

# SPK Series

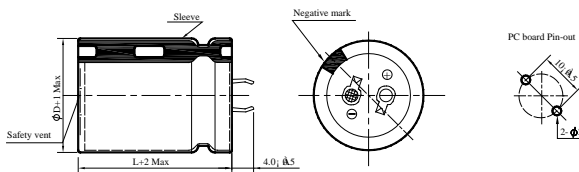
- Long life and high temperature, down size and high ripple current.
- Load life 3,000 hours at 105 °C.

◆ SPECIFICATIONS

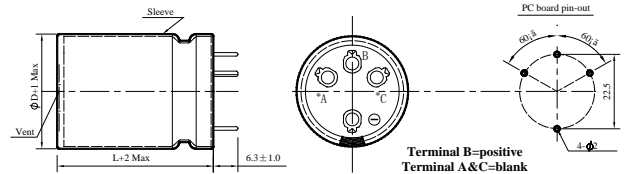
Item	Performance Characteristics																
Category Temperature Range	-25 ~ +105 °C																
Working Voltage Range	200 ~ 450Vdc																
Capacitance Range	56 ~ 1,800μF																
Capacitance Tolerance	±20% (at 25 °C and 120Hz)																
Dissipation Factor (tanδ) (at 25 °C, 120Hz)	<table border="1"> <tr> <td>Rated Voltage (V)</td> <td>200</td> <td>220</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> </tr> </table>	Rated Voltage (V)	200	220	250	350	400	420	450	tanδ(Max)	0.15	0.15	0.15	0.15	0.15	0.15	0.15
	Rated Voltage (V)	200	220	250	350	400	420	450									
tanδ(Max)	0.15	0.15	0.15	0.15	0.15	0.15	0.15										
The above values should be increased by 0.02 for every additional 1000μF																	
Leakage Current	I=0.02CV or 3000μA, whichever is smaller 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 3,000 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>≒ specified value</td> </tr> </table>	Capacitance change	≒ ±20% of the initial value	Dissipation factor(tanδ)	≒ 200% of the specified value	Leakage current	≒ specified value										
	Capacitance change	≒ ±20% of the initial value															
Dissipation factor(tanδ)	≒ 200% of the specified value																
Leakage current	≒ specified value																
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.																	
Shelf Life	<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>≒ 200% of the specified value</td> </tr> </table>	Capacitance change	≒ ±20% of the initial value	Dissipation factor(tanδ)	≒ 200% of the specified value	Leakage current	≒ 200% of the specified value										
	Capacitance change	≒ ±20% of the initial value															
	Dissipation factor(tanδ)	≒ 200% of the specified value															
Leakage current	≒ 200% of the specified value																
Others	Conforms to JIS-C-5101-4 (1998), characteristic W.																

◆ DIMENSIONS (mm)

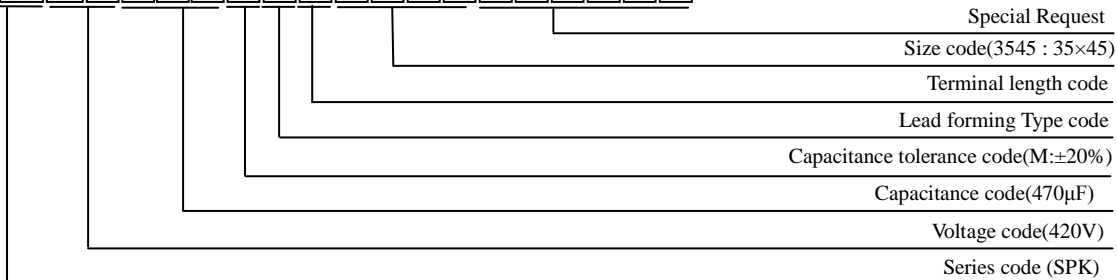
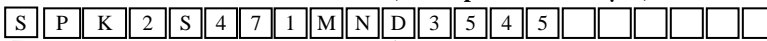
Terminal Code : ND : Standard



Terminal Code :K6 (ø35)



◆ PART NUMBERING SYSTEM( Example : 420V 470μF )



# SPK Series

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

Vdc ΦD uF	200								Vdc ΦD uF	220							
	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
270	22×25	1010							220	22×25	900						
330	22×30	1150							270	22×30	950						
390	22×35	1210	25×30	1200					330	22×30	1200	25×30	1150				
470	22×40	1330	25×35	1320					390	22×35	1300	25×30	1320				
560	22×45	1470	25×40	1460	30×30	1460			470	22×40	1520	25×35	1400	30×30	1350		
680	22×50	1610	25×45	1620	30×35	1630			560	22×45	1610	25×40	1510	30×30	1510		
820			25×50	1780	30×40	1830	35×30	1820	680			25×50	1710	30×35	1660	35×30	1620
1000					30×45	2100	35×35	2100	820			25×55	1860	30×40	1820	35×35	1760
1200					30×50	2410	35×40	2420	1000					30×50	2260	35×40	2230
1500							35×45	2810	1200					30×55	2630	35×45	2620
1800							35×50	3050	1500							35×50	2920

Vdc ΦD uF	250								Vdc ΦD uF	400							
	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
120									68	22×25	470						
150									82	22×25	580						
180									100	22×30	640	25×25	640				
220	22×30	910							120	22×35	690	25×30	680				
270	22×30	1050							150	22×40	810	25×30	810	30×25	750		
330	22×35	1170	25×30	1160					180	22×45	900	25×35	890	30×30	870		
390	22×40	1360	25×35	1330	30×25	1360			220	22×50	1010	25×40	1000	30×30	1000	35×25	1000
470	22×45	1460	25×40	1430	30×30	1510			270			25×50	1100	30×35	1110	35×30	1110
560	22×50	1570	25×45	1640	30×35	1640			330					30×40	1310	35×30	1310
680			25×50	1930	30×40	1820	35×30	1820	390					30×50	1410	35×35	1420
820					30×45	1990	35×35	2030	470							35×40	1730
1000					30×50	2190	35×40	2140	560							35×45	1930
1200							35×50	2760	680							35×55	2120

Vdc ΦD uF	420								Vdc ΦD uF	450							
	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
68	22×25	460							56	22×25	410						
82	22×30	590	25×25	600					68	22×30	490						
100	22×30	630	25×25	620					82	22×30	590	25×25	590				
120	22×35	670	25×30	700	30×25	750			100	22×35	640	25×30	640	30×25	580		
150	22×40	790	25×35	800	30×25	770			120	22×40	690	25×30	690	30×25	670		
180	22×45	880	25×40	870	30×30	890	35×25	840	150	22×45	810	25×35	810	30×30	740	35×25	690
220			25×45	990	30×35	1050	35×30	980	180	22×50	870	25×40	870	30×30	840	35×25	790
270			25×50	1270	30×40	1100	35×30	1180	220			25×45	1010	30×35	940	35×30	970
330					30×45	1260	35×35	1330	270					30×40	1070	35×30	1170
390					30×50	1380	35×40	1500	330					30×45	1210	35×35	1330
470							35×45	1730	390							35×40	1520
560							35×50	1900	470							35×45	1700

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	50	120	1K	10K	≥50K
200 ~ 250	0.81	1.00	1.32	1.45	1.50
350 ~ 450	0.77	1.00	1.30	1.41	1.43