD uF	450							
	Φ 22		Φ 25.4		Φ 30		Φ 35	
	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC	ΦD×L	RC
68	22×25	0.48						
82	22×30	0.53						
100	22×30	0.60	25.4×25	0.60				
120	22×35	0.68	25.4×30	0.68				
150	22×40	0.75	25.4×35	0.75	30×25	0.75		
180	22×50	0.82	25.4×40	0.82	30×30	0.82		
220			25.4×45	0.95	30×35	0.95	35×30	0.95
270			25.4×50	1.13	30×40	1.13	35×30	1.13
330					30×45	1.38	35×35	1.38
390					30×50	1.47	35×40	1.47
470							35×45	1.65
560							35×50	1.80

◆ 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