



# Miniature Aluminum Electrolytic Capacitors

Series

CGR

## FEATURES

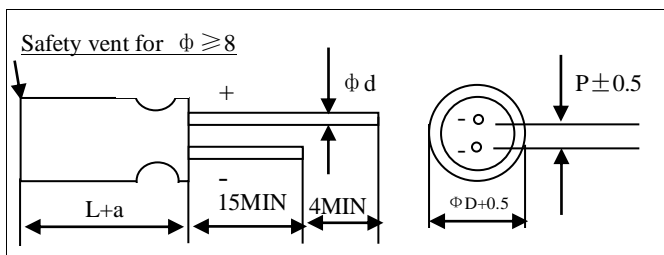
- 1.Low impedance for high frequency
2. Long life 4000~10000 hour at 105°C.

## SPECIFICATIONS

Item	Performance Characteristics																											
Operating Temperature Range	-40 to +105°C																											
Rated Working voltage Range	6.3 to 100V																											
Nominal Capacitance Range	6.8 ~6800(uF)																											
Capacitance Tolerance	±20% (120Hz, +20°C) (M)																											
Leakage Current	$I \leq 0.01CV$ or $4(\mu A)$ after 2 minutes Whichever is greater measured with rated working voltage at +20°C																											
Dissipation Factor $\tan \delta$ (120Hz+20°C)	<table border="1"> <thead> <tr> <th>Working voltage(V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td><math>\tan \delta</math> (max.)</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table> <p>For capacitance value &gt;1000uF add 0.02per another 1000uF</p>	Working voltage(V)	6.3	10	16	25	35	50	63	100	$\tan \delta$ (max.)	0.18	0.16	0.14	0.12	0.10	0.08	0.08	0.08									
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Multiplier for Ripple Current vs. Temperature	<table border="1"> <thead> <tr> <th>Temperature °C</th> <th>45</th> <th>60</th> <th>70</th> <th>85</th> <th>95</th> <th>105</th> </tr> </thead> <tbody> <tr> <td>Multiplier</td> <td>2.1</td> <td>1.9</td> <td>1.65</td> <td>1.4</td> <td>1.25</td> <td>1.00</td> </tr> </tbody> </table>	Temperature °C	45	60	70	85	95	105	Multiplier	2.1	1.9	1.65	1.4	1.25	1.00													
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Others	JIS C-5141 JIS C-5102																											

## CASE SIZE TABLE

Unit:mm



Dφ	5	6.3	8	8	10	13	16	18
P	2.0	2.5	3.5	3.5	5.0	5.0	7.5	7.5
dφ (±0.05)	0.5		0.6		0.8			

aMAX	(L<20)1.5
	(L≥20)2.0



## Miniature Aluminum Electrolytic Capacitors

### Multiplier for Ripple Current vs. Frequency

CAP (uF) \ Hz		50(60)	120	400	1k	10k	50-100K
Multiplier	CAP ≤ 10	0.47	0.59	0.76	0.85	0.97	1
	10 < CAP ≤ 100	0.52	0.61	0.78	0.89	0.97	1
	100 < CAP ≤ 1000	0.58	0.75	0.88	0.92	0.98	1
	1000 ≤ CAP	0.63	0.89	0.91	0.93	0.98	1

### STANDARD RATINGS

Voltage Item Cap.(uF) Code		Case size φ D×L(mm)	6.3V(0J)		
			Impedance(Ω MAX.) 20°C/100KHZ	Allowable ripple(mA rms)	
				105°C/100KHz	105°C/120Hz
100	107	5×11	0.58	215	131
220	227	6.3×11	0.22	340	255
330	337	6.3×11	0.22	350	263
470	477	8×12	0.13	640	480
680	687	8×12	0.10	770	578
1000	108	10×13	0.08	870	774
		10×20	0.08	950	820
1500	158	10×20	0.048	1220	1090
2200	228	10×20	0.042	1470	1320
3300	338	13×21	0.035	1910	1700
4700	478	13×25	0.035	2100	1890
5600	568	13×25	0.022	2460	2189
6800	688	13×25	0.020	2730	2455

Voltage Item Cap.(uF) Code		Case size φ D×L(mm)	10V(1A)		
			Impedance(Ω MAX.) 20°C/100KHZ	Allowable ripple(mA rms)	
				105°C/100KHz	105°C/120Hz
100	107	5×11	0.58	215	131
220	227	6.3×11	0.22	345	259
330	337	6.3×11	0.22	390	293
470	477	8×12	0.13	650	488
680	687	8×14	0.087	830	623
820	827	10×17	0.11	985	835
1000	108	10×17	0.069	1220	915
1500	158	10×20	0.06	1570	1397
2200	228	10×25	0.036	1850	1647
3300	338	13×21	0.032	2070	1842
4700	478	13×25	0.028	2360	2100
5600	568	16×25	0.028	2555	2274
6800	688	16×25	0.024	2650	2359



## Miniature Aluminum Electrolytic Capacitors

### STANDARD RATINGS

Voltage Item Cap.(uF) Code		16V(1C)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
47	476	5×11	0.58	210	128
100	107	5×11	0.58	220	165
220	227	6.3×11	0.22	340	255
330	337	8×12	0.13	645	484
470	477	8×14	0.087	785	589
680	687	10×20	0.070	1120	840
820	827	10×25	0.084	1220	915
1000	108	10×20	0.046	1410	1255
1500	158	13×21	0.035	1900	1691
2200	228	13×25	0.033	2200	1958
3300	338	16×30	0.028	2550	2270
4700	478	18×30	0.025	3100	2759

Voltage Item Cap.(uF) Code		25V(1E)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
47	476	5×11	0.58	215	131
100	107	6.3×11	0.22	340	255
220	227	8×12	0.13	640	480
330	337	8×16	0.087	845	635
470	477	10×17	0.068	1150	863
680	687	10×20	0.046	1420	1263
1000	108	13×21	0.035	1900	1690
1500	158	13×21	0.030	2055	1830
2200	228	16×26	0.029	2360	2100
3300	338	16×35	0.025	2680	2385
4700	478	18×35	0.022	3280	2920
6800	688	18×35	0.015	3970	3533

### STANDARD RATINGS

Voltage Item Cap.(uF) Code		35V(1V)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
22	226	5×11	0.58	210	128
33	336	5×11	0.58	215	131
47	476	6.3×11	0.22	340	207
100	107	8×12	0.13	645	484
220	227	8×14	0.09	820	615
330	337	10×15	0.072	1060	795
470	477	10×20	0.046	1420	1065



## Miniature Aluminum Electrolytic Capacitors

680	687	13×25	0.035	1820	1365
820	827	13×25	0.035	1850	1388
1000	108	13×25	0.030	2300	2047
1500	158	16×25	0.022	2560	2278
2200	228	16×30	0.024	3500	3115
3300	338	18×30	0.021	4090	3640
4700	478	18×35	0.015	4370	3890

Voltage Item Cap.(uF) Code		50V(1H)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
1	105	5×11	2.4	180	106
2.2	225	5×11	1.3	180	106
3.3	335	5×11	1.3	180	106
4.7	475	5×11	1.3	185	109
10	106	5×11	1.3	185	109
22	226	5×11	1.3	185	109
33	336	5×11	0.30	295	174
47	476	5×11	0.30	295	174
100	107	8×12	0.12	685	514
220	227	10×17	0.060	1055	791
330	337	10×30	0.050	1470	1103
470	477	13×25	0.034	1750	1313
680	687	16×26	0.030	2220	1665
1000	108	16×30	0.025	2600	2314
1500	158	16×35	0.019	3060	2723
2200	228	18×35	0.017	3680	3275
3300	338	18×35	0.015	4210	3747

### STANDARD RATINGS

Voltage Item Cap.(uF) Code		63V(1J)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
10	106	5×11	2.5	96	57
22	226	6.3×11	1.2	115	70
33	336	6.3×11	1.25	118	72
47	476	8×12	0.63	235	143
100	107	10×20	0.18	400	300
220	227	13×21	0.094	690	518
330	337	13×25	0.072	800	600
470	477	13×25	0.052	900	675
680	687	16×30	0.043	1050	788
1000	108	16×35	0.037	1420	1264
1500	158	18×30	0.035	1630	1451
2200	228	18×35	0.034	1900	1691



## Miniature Aluminum Electrolytic Capacitors

Voltage Item Cap.(uF) Code		100V(2A)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
6.8	685	5×11	2.3	56	33
10	106	6.3×11	2.0	108	64
22	226	8×12	1.0	166	101
33	336	8×14	0.8	212	130
47	476	10×20	0.28	423	258
68	686	10×20	0.21	500	305
100	107	10×25	0.15	663	404
220	227	16×25	0.087	1000	750
330	337	16×30	0.062	1420	1065
470	477	16×30	0.045	1740	1305
680	687	18×30	0.040	1900	1425
1000	108	18×40	0.035	1930	1448