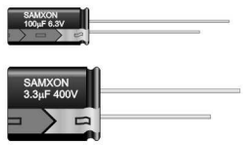
GF Series

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

FEATURES

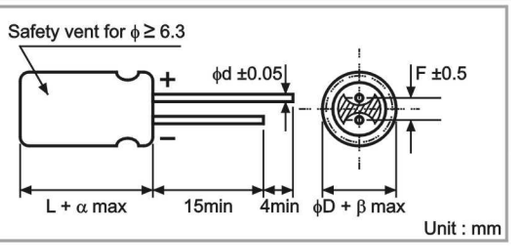
1. Low impedance for high frequency
2. Life time: 2000~4000 hours at 105°C



SPECIFICATIONS

Item	Performance Characteristics								
Operating Temperature Range	-40 to +105°C				-25 to +105°C				
Rated Working Voltage Range	6.3 to 100V				160 to 450V				
Nominal Capacitance Range	2.2 to 18000μF								
Capacitance Tolerance	±20% (120Hz, +20°C)								
Leakage Current	I ≤ 0.01CV or 3(μA) after 2 minutes				CV ≤ 1000 : I = 0.1CV +40(μA) max. CV > 1000 : I = 0.04CV +100(μA) max. after 1 minute application of rated working voltage at +20°C				
Dissipation Factor tan δ (120Hz, +20°C)	Working Voltage (V)	6.3	10	16	25	35	50	63	100
	tan δ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08
	Working Voltage (V)	160 ~ 250	400 ~ 450						
	tan δ (max.)	0.20	0.24						
	For capacitance value > 1000μF, add 0.02 per another 1000μF								
Low Temperature Characteristics	Impedance ratio max. at 120Hz								
	Working Voltage (V)	6.3	10	16	25	35	50	63	100
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2
	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3
	Working Voltage (V)	160 ~ 250	400	450					
	Z-25°C / Z+20°C	3	5	6					
High Temperature Loading	Test conditions Duration : ϕD / 5 ~ 6.3 / 8 ~ 10 / 12.5 ~ Load life / 2000h / 3000h / 4000h Ambient temp. : +105°C Applied voltage : Rated DC working voltage with rated ripple current				Post test requirements at +20°C Leakage current : ≤ Initial specified value Cap. change : within ±25% of initial measured value tan δ : ≤ 150% of initial specified value				
Shelf Life	Test conditions Duration : 1000 hours Ambient temp. : +105°C Applied voltage : (None)				Post test requirements at +20°C Same limits for high temperature loading.				
Others	JIS C - 5101 (IEC 60384)								

CASE SIZE TABLE



ϕD	5	6.3	8(L < 20)	8(L ≥20)	10	12.5	16	18
F	2.0	2.5	3.5		5.0	5.0	7.5	7.5
ϕd	0.5			0.6	0.6		0.8	
α	(L < 20) 1.5				(L ≥ 20) 2.0			
β	(D < 20) 0.5				(D ≥ 20) 1.0			

RIPPLE CURRENT MULTIPLIER

Temperature Coefficient

Temperature(°C)	~ 55	60	70	85	105
Factor	2.23	2.17	2.00	1.75	1.00

Frequency Coefficient

Cap(μF) \ Freq.(Hz)	120	1K	10K	100K
~180	0.40	0.75	0.90	1.00
220 ~ 560	0.50	0.85	0.94	1.00
680 ~ 1800	0.60	0.87	0.95	1.00
2200 ~ 3900	0.75	0.90	0.95	1.00
4700 ~ 18000	0.85	0.95	0.98	1.00

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		6.3V (0J)			10V (1A)			16V (1C)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
100	107							6.3 x 11	0.220	340
120	127							6.3 x 11	0.220	340
150	157				6.3 x 11	0.220	340	8 x 12	0.130	640
180	187	6.3 x 11	0.220	340	6.3 x 11	0.220	340	8 x 12	0.130	640
220	227	6.3 x 11	0.220	340	6.3 x 11	0.220	340	8 x 12	0.130	640
270	277	6.3 x 11	0.220	340	8 x 12	0.130	640	8 x 12	0.130	640
330	337	6.3 x 11	0.220	340	6.3 x 11	0.220	340	8 x 12	0.130	640
		8 x 12	0.130	640	8 x 12	0.130	640			
390	397	8 x 12	0.130	640	8 x 12	0.130	640	10 x 12.5	0.080	865
470	477	6.3 x 11	0.220	340	8 x 12	0.130	640	8 x 16	0.087	840
		8 x 12	0.130	640				10 x 12.5	0.080	865
560	567	8 x 12	0.130	640	10 x 12.5	0.080	865	10 x 12.5	0.080	865
680	687	8 x 12	0.130	640	8 x 12	0.130	640	8 x 16	0.087	840
					10 x 12.5	0.080	865	10 x 16	0.060	1210
820	827	8 x 16	0.087	840	8 x 16	0.087	840	10 x 20	0.046	1400
		10 x 12.5	0.080	865				12.5 x 15	0.049	1450
1000	108	10 x 12.5	0.080	865	8 x 20	0.069	1050	8 x 20	0.069	1050
					10 x 16	0.060	1210	10 x 16	0.060	1210
1200	128	8 x 14	0.087	840	10 x 20	0.046	1400	10 x 25	0.042	1650
		10 x 12.5	0.080	865	12.5 x 15	0.049	1450	16 x 15	0.050	1880
1500	158	8 x 16	0.087	840	10 x 20	0.046	1400	10 x 30	0.031	1910
		10 x 16	0.060	1210				12.5 x 20	0.035	1900
								16 x 15	0.050	1880
1800	188	10 x 25	0.042	1650	12.5 x 20	0.035	1900	10 x 25	0.042	1650
					10 x 20	0.046	1400	18 x 15	0.051	2020
2200	228	10 x 25	0.042	1650	10 x 25	0.042	1650	12.5 x 25	0.030	2124
		16 x 15	0.050	1880	12.5 x 20	0.035	1900	16 x 20	0.035	2210
2700	278	10 x 30	0.031	1910	12.5 x 25	0.030	2124	12.5 x 30	0.026	2524
		12.5 x 20	0.035	1900	18 x 15	0.051	2020	16 x 20	0.035	2210
		16 x 15	0.050	1880						
3300	338	12.5 x 20	0.035	1900	12.5 x 30	0.026	2524	12.5 x 35	0.022	2743
		18 x 15	0.051	2020	16 x 20	0.035	2210	18 x 20	0.034	2495
3900	398	12.5 x 20	0.035	1900	12.5 x 35	0.022	2743	16 x 25	0.028	2552
					16 x 20	0.035	2210	18 x 20	0.034	2495
4700	478	12.5 x 25	0.030	2124	12.5 x 25	0.030	2124	16 x 30	0.022	3029
		16 x 20	0.035	2210	10 x 40	0.031	1310	18 x 25	0.024	2771
5600	568	12.5 x 30	0.026	2524	16 x 25	0.028	2552	16 x 35	0.020	3124
		16 x 20	0.035	2210	18 x 20	0.034	2495	18 x 30	0.020	3600
6800	688	12.5 x 40	0.019	3190	16 x 30	0.022	3029	16 x 40	0.017	3886
		16 x 25	0.028	2552	18 x 25	0.024	2771			
		18 x 20	0.034	2495						
8200	828	16 x 30	0.022	3029	16 x 35	0.020	3124	18 x 35	0.019	3638
					18 x 30	0.020	3600			
10000	109	16 x 35	0.020	3124	18 x 35	0.019	3638	18 x 40	0.015	3781
		18 x 25	0.024	2771						
12000	129	16 x 40	0.017	3886	18 x 40	0.015	3781			
		18 x 30	0.020	3600						
15000	159	18 x 35	0.019	3638						
18000	189	18 x 40	0.015	3781						

Maximum Allowable Ripple Current (mA rms) at 105°C 100KHz

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		25V (1E)			35V (1V)			50V (1H)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
33	336							6.3 x 11	0.300	295
39	396							6.3 x 11	0.300	295
47	476				6.3 x 11	0.220	340	6.3 x 11	0.300	295
56	566				6.3 x 11	0.220	340	8 x 12	0.170	555
68	686				6.3 x 11	0.220	340	8 x 12	0.170	555
82	826	6.3 x 11	0.220	340	8 x 12	0.130	640	8 x 12	0.170	555
100	107	6.3 x 11	0.220	340	8 x 12	0.130	640	10 x 12.5	0.120	760
120	127	8 x 12	0.130	640	8 x 12	0.130	640	8 x 16	0.120	730
								10 x 12.5	0.120	760
150	157	8 x 12	0.130	640	8 x 12	0.130	640	10 x 16	0.084	1050
180	187	8 x 12	0.130	640	10 x 12.5	0.080	865	8 x 20	0.091	910
								10 x 16	0.084	1050
220	227	8 x 12	0.130	640	8 x 16	0.087	840	10 x 20	0.060	1220
					10 x 12.5	0.080	865	12.5 x 15	0.061	1260
270	277	10 x 12.5	0.080	865	10 x 16	0.060	1210	10 x 25	0.055	1440
330	337	8 x 16	0.087	840	8 x 20	0.069	1050	10 x 30	0.043	1690
		10 x 12.5	0.080	865	10 x 16	0.060	1210	12.5 x 20	0.045	1660
390	397	10 x 16	0.060	1210	10 x 20	0.046	1400	12.5 x 20	0.045	1660
					12.5 x 15	0.049	1450	16 x 15	0.055	1690
470	477	8 x 20	0.069	1050	10 x 20	0.046	1400	10 x 30	0.043	1690
		10 x 16	0.060	1210				12.5 x 25	0.034	1950
560	567	10 x 20	0.046	1400	10 x 25	0.042	1650	12.5 x 25	0.034	1950
		12.5 x 15	0.049	1450	12.5 x 20	0.035	1900	18 x 15	0.054	1930
680	687	10 x 20	0.046	1400	10 x 30	0.031	1910	12.5 x 30	0.030	2310
					12.5 x 20	0.035	1900	16 x 20	0.034	2210
					16 x 15	0.050	1880			
820	827	10 x 20	0.046	1400	12.5 x 25	0.030	2124	12.5 x 35	0.025	2510
					18 x 15	0.051	2020	18 x 20	0.036	2490
1000	108	10 x 30	0.031	1910	12.5 x 25	0.030	2124	12.5 x 35	0.021	2920
		12.5 x 20	0.035	1900	16 x 20	0.035	2210	16 x 25	0.025	2555
		16 x 15	0.050	1880						
1200	128	12.5 x 25	0.030	2124	12.5 x 30	0.026	2524	16 x 30	0.022	3010
		18 x 15	0.051	2020	16 x 20	0.035	2210	18 x 25	0.026	2740
1500	158	12.5 x 25	0.030	2124	12.5 x 35	0.022	2743	16 x 35	0.019	3150
		16 x 20	0.035	2210	16 x 25	0.028	2552			
1800	188	12.5 x 30	0.026	2524	18 x 20	0.034	2495	16 x 40	0.016	3710
					12.5 x 40	0.019	3190	18 x 30	0.021	3635
		16 x 20	0.035	2210	16 x 25	0.028	2552			
2200	228	12.5 x 35	0.022	2743	16 x 30	0.022	3029	18 x 35	0.017	3680
		18 x 20	0.034	2495	18 x 25	0.024	2771			
2700	278	16 x 25	0.028	2552	16 x 35	0.020	3124	18 x 40	0.014	3800
					18 x 30	0.020	3600			
3300	338	16 x30	0.022	3029	18 x 35	0.019	3638			
		18 x 25	0.024	2771						
3900	398	16 x 35	0.020	3124	18 x 40	0.015	3781			
		18 x 30	0.020	3600						
4700	478	18 x 35	0.019	3638						
5600	568	18 x 40	0.015	3781						

Maximum Allowable Ripple Current (mA rms) at 105°C 100KHz

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		63V (1J)			100V (2A)					
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current			
15	156				6.3 x 11	0.960	115			
18	186									
22	226	6.3 x 11	0.960	115						
27	276				8 x 12	0.504	232			
33	336	6.3 x 11	0.960	115						
39	396	8 x 12	0.504	232	8 x 16	0.360	300			
47	476	8 x 12	0.504	232	10 x 12.5	0.344	288			
56	566	8 x 12	0.504	232	8 x 20	0.264	362			
68	686	8 x 12	0.504	232	10 x 16	0.248	357			
82	826	10 x 12.5	0.344	288	10 x 20	0.168	466			
					12.5 x 16	0.184	466			
100	107	8 x 16	0.360	300	10 x 25	0.160	531			
		10 x 12.5	0.344	288						
120	127	10 x 16	0.248	357	10 x 30	0.120	663			
					12.5 x 20	0.128	690			
150	157	8 x 20	0.264	362	16 x 16	0.112	795			
180	187	10 x 20	0.168	466	12.5 x 25	0.096	784			
		12.5 x 15	0.184	466	18 x 16	0.096	920			
220	227	10 x 20	0.168	466	12.5 x 25	0.096	784			
		10 x 25	0.160	531	16 x 20	0.073	1040			
		12.5 x 20	0.128	690						
270	277	16 x 15	0.112	795	12.5 x 35	0.066	1050			
					16 x 25	0.058	1250			
330	337	10 x 30	0.120	663	12.5 x 40	0.057	1180			
		12.5 x 20	0.128	690	18 x 20	0.064	1240			
390	397	12.5 x 25	0.096	784	16 x 30	0.043	1570			
		18 x 15	0.096	920	18 x 25	0.046	1490			
470	477	12.5 x 30	0.080	905	16 x 35	0.036	1790			
		16 x 20	0.073	1040	18 x 30	0.038	1630			
560	567	16 x 25	0.058	1250	18 x 40	0.032	2020			
680	687	12.5 x 35	0.066	1050	18 x 35	0.032	1790			
		16 x 25	0.058	1250						
		18 x 20	0.064	1240						
820	827	12.5 x 40	0.057	1180	18 x 40	0.029	2330			
		16 x 30	0.043	1570						
		18 x 25	0.046	1490						
1000	108	16 x 30	0.043	1570						
		16 x 35	0.036	1790						
1200	128	16 x 40	0.032	2020						
		18 x 30	0.038	1630						
1500	158	18 x 35	0.032	1790						
1800	188	18 x 40	0.029	2330						

Maximum Allowable Ripple Current (mA rms) at 105°C 100KHz

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

DIMENSIONS

Voltage (Code)		160V (2C)			200V (2D)			250V (2E)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
3.3	335							8 x 12	11.00	87
4.7	475	8 x 12	4.00	120				10 x 12.5	8.00	90
10	106	8 x 12	4.00	150	10 x 12.5	3.00	162	10 x 12.5	8.00	130
22	226	10 x 12.5	3.00	180	10 x 16	2.25	208	12.5 x 20	2.60	240
33	336	10 x 20	1.65	266	10 x 20	1.65	266	12.5 x 25	1.80	340
47	476	10 x 20	1.65	320	12.5 x 20	1.07	366	12.5 x 25	1.80	390
100	107	16 x 25	0.36	675	16 x 30	0.36	967	16 x 30	0.70	700
220	227	16 x 35	0.30	1224	18 x 35	0.21	1142	18 x 40	0.41	833
		18 x 35	0.21	1300						
470	477	18 x 40	0.18	1307	18 x 50	0.08	1380			

Maximum Allowable Ripple Current (mA rms) at 105°C 100KHz
Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

Voltage (Code)		400V (2G)			450V (2W)					
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current			
2.2	225				8 x 12	12.00	45			
3.3	335	10 x 12.5	6.00	88	10 x 12.5	8.50	58			
4.7	475	10 x 16	3.45	183	12.5 x 20	3.70	180			
10	106	10 x 16	3.45	197	12.5 x 20	3.70	230			
22	226	12.5 x 20	3.45	248	12.5 x 25	2.60	260			
33	336	16 x 25	1.22	558	16 x 30	1.00	480			
47	476	18 x 25	0.65	608	18 x 25	0.69	620			
68	686	18 x 30	0.55	680	18 x 30	0.65	660			
100	107	18 x 35	0.45	806	18 x 40	0.60	870			

Maximum Allowable Ripple Current (mA rms) at 105°C 100KHz
Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)