

# GSF Series

- Standard, Long life down size and high ripple current



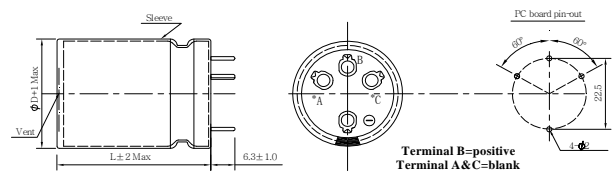
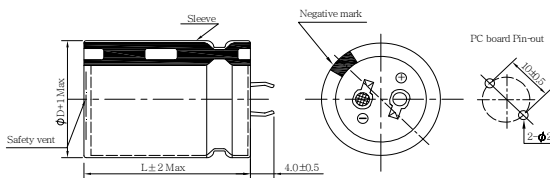
## SPECIFICATIONS

Item	Performance Characteristics														
Category Temperature Range	-25 ~ +85°C														
Working Voltage Range	200 ~ 450Vdc														
Capacitance Range	68 ~ 2,200 μF														
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>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> </tr> </table>	Rated Voltage (V)	200	220	250	400	420	450	tanδ(Max)	0.20	0.20	0.20	0.20	0.20	0.20
	Rated Voltage (V)	200	220	250	400	420	450								
tanδ(Max)	0.20	0.20	0.20	0.20	0.20	0.20									
The above value 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														
Low Temperature Characteristics Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>200 ~ 250</td> <td>400</td> <td>420 ~ 450</td> </tr> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>4</td> <td>8</td> </tr> </table>	Rated voltage (V)	200 ~ 250	400	420 ~ 450	Z(-25°C)/Z(+20°C)	4	4	8						
	Rated voltage (V)	200 ~ 250	400	420 ~ 450											
Z(-25°C)/Z(+20°C)	4	4	8												
(at 120Hz)															
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 3,000 hours at 85°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 1,000 hours at 85°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)

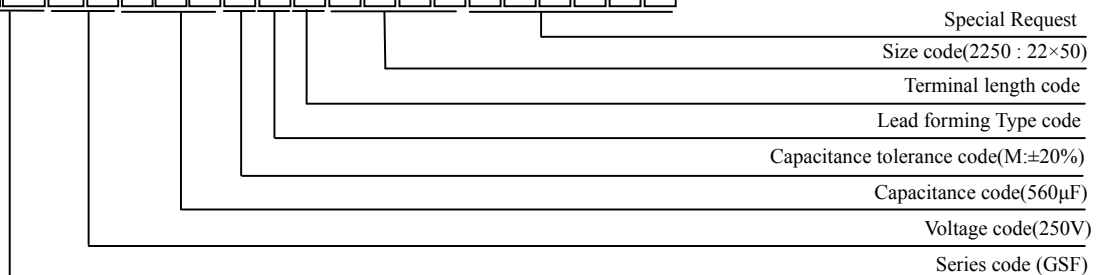
Terminal Code : ND : Standard

Terminal Code :K6 (ø35)



## PART NUMBER SYSTEM ( Example : 250V 560μF )

G S F 2 E 5 6 1 M N D 2 2 5 0





# GSF Series

◆ Case size & Permissible rated ripple current (mA rms) at 85°C / 120Hz

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	1250							270								
330	22×25	1320							330	22×30	1450						
390	22×30	1510	25×25	1560					390	22×35	1640	25×30	1590				
470	22×30	1730	25×30	1780					470	22×35	1870	25×35	1900				
560	22×35	1910	25×30	1960	30×25	1960			560	22×40	2030	25×35	2170	30×30	1990		
680	22×40	2170	25×35	2260	30×30	2270			680	22×45	2390	25×40	2330	30×35	2290		
820	22×45	2450	25×40	2540	30×30	2530			820			25×48	2650	30×40	2590	35×30	2540
1000	22×55	2880	25×45	2990	30×35	2870			1000					30×45	3060	35×35	3000
1200			25×50	3290	30×40	3280	35×35	3250	1200					30×50	3390	35×40	3360
1500					30×50	3760	35×40	3710	1500							35×45	3730
1800					30×55	4200	35×45	4190	1800							35×50	4120
2200							35×50	4780	2200								

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									82	22×25	760						
150									100	22×30	900						
180									120	22×30	1000	25×25	1030				
220	22×30	1130							150	22×35	1130	25×30	1160				
270	22×30	1370							180	22×40	1290	25×35	1320	30×25	1380		
330	22×35	1520	25×30	1470					220	22×45	1440	25×40	1500	30×30	1520		
390	22×40	1720	25×35	1720					270			25×45	1630	30×35	1660		
470	22×45	1960	25×40	1960	30×30	1860			330			25×50	1820	30×40	1870	35×30	1870
560	22×50	2270	25×45	2140	30×35	2140			390					30×45	2060	35×35	2080
680			25×50	2440	30×40	2470			470					30×50	2280	35×40	2310
820					30×45	2720	35×35	2700	560							35×45	2600
1000					30×50	3240	35×40	3180	680							35×50	2830
1200							35×50	3500	820								

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
82	22×25	780							68	22×25	640						
100	22×30	880	25×25	890					82	22×25	790						
120	22×30	980	25×30	990					100	22×30	860	25×25	880				
150	22×35	1100	25×30	1150	30×25	1190			120	22×35	980	25×30	1000	30×25	1020		
180	22×40	1210	25×35	1300	30×30	1350			150	22×40	1080	25×35	1130	30×25	1180		
220	22×48	1410	25×40	1440	30×35	1510			180	22×45	1200	25×40	1280	30×30	1320		
270			25×48	1580	30×40	1740	35×30	1770	220			25×45	1450	30×35	1500	35×30	1460
330			25×55	2010	30×45	1800	35×35	1980	270			25×50	1570	30×40	1730	35×30	1730
390					30×50	2030	35×40	2070	330					30×45	1930	35×35	1960
470					30×55	2280	35×45	2380	390					30×50	2170	35×40	2170
560							35×50	2690	470							35×45	2450
680									560							35×50	2630

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	50/60	120	300	1K	≥10K
200 ~ 250	0.80	1.00	1.15	1.17	1.20
400 ~ 450	0.77	1.00	1.10	1.12	1.15