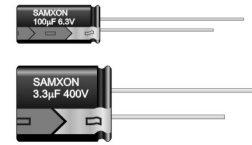


**+105°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)**

**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	$I \leq 0.01CV$ or $3(\mu A)$ after 2 minutes $CV \leq 1000 : I = 0.1CV + 40(\mu A)$ max. $CV > 1000 : I = 0.04CV + 100(\mu A)$ 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		Post test requirements at +20°C						
	Duration :	φD    5 ~ 6.3    8 ~ 10    12.5 ~	Leakage current : ≤ Initial specified value						
	Load life	2000h   3000h   4000h	Cap. change : within ±25% of initial measured value						
	Ambient temp. :	+105°C		tan δ : ≤ 150% of initial specified value					
	Applied voltage :	Rated DC working voltage with rated ripple current							
Shelf Life	Test conditions		Post test requirements at +20°C						
	Duration :	1000 hours		Same limits for high temperature loading.					
	Ambient temp. :	+105°C							
	Applied voltage :	(None)							
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						Frequency Coefficient					
Temperature(°C)	~ 55	60	70	85	105	Cap(µF)	Freq.(Hz)	120	1K	10K	100K
Factor	2.23	2.17	2.00	1.75	1.00			~180	0.40	0.75	0.90
						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

**+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				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

Case Size φD x L(mm)

Maximum Impedance (Ω) at 20°C 100KHz

GF

Miniature Aluminum Electrolytic Capacitors

**+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.( $\mu$ F)	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
150	157	8 x 12	0.130	640	8 x 12	0.130	640	10 x 12.5	0.120	760
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 x 30	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

Case Size  $\phi$ D x L(mm)

Maximum Impedance ( $\Omega$ ) at 20°C 100KHz

**+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						
		12.5 x 20	0.128	690				16 x 20	0.073	1040
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

Case Size φD x L(mm)

Maximum Impedance (Ω) at 20°C 100KHz

GF

Miniature Aluminum Electrolytic Capacitors

**+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

Case Size φD x L(mm)

Maximum Impedance (Ω) at 20°C 100KHz

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

Case Size φD x L(mm)

Maximum Impedance (Ω) at 20°C 100KHz