

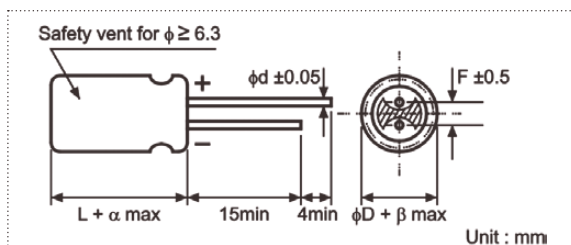
FEATURES

- Low impedance for high frequency.
- Load life of 4,000~10,000 hours at 105°C.

SPECIFICATIONS

Item	Performance Characteristics
Operating Temperature Range	-40 to +105°C
Rated Working Voltage Range	6.3 to 100V
Nominal Capacitance Range	3.3 to 15000µF
Capacitance Tolerance	±20% at 120Hz, +20°C
Leakage Current	I ≤ 0.01CV or 3 (µA) whichever is greater measured after 2 minutes application of rated working voltage at +20°C
tan δ (120Hz, +20°C)	Working Voltage (V)
	tan δ (max.)
Low Temperature Characteristics	Impedance ratio max. at 120Hz
	Rated Voltage (V)
	Z-25°C / Z+20°C
High Temperature Loading	Test time
	Test temperature
	Test conditions
	Post test requirements at +20°C
Shelf Life	At +105°C no voltage applied after 1,000 hours and then being stabilized at +20°C the capacitors shall meet the following limits
	Leakage current
	Cap. change
Industrial Standard	JIS C - 5101-4 (IEC 60384-4)

CASE SIZE TABLE



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

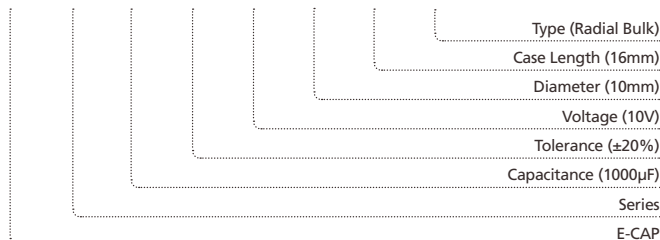
RIPPLE CURRENT MULTIPLIER

Frequency Coefficient

Coefficient	Freq. (Hz)			
	120	1k	10k	100k
Cap (µF)				
3.3~10	0.42	0.60	0.80	1.00
22~33	0.55	0.75	0.90	1.00
47~330	0.70	0.85	0.95	1.00
470~1000	0.75	0.90	0.98	1.00
2200~15000	0.80	0.95	1.00	1.00

PART NUMBER SYSTEM (EXAMPLE : 10V 1000µF)

1	23	456	7	89	10	11 12	13 14
E	GY	108	M	1A	G	16	RR



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
47	476							5 x 11	0.900	150
100	107	5 x 11	0.900	150	5 x 11	0.900	150	6.3 x 11	0.400	250
220	227	6.3 x 11	0.400	250	6.3 x 11	0.400	250	8 x 12	0.250	400
330	337	6.3 x 11	0.400	250	8 x 12	0.250	400	8 x 12	0.250	400
470	477	8 x 12	0.250	400	8 x 12	0.250	400	10 x 12.5	0.160	580
1000	108	10 x 12.5	0.160	580	10 x 16	0.120	770	10 x 20	0.078	1050
2200	228	12.5 x 20	0.062	1300	12.5 x 20	0.062	1300	12.5 x 25	0.048	1650
3300	338	12.5 x 20	0.062	1300	12.5 x 25	0.048	1650	16 x 25	0.034	1850
4700	478	16 x 25	0.034	1850	16 x 25	0.034	1850	16 x 30	0.029	2000
6800	688	16 x 25	0.034	1850	16 x 30	0.029	2000	18 x 35	0.025	2200
10000	109	16 x 30	0.029	2000	18 x 35	0.025	2200			
15000	159	18 x 35	0.025	2200						

Maximum Allowable Ripple Current (mArms) at 105°C 100kHz

Case Size Φ D x L (mm)

Maximum Impedance (Ω) at 20°C 100kHz

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
3.3	335							5 x 11	2.200	53
4.7	475							5 x 11	1.900	88
10	106							5 x 11	1.500	100
22	226							5 x 11	0.900	150
33	336	5 x 11	0.900	150	5 x 11	0.900	150	6.3 x 11	0.400	250
47	476	5 x 11	0.900	150	6.3 x 11	0.400	250	6.3 x 11	0.400	250
100	107	6.3 x 11	0.400	250	8 x 12	0.250	400	8 x 12	0.250	400
220	227	8 x 12	0.250	400	10 x 12.5	0.160	580	10 x 16	0.120	770
330	337	8 x 12	0.250	400	10 x 16	0.120	770	10 x 20	0.078	1050
		10 x 12.5	0.160	580						
470	477	10 x 12.5	0.160	580	10 x 20	0.078	1050	12.5 x 20	0.062	1300
		10 x 16	0.120	770						
		10 x 20	0.078	1050						
1000	108	12.5 x 20	0.062	1300	12.5 x 25	0.048	1650	16 x 25	0.034	1850
		12.5 x 25	0.048	1650						
2200	228	16 x 25	0.034	1850	16 x 30	0.029	2000	18 x 35	0.025	2200
		16 x 30	0.029	2000						
3300	338	16 x 30	0.029	2000	18 x 35	0.025	2200			
4700	478	18 x 35	0.025	2200						

Maximum Allowable Ripple Current (mArms) at 105°C 100kHz

Case Size Φ D x L (mm)

Maximum Impedance (Ω) at 20°C 100kHz

Voltage (Code)		63V (1J)			100V (2A)		
Cap. (µF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
22	226	6.3 x 11	1.300	140	8 x 12	0.630	160
33	336	6.3 x 11	1.200	140	10 x 12.5	0.430	230
47	476	8 x 12	0.630	210	10 x 16	0.310	290
100	107	10 x 12.5	0.430	300	10 x 16	0.310	290
					12.5 x 20	0.160	430
220	227	10 x 20	0.210	520	16 x 25	0.073	900
330	337	12.5 x 20	0.160	660	16 x 25	0.073	900
470	477	12.5 x 25	0.120	750			
1000	108	16 x 30	0.054	1390			

Maximum Allowable Ripple Current (mArms) at 105°C 100kHz

Case Size Φ D x L (mm)

Maximum Impedance (Ω) at 20°C 100kHz

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately.