

Type CGR Computer Grade Capacitors



- High Ripple Current
- Very Low ESR
- 105°C Operation
- Custom Designs Available Upon Request
- Commercial Equivalent of MIL-C-35018/04, 06, 10

GENERAL SPECIFICATIONS

Operating Temperature:
-40°C to +105°C

Voltage Range:
7.5 WVDC to 200 WVDC

Capacitance Range:
330 μF to 100,000 μF

Capacitance Tolerance:
-10% +75% (7.5 - 50 WVDC)
-10% +50% (51 - 200 WVDC)

DC Leakage Current:

$I = 6 \times 10^{-6} CV$ after 5 minutes
Not to exceed 4 mA

C = Capacitance in μF
V = Rated Voltage

I = Leakage Current in mA

QA Stability Test:

Apply WVDC for 2,000 hrs at 105°C

- Capacitance change ≤15% from initial limits
- DC leakage current meets initial limits
- ESR ≤175% of initial measured value

The maximum ripple current at 85°C and 120 Hz for CGR capacitors is shown in the Standard Rating Table. Maximum ripple current may be adjusted by the multipliers in the following tables:

Rated WVDC	Ripple Multipliers				
	120 Hz	400 Hz	1000 Hz	2500Hz	10KHz
10 to 75	1.0	1.050	1.085	1.135	1.150
76 to 250	1.0	1.075	1.125	1.155	1.210

Ambient Temperature	Ripple Multiplier
+85°C	1.00
+65°C	1.42
+55°C	1.58
+45°C	1.72
+35°C	1.88
+25°C	2.00

Aluminum Capacitors

Cap μF	Max ESR (ohms) @ 120 Hz	Max Ripple RMS Amps @ 120 Hz +85°C	Dia	Length	Catalog Number
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7.5 WVDC; 12 VDC Surge

34,000	.0128	14.4	1.750	3.125	CGR343U7R5U3C
47,000	.0098	17.8	2.000	3.125	CGR473U7R5V3C
66,000	.0068	23.8	2.000	4.125	CGR663U7R5V4C

10 WVDC; 12 VDC Surge

24,000	.0110	9.5	1.375	3.125	CGR243U010R3C
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12 WVDC; 15 VDC Surge

12,000	.0154	10.6	1.375	2.625	CGR123U012R2L
100,000	.0043	30.0	2.500	5.125	CGR104U012W5C

16 WVDC; 20 VDC Surge

7,700	.0231	7.9	1.375	2.125	CGR772U016R2C
11,000	.0161	10.3	1.375	2.625	CGR113U016R2L
14,000	.0119	12.9	1.375	3.125	CGR143U016R3C
16,000	.0173	11.6	1.750	2.625	CGR163U016U2L
20,000	.0084	17.2	1.375	4.125	CGR203U016R4C
30,000	.0098	17.8	2.000	3.125	CGR303U016V3C
42,000	.0075	22.7	2.000	4.125	CGR423U016V4C
51,000	.0085	22.0	2.500	3.125	CGR513U016W3C

20 WVDC; 30 VDC Surge

4,600	.0224	8.1	1.375	2.125	CGR462U020R2C
10,000	.0105	14.6	1.375	3.625	CGR103U020R3L
21,000	.0090	19.7	2.000	3.625	CGR213U020V3L

Cap μF	Max ESR (ohms) @ 120 Hz	Max Ripple RMS Amps @ 120 Hz +85°C	Dia	Length	Catalog Number
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30 WVDC; 45 VDC Surge

2,200	.0350	5.9	1.375	1.875	CGR222U030R1N
4,900	.0248	10.3	1.750	2.125	CGR492U030U2C
7,400	.0105	14.6	1.375	3.625	CGR742U030R3L
10,000	.0077	18.9	1.375	4.625	CGR103U030R4L
12,000	.0098	17.8	2.000	3.125	CGR123U030V3C
15,000	.0090	19.7	2.000	3.625	CGR153U030V3L
27,000	.0053	30.0	2.000	5.625	CGR273U030V5L
30,000	.0060	29.1	2.500	4.125	CGR303U030W4C

40 WVDC; 60 VDC Surge

2,100	.0245	7.7	1.375	2.125	CGR212U040R2C
3,900	.0133	12.2	1.375	3.125	CGR392U040R3C
5,600	.0091	16.6	1.375	4.125	CGR562U040R4C
7,400	.0100	12.3	1.375	5.125	CGR742U040R5C
9,600	.0090	19.7	2.000	3.625	CGR962U040V3L
13,000	.0068	25.0	2.000	4.625	CGR133U040V4L
22,000	.0060	30.0	2.500	4.625	CGR223U040W4L
31,000	.0051	30.0	3.000	4.625	CGR313U040X4L

50 WVDC; 75 VDC Surge

1,000	.1001	3.5	1.375	1.875	CGR102U050R1N
1,500	.0672	4.7	1.375	2.125	CGR152U050R2C
2,900	.0357	7.4	1.375	3.125	CGR292U050R3C
4,100	.0180	8.3	1.375	4.125	CGR412U050R4C
6,200	.0168	14.0	1.375	5.625	CGR622U050R5C
7,600	.0165	13.7	2.000	3.125	CGR762U050V3C
10,000	.0113	18.5	2.000	4.125	CGR103U050V4C
16,000	.0085	24.2	2.000	5.625	CGR163U050V5L
21,000	.0077	26.8	2.500	4.625	CGR213U050W4L
27,000	.0060	30.0	2.500	5.625	CGR273U050W5L
37,000	.0051	30.0	3.000	5.625	CGR373U050X5L

Type CGR Computer Grade Capacitors

MALLORY

Cap μ F	Max ESR (ohms) @ 120 Hz	Max Ripple RMS Amps @ 120 Hz +85°C	Dia	Length	Catalog Number
75 WVDC; 100 VDC Surge					
1,200	.0497	5.9	1.375	2.625	CGR122T075R2L
1,800	.0329	8.2	1.375	3.625	CGR182T075R3L
2,000	.0220	6.7	1.375	3.125	CGR202U075R3C
2,200	.0200	7.9	1.375	4.125	CGR222T075R4C
3,100	.0350	11.0	2.000	2.625	CGR312T075V2L
4,100	.0140	10.9	1.750	4.125	CGR412T075U4C
4,700	.0150	15.2	2.000	3.625	CGR472T075V3L
7,500	.0095	16.2	2.000	5.625	CGR752U075V5L
8,000	.0085	16.4	2.500	3.625	CGR802T075W3L
9,600	.0094	23.2	2.500	4.125	CGR962T075W4C
11,000	.0102	23.8	3.000	3.625	CGR113T075X3L
19,000	.0056	30.0	3.000	5.625	CGR193T075X5L

Cap μ F	Max ESR (ohms) @ 120 Hz	Max Ripple RMS Amps @ 120 Hz +85°C	Dia	Length	Catalog Number
100 WVDC; 135 VDC Surge					
330	.0940	2.8	1.375	2.125	CGR331T100R2C
2,700	.0120	18.8	2.000	4.625	CGR272T100V4L
4,500	.0094	24.3	2.500	4.625	CGR452T100W4L
8,000	.0085	21.8	3.000	5.625	CGR802T100X5L
200 WVDC; 250 VDC Surge					
3,500	.0240	11.5	3.000	4.125	CGR352T200X4C
5,200	.0170	15.4	3.000	5.625	CGR522T200X5L