

SPM Series

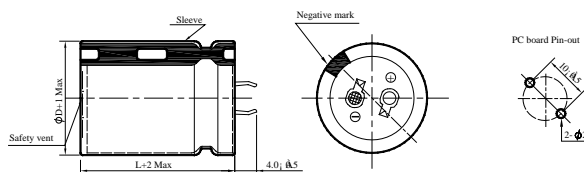
- Large size for PCB board mounting hole type.
- This series is same as SGM series except operating temperature range.

◆ SPECIFICATIONS

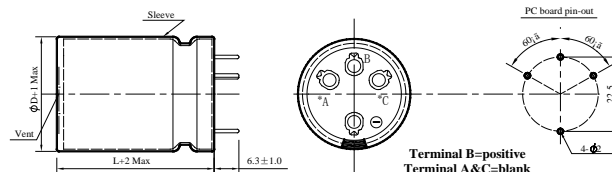
Item	Performance Characteristics																			
Category Temperature Range	-40 ~ +105°C	-25 ~ +105°C																		
Working Voltage Range	16 ~ 100Vdc	160 ~ 450Vdc																		
Capacitance Range	820 ~ 68,000μF	56 ~ 2,700 μF																		
Capacitance Tolerance	±20% (at 25°C and 120Hz)																			
Dissipation Factor (tanδ) (at 25°C, 120Hz)	<table border="1"> <tr> <th>Rated Voltage (V)</th> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100 ~ 250</td> <td>350 ~ 450</td> </tr> <tr> <th>tanδ(Max)</th> <td>0.35</td> <td>0.35</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> </tr> </table>		Rated Voltage (V)	16	25	35	50	63	80	100 ~ 250	350 ~ 450	tanδ(Max)	0.35	0.35	0.25	0.25	0.25	0.20	0.15	0.15
	Rated Voltage (V)	16	25	35	50	63	80	100 ~ 250	350 ~ 450											
tanδ(Max)	0.35	0.35	0.25	0.25	0.25	0.20	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 1,000 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																			
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 500 hours at 105°C without voltage applied. <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)

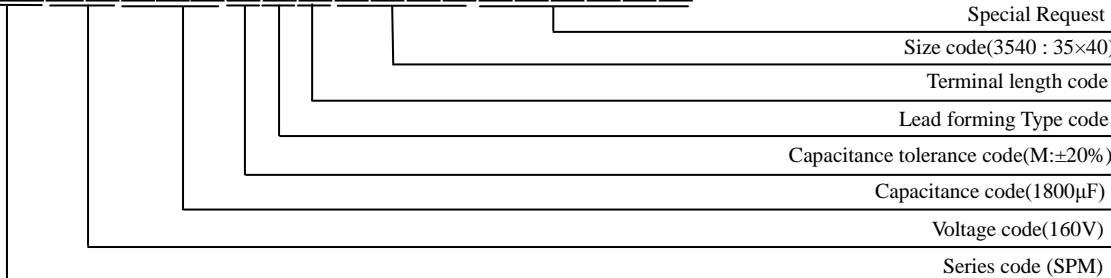
Terminal Code : ND : Standard



Terminal Code :K6 (ø35)



◆ PART NUMBERING SYSTEM(Example : 160V 1800μF)



SPM Series

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

Vdc ΦD uF	16								Vdc ΦD uF	25							
	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
8200	22×25	2330							4700								
10000	22×25	2570							5600	22×25	2055						
12000	22×30	2660	25×25	2660					6800	22×30	2375	25×25	2375				
15000	22×35	3300	25×30	3300	30×25	3300			8200	22×35	2600	25×25	2600				
18000	22×40	3720	25×35	3720	30×25	3720			10000	22×40	2930	25×30	2930	30×25	2930		
22000	22×50	3960	25×40	3960	30×30	3960	35×25	3960	12000	22×45	3290	25×35	3290	30×30	3290	35×25	3290
27000			25×45	4480	30×35	4480	35×30	4480	15000	22×50	3675	25×40	3675	30×30	3675	35×25	3675
33000			25×50	4955	30×40	4955	35×30	4955	18000			25×45	4140	30×35	4140	35×30	4140
39000					30×45	5535	35×35	5535	22000			25×50	4845	30×45	4845	35×35	4845
47000					30×50	6315	35×40	6315	27000					30×50	5510	35×40	5510
56000							35×45	7090	33000							35×45	6280
68000							35×50	8030	39000							35×50	7030

Vdc ΦD uF	35								Vdc ΦD uF	50							
	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
3900	22×25	2065							2200	22×25	1775						
4700	22×30	2250	25×25	2250					3300	22×30	2210	25×25	2210				
5600	22×35	2560	25×25	2560					3900	22×35	2465	25×30	2465	30×25	2465		
6800	22×40	2600	25×30	2600	30×25	2600			4700	22×40	2610	25×35	2610	30×25	2610		
8200	22×45	2880	25×35	2880	30×30	2880	35×25	2880	5600	22×45	3135	25×35	3135	30×30	3135	35×25	3135
10000	22×50	3320	25×40	3320	30×30	3320	35×25	3320	6800	22×50	3580	25×40	3580	30×35	3580	35×30	3580
12000			25×45	3700	30×35	3700	35×30	3700	8200			25×50	4100	30×40	4100	35×30	4100
15000			25×50	4200	30×40	4200	35×35	4200	10000					30×45	4625	35×35	4625
18000					30×45	5150	35×40	5150	12000					30×50	5190	35×40	5190
22000					30×50	5615	35×45	5615	15000							35×45	5990
27000							35×50	6410	18000							35×50	6245

Vdc ΦD uF	63								Vdc ΦD uF	80							
	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
1500									1200	22×25	1570						
1800	22×25	1690							1500	22×25	1745						
2200	22×30	2145	25×25	2145					1800	22×30	1990	25×25	1990				
2700	22×35	2230	25×25	2230					2200	22×35	2270	25×30	2270	30×25	2270		
3300	22×35	2455	25×30	2455	30×25	2455			2700	22×40	2580	25×35	2580	30×25	2580		
3900	22×40	2790	25×35	2790	30×30	2790	35×25	2790	3300	22×45	2985	25×40	2985	30×30	2985	35×25	2985
4700	22×50	3125	25×40	3125	30×30	3125	35×25	3125	3900	22×50	3255	25×45	3255	30×35	3255	35×25	3255
5600			25×45	3490	30×35	3490	35×30	3490	4700			25×50	3765	30×40	3765	35×30	3765
6800			25×50	3970	30×40	3970	35×30	3970	5600					30×45	4230	35×35	4230
8200					30×45	4490	35×35	4490	6800					30×50	4780	35×40	4780
10000					30×50	5110	35×40	5110	8200							35×45	5420
12000							35×45	5760	10000							35×50	6170

ALUMINUM ELECTROLYTIC CAPACITORS



SPM Series

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

Vdc ΦD uF	100								Vdc ΦD uF	160							
	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
820	22×25	1725							330	22×25	1300						
1200	22×30	1950	25×25	1950					390	22×25	1410						
1500	22×35	2260	25×30	2260	30×25	2260			470	22×30	1610	25×25	1610				
1800	22×40	2560	25×35	2560	30×25	2560			560	22×35	1810	25×25	1810				
2200	22×45	2920	25×40	2920	30×30	2920	35×25	2920	680	22×40	2000	25×30	2000	30×25	2000		
2700	22×50	3300	25×45	3300	30×35	3300	35×30	3300	820	22×45	2325	25×35	2325	30×30	2325	35×25	2325
3300			25×50	3765	30×40	3765	35×30	3765	1000	22×50	2600	25×40	2600	30×30	2600	35×25	2600
3900					30×45	4180	35×35	4180	1200			25×45	2930	30×35	2930	35×30	2930
4700					30×50	4750	35×40	4750	1500			25×50	3430	30×45	3430	35×35	3430
5600							35×45	5350	1800					30×50	3470	35×40	3470
6800							35×50	6050	2200							35×45	4445
8200									2700							35×50	5070

Vdc ΦD uF	200								Vdc ΦD uF	250							
	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	1175							180	22×25	860						
330	22×30	1345	25×25	1345					220	22×25	1065						
390	22×30	1465	25×25	1465					270	22×30	1225	25×25	1225				
470	22×35	1670	25×30	1670	30×25	1670			330	22×35	1400	25×30	1400	30×25	1400		
560	22×40	1860	25×35	1860	30×25	1860			390	22×40	1540	25×30	1540	30×25	1540		
680	22×50	2135	25×40	2135	30×30	2135	35×25	2135	470	22×45	1725	25×35	1725	30×30	1725	35×25	1725
820			25×45	2415	30×35	2415	35×25	2415	560	22×50	1950	25×40	1950	30×35	1950	35×25	1950
1000			25×50	2745	30×40	2745	35×30	2745	680			25×50	2270	30×40	2270	35×30	2270
1200					30×45	3075	35×35	3075	820					30×45	2560	35×35	2560
1500					30×50	3550	35×40	3550	1000					30×50	3085	35×40	3085
1800							35×45	4015	1200							35×45	3280
2200							35×50	4575	1500							35×50	3755

Vdc ΦD uF	400								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
82	22×25	720							56	22×25	600						
100	22×30	835	25×25	835					68	22×25	660						
120	22×35	945	25×25	945					82	22×30	760	25×25	760				
150	22×40	1075	25×30	1075	30×25	1075			100	22×35	864	25×25	864				
180	22×45	1225	25×35	1225	30×30	1225	35×25	1225	120	22×40	960	25×30	960	30×25	960		
220	22×45	1365	25×40	1365	30×30	1365	35×25	1365	150	22×45	1100	25×35	1100	30×30	1100	35×25	1100
270	22×50	1520	25×45	1520	30×35	1520	35×30	1520	180	22×50	1235	25×40	1235	30×35	1235	35×25	1235
330			25×50	1765	30×40	1765	35×30	1765	220			25×50	1430	30×40	1430	35×30	1430
390					30×45	1980	35×35	1980	270					30×45	1650	35×35	1650
470					30×50	2230	35×40	2230	330					30×50	1865	35×40	1865
560							35×45	2500	390							35×45	2085
680							35×50	2825	470							35×50	2350

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	50/60	120	1K	10K	100K
16 ~ 100	0.90	1.00	1.15	1.15	1.15
160 ~ 250	0.88	1.00	1.15	1.17	1.20
350 ~ 450	0.90	1.00	1.10	1.12	1.15