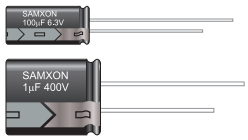
SAMXON®

+85°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

FEATURES

1. Low impedance for high frequency.
2. Radio type for switching power supply and anti-solvent.



SPECIFICATIONS

Item	Performance Characteristics	
Operating Temperature Range	-40 to +85°C	-25 to +85°C
Rated Working Voltage Range	6.3 to 100V	160 to 450V
Nominal Capacitance Range	0.47 to 15000μF	
Capacitance Tolerance	±20% (120Hz, +20°C)	
Leakage Current	I ≤ 0.03CV or 4(μA) after 1 minute whichever is greater measured with rated working voltage at +20°C	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	80
tan δ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.08

Working Voltage (V)	100	160	200	250	315	350	400	450
tan δ (max.)	0.08	0.20	0.20	0.20	0.20	0.20	0.25	0.25

For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF

Low Temperature Characteristics

Impedance ratio max. at 120Hz

Working Voltage (V)	6.3	10	16	25	35	50	63	80	100
Z-40°C / Z+20°C	5	5	5	4	4	4	4	4	4

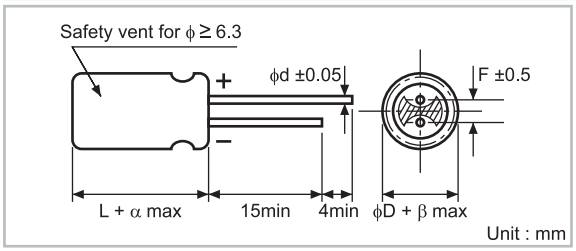
Working Voltage (V)	160	200	250	315	350	400	450
Z-25°C / Z+20°C	4	4	7	7	7	7	15

High Temperature Loading	Test conditions	Post test requirements at +20°C
	Duration : 2000hours	Leakage current : ≤ Initial specified value
	Ambient temp. : +85°C	Cap. change : within ±20% of initial measured value
	Applied voltage : Rated DC working voltage	tan δ : ≤ 150% of initial specified value

Shelf Life	Test conditions	Post test requirements at +20°C
	Duration : 1000 hours	Leakage current : ≤ Initial specified value
	Ambient temp. : +85°C	Cap. change : within ±20% of initial measured value
	Applied voltage : (None)	tan δ : ≤ 150% of initial specified value

Others	JIS C - 5141 JIS C - 5102

CASE SIZE TABLE



ϕD	5	6.3	8(L < 20)	8(L ≥ 20)	10	13	16	18
F	2.0	2.5	3.5		5.0	5.0	7.5	7.5
ϕd	0.5			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
Factor	1.65	1.50	1.30	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 ~ 15000	0.85	0.95	0.98	1.00

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+85°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		6.3V (0J)				10V (1A)			
				Ripple Current				Ripple Current	
Cap.(μF)	Code	Case Size	Impedance	10KHz~200KHz	120Hz	Case Size	Impedance	10KHz~200KHz	120Hz
0.47	474								
0.68	684								
1	105								
1.5	155								
2.2	225								
3.3	335								
4.7	475								
6.8	685								
10	106								
12	126								
15	156								
18	186								
22	226								
27	276								
33	336								
39	396								
47	476								
56	566								
68	686					5 x 11	1.300	217	136
82	826					5 x 11	1.100	245	154
100	107	5 x 11	1.400	210	139	6.3 x 11	0.840	294	189
120	127	5 x 11	1.100	245	161	6.3 x 11	0.720	329	224
150	157	6.3 x 11	0.780	315	217	6.3 x 11	0.550	372	259
180	187	6.3 x 11	0.600	350	245	6.3 x 11	0.460	406	287
220	227	6.3 x 11	0.480	399	287	8 x 12	0.380	528	378
270	277	8 x 12	0.390	518	385	8 x 12	0.310	567	420
330	337	8 x 12	0.320	567	434	8 x 12	0.260	644	490
390	397	8 x 12	0.270	623	483	8 x 15	0.220	770	602
470	477	8 x 15	0.220	770	609	8 x 15	0.190	833	665
560	567	8 x 15	0.190	833	672	8 x 20	0.160	1022	826
680	687	8 x 20	0.160	1023	847	8 x 20	0.130	1113	924
820	827	8 x 20	0.130	1113	938	10 x 20	0.110	1379	1169
1000	108	10 x 20	0.120	1330	1148	10 x 20	0.096	1484	1281
1200	128	10 x 20	0.100	1428	1253	10 x 25	0.078	1792	1568
1500	158	10 x 25	0.084	1708	1526	10 x 30	0.072	2016	1806
1800	188	10 x 30	0.078	1918	1722	12.5 x 20	0.057	2058	1848
2200	228	10 x 30	0.066	2058	1848	12.5 x 25	0.045	2394	2142
2700	278	12.5 x 25	0.051	2226	2002	12.5 x 30	0.036	2716	2436
3300	338	12.5 x 25	0.045	2394	2142	12.5 x 35	0.032	3052	2744
3900	398	12.5 x 30	0.037	2674	2394	12.5 x 40	0.030	3304	2968
4700	478	12.5 x 35	0.034	2940	2646	16 x 30	0.028	3388	3038
5600	568	12.5 x 40	0.031	3178	2850	16 x 35	0.026	3654	3276
6800	688	16 x 30	0.029	3318	2982	16 x 35	0.024	3752	3374
8200	828	16 x 35	0.027	3570	3206	16 x 40	0.023	3948	3542
10000	109	16 x 40	0.025	3850	3158	18 x 40	0.021	4256	3824
12000	129	18 x 35	0.023	3948	3542				
15000	159	18 x 40	0.022	4144	3724				

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+85°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		16V (1C)				25V (1E)			
				Ripple Current				Ripple Current	
Cap.(μF)	Code	Case Size	Impedance	10KHz~200KHz	120Hz	Case Size	Impedance	10KHz~200KHz	120Hz
0.47	474								
0.68	684								
1	105								
1.5	155								
2.2	225								
3.3	335								
4.7	475								
6.8	685								
10	106								
12	126								
15	156								
18	186								
22	226								
27	276								
33	336					5 x 11	1.300	217	123
39	396					5 x 11	1.100	245	140
47	476	5 x 11	1.300	217	127	6.3 x 11	0.840	294	175
56	566	5 x 11	1.100	245	147	6.3 x 11	0.720	329	196
68	686	6.3 x 11	0.780	308	189	6.3 x 11	0.570	364	224
82	826	6.3 x 11	0.660	336	217	6.3 x 11	0.470	399	252
100	107	6.3 x 11	0.550	371	245	8 x 12	0.390	578	343
120	127	6.3 x 11	0.450	406	275	8 x 12	0.320	587	385
150	157	8 x 12	0.370	525	364	8 x 12	0.260	644	448
180	187	8 x 12	0.310	567	399	8 x 15	0.220	770	546
220	227	8 x 12	0.260	604	469	8 x 15	0.180	875	637
270	277	8 x 15	0.220	770	574	8 x 20	0.150	1050	784
330	337	8 x 15	0.180	883	637	8 x 20	0.130	1113	854
390	397	8 x 20	0.160	1022	798	10 x 20	0.110	1379	1078
470	477	8 x 20	0.140	1078	861	10 x 20	0.100	1428	1134
560	567	10 x 20	0.120	1330	1078	10 x 25	0.084	1708	1386
680	687	10 x 20	0.100	1428	1183	10 x 30	0.072	1588	1652
820	827	10 x 25	0.084	1708	1442	12.5 x 20	0.059	2002	1694
1000	108	10 x 30	0.072	1974	1694	12.5 x 25	0.048	2324	2002
1200	128	12.5 x 20	0.060	2002	1750	12.5 x 25	0.043	2404	2170
1500	158	12.5 x 25	0.048	2324	2086	12.5 x 30	0.035	2772	2492
1800	188	12.5 x 30	0.039	2632	2366	12.5 x 35	0.032	3052	2744
2200	228	12.5 x 30	0.034	2814	2520	12.5 x 40	0.029	3304	2968
2700	278	12.5 x 35	0.031	3108	2796	16 x 30	0.027	3458	3108
3300	338	12.5 x 40	0.028	3374	3034	16 x 35	0.025	3752	3374
3900	398	16 x 30	0.027	3458	3108	16 x 40	0.023	3848	3542
4700	478	16 x 35	0.025	3752	3374	18 x 40	0.022	4104	3724
5600	568	16 x 40	0.024	3948	3542				
6800	688	18 x 35	0.022	4060	3654				
8200	828	18 x 40	0.021	4256	3822				
10000	109								
12000	129								
15000	159								

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+85°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		35V (1V)				50V (1H)			
				Ripple Current				Ripple Current	
Cap.(μF)	Code	Case Size	Impedance	10KHz~200KHz	120Hz	Case Size	Impedance	10KHz~200KHz	120Hz
0.47	474					5 x 11	31.000	31	15
0.68	684					5 x 11	21.000	39	20
1	105					5 x 11	14.000	50	25
1.5	155					5 x 11	9.800	63	31
2.2	225					5 x 11	6.500	76	38
3.3	335					5 x 11	4.600	92	46
4.7	475					5 x 11	3.100	113	56
6.8	685					5 x 11	2.500	127	63
10	106					5 x 11	2.000	161	80
12	126					5 x 11	1.700	175	87
15	156					5 x 11	1.300	203	101
18	186					5 x 11	1.100	217	111
22	226	5 x 11	1.300	224	119	6.3 x 11	0.910	273	140
27	276	5 x 11	1.000	252	189	6.3 x 11	0.740	301	161
33	336	6.3 x 11	0.780	315	195	6.3 x 11	0.600	336	188
39	396	6.3 x 11	0.660	343	196	6.3 x 11	0.500	364	240
47	476	6.3 x 11	0.540	378	234	8 x 12	0.420	463	273
56	566	6.3 x 11	0.450	413	252	8 x 12	0.350	504	308
68	686	8 x 12	0.370	518	322	8 x 12	0.280	574	357
82	826	8 x 12	0.310	581	371	8 x 15	0.220	708	448
100	107	8 x 12	0.260	644	427	8 x 20	0.180	868	574
120	127	8 x 15	0.220	770	508	8 x 20	0.160	938	637
150	157	8 x 15	0.180	833	581	10 x 20	0.130	1188	798
180	187	8 x 20	0.160	1022	728	10 x 20	0.110	1246	859
220	227	8 x 20	0.130	1113	812	10 x 25	0.098	1456	1068
270	277	10 x 20	0.110	1329	1089	10 x 30	0.085	1680	1260
330	337	10 x 20	0.096	1484	1134	10 x 30	0.072	1820	1393
390	397	10 x 25	0.084	1708	1337	12.5 x 25	0.053	2016	1568
470	477	10 x 30	0.072	1988	1582	12.5 x 25	0.048	2188	1666
560	567	12.5 x 20	0.059	2002	1624	12.5 x 30	0.040	2353	1904
680	687	12.5 x 25	0.048	2324	1918	12.5 x 35	0.036	2590	2143
820	827	12.5 x 25	0.042	2464	2080	12.5 x 40	0.033	2814	2380
1000	108	12.5 x 30	0.035	2772	2394	16 x 30	0.030	2968	2562
1200	128	12.5 x 35	0.031	3052	2688	16 x 35	0.028	3120	2786
1500	158	12.5 x40	0.029	3304	2968	16 x 40	0.026	3374	3038
1800	188	16 x 30	0.027	3458	3108	18 x 35	0.025	3444	3054
2200	228	16 x 35	0.024	3752	3374	18 x 40	0.024	3584	3220
2700	278	16 x 40	0.022	4060	3654				
3300	338	18 x 40	0.021	4256	3822				
3900	398								
4700	478								
5600	568								
6800	688								
8200	828								
10000	109								
12000	129								
15000	159								

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+85°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		63V (1J)				80V (1K)			
				Ripple Current				Ripple Current	
Cap.(μF)	Code	Case Size	Impedance	10KHz~200KHz	120Hz	Case Size	Impedance	10KHz~200KHz	120Hz
0.47	474								
0.68	684								
1	105								
1.5	155								
2.2	225								
3.3	335								
4.7	475					5 x 11	4.200	74	36
6.8	685					5 x 11	2.600	95	48
10	106	5 x 11	1.600	189	94	6.3 x 11	1.700	122	60
12	126	5 x 11	1.400	203	101	6.3 x 11	1.400	134	67
15	156	6.3 x 11	1.100	259	129	6.3 x 11	1.200	146	73
18	186	6.3 x 11	0.950	273	140	6.3 x 11	1.000	160	81
22	226	6.3 x 11	0.780	301	154	8 x 12	0.770	189	99
27	276	6.3 x 11	0.640	336	182	8 x 12	0.630	209	112
33	336	8 x 12	0.520	427	238	8 x 12	0.530	328	185
39	396	8 x 12	0.450	462	266	8 x 15	0.460	381	218
47	476	8 x 12	0.370	511	301	8 x 15	0.390	413	245
56	566	8 x 15	0.310	630	385	8 x 20	0.340	486	291
68	686	8 x 15	0.260	700	441	10 x 20	0.280	596	370
82	826	8 x 20	0.220	840	539	10 x 20	0.250	626	398
100	107	10 x 20	0.180	1050	693	10 x 25	0.210	736	486
120	127	10 x 20	0.150	1148	777	10 x 30	0.180	848	568
150	157	10 x 25	0.130	1330	931	10 x 30	0.150	928	643
180	187	10 x 30	0.110	1437	1106	12.5 x 25	0.130	1028	728
220	227	12.5 x 20	0.094	1516	1169	12.5 x 30	0.120	1142	833
270	277	12.5 x 25	0.081	1816	1409	12.5 x 30	0.100	1252	934
330	337	12.5 x 25	0.072	1988	1526	12.5 x 35	0.088	1400	1074
390	397	12.5 x 30	0.059	2268	1764	12.5 x 40	0.078	1484	1151
470	477	12.5 x 35	0.052	2492	1988	16 x 30	0.069	2030	1610
560	567	12.5 x 40	0.047	2730	2122	16 x 35	0.062	2240	1820
680	687	16 x 30	0.043	2870	2380	16 x 40	0.055	2470	2058
820	827	16 x 35	0.040	3108	2632	18 x 35	0.049	2646	2226
1000	108	16 x 40	0.037	3318	2870	18 x 40	0.044	2912	2508
1200	128	18 x 40	0.034	3514	3094				
1500	158								
1800	188								
2200	228								
2700	278								
3300	338								
3900	398								
4700	478								
5600	568								
6800	688								
8200	828								
10000	109								
12000	129								
15000	159								

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+85°C, High Ripple Current(高紋波), Low Impedance(低阻抗品)

STANDARD RATINGS

Voltage (Code)		100V (2A)							
				Ripple Current					
Cap.(μF)	Code	Case Size	Impedance	10KHz~200KHz	120Hz				
0.47	474	5 x 11	43.000	24	10				
0.68	684	5 x 11	23.000	32	14				
1	105	5 x 11	17.000	38	16				
1.5	155	5 x 11	10.000	49	22				
2.2	225	5 x 11	6.600	60	28				
3.3	335	5 x 11	4.100	76	35				
4.7	475	6.3 x 11	2.800	95	44				
6.8	685	6.3 x 11	1.900	116	52				
10	106	6.3 x 11	1.200	146	66				
12	126	6.3 x 11	1.000	160	72				
15	156	8 x 12	0.810	183	82				
18	186	8 x 12	0.670	217	92				
22	226	8 x 12	0.550	322	154				
27	276	8 x 15	0.470	377	184				
33	336	8 x 15	0.380	419	214				
39	396	8 x 20	0.330	493	255				
47	476	10 x 20	0.280	592	320				
56	566	10 x 20	0.240	638	396				
68	686	10 x 25	0.210	736	411				
82	826	10 x 30	0.180	848	490				
100	107	10 x 30	0.150	928	553				
120	127	12.5 x 25	0.130	1084	657				
150	157	12.5 x 25	0.110	1117	704				
180	187	12.5 x 30	0.098	1266	817				
220	227	12.5 x 35	0.087	1400	922				
270	277	12.5 x 40	0.072	1582	1070				
330	337	16 x 30	0.062	2128	1462				
390	397	16 x 35	0.053	2422	1688				
470	477	16 x 40	0.047	2688	1892				
560	567	18 x 35	0.041	2898	2117				
680	687	18 x 40	0.036	3220	2407				
820	827								
1000	108								
1200	128								
1500	158								
1800	188								
2200	228								
2700	278								
3300	338								
3900	398								
4700	478								
5600	568								
6800	688								
8200	828								
10000	109								
12000	129								
15000	159								

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

SAMXON®

+85°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							10 x 12.5	12.00	110
4.7	475	8 x 12	6.00	147				10 x 16	7.88	169
10	106	10 x 12.5	4.50	198	10 x 16	3.38	255	10 x 20	6.30	205
		10 x 16	3.38	255						
22	226	10 x 20	2.48	326	10 x 20	2.48	326	12.5 x 25	2.70	368
33	336	12.5 x 20	1.61	448	12.5 x 20	1.61	448	12.5 x 20	3.90	277
								12.5 x 25	2.70	368
47	476	12.5 x 25	1.04	613	12.5 x 25	1.04	613	16 x 25	1.35	684
100	107	16 x 25	0.54	827	16 x 30	0.54	1185	18 x 35	0.68	954
220	227	16 x 35	0.45	1090	18 x 35	0.32	1399	18 x 40	0.62	1020
		18 x 35	0.32	1399						
470	477	18 x 40	0.27	1601	18 x 50	0.12	1691			

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

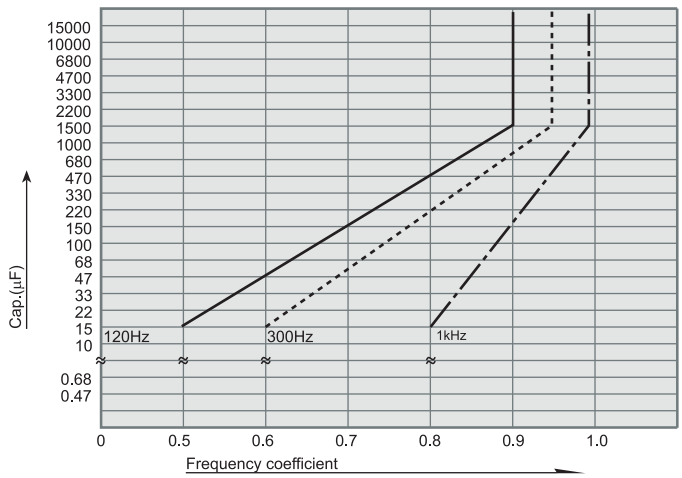
Voltage (Code)		400V (2G)			450V (2V)					
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current			
2.2	225				8 x 12	18.00	55			
					10 x 16	11.85	135			
3.3	335	10 x 12.5	9.00	108	10 x 20	9.30	165			
		10 x 20	6.30	184						
4.7	475	10 x 25	5.18	224	12.5 x 20	5.55	221			
10	106	12.5 x 20	5.18	241	12.5 x 25	3.90	319			
		12.5 x 25	2.70	368						
22	226	16 x 25	1.83	684	16 x 30	1.50	588			
33	336	16 x 30	1.04	714	18 x 35	0.93	809			
47	476	18 x 30	0.75	878	16 x 35	1.04	760			
68	686				18 x 40	0.90	870			
100	107	18 x 40	0.60	1111	18 x 40	0.90	870			

Maximum Allowable Ripple Current (mA rms) at 85°C

Maximum Impedance (Ω) at 20°C 100KHz

Case Size ϕD x L(mm)

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Rated voltage	Frequency coefficient				
6.3~100V (100kHz~200kHz = 1)					
160~450V	50Hz	120Hz	300Hz	1KHz	10KHz
	0.80	1.00	1.25	1.40	1.60