PRECISION HIGH-VOLTAGE THICK FILM RESISTORS

ISO-9001 Registered

CGH SERIES

- 1/4 watt to 5 watt
- 100K ohm to 2000 megohm range
- ±0.5%, ±1%, ±2% or ±5% tolerance
- TCR of ±50 or ±100 ppm/°C

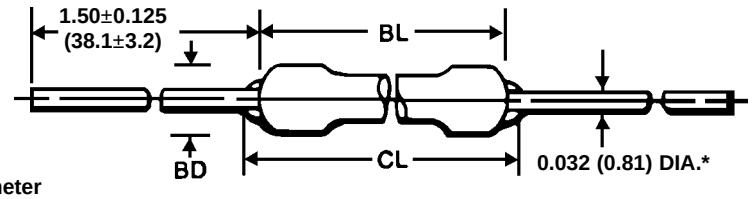
SPECIFICATIONS:

IRC Type	Power Rating @ 70°C (watts)[1]	Voltage Rating (volts)[2]	Resistance Range (ohms)[3]	Tol (±%)[4]	Maximum TCR (±ppm/°C)[4]	VCR (ppm/V)[5]
CGH-1/4	1/4	750	100K-100M	.5, 1, 2, 5	50, 100	0 to -5
CGH-1/2	1/2	1,500	100K-500M	.5, 1, 2, 5	50, 100	0 to -5
CGH-1	1	3,000	50K-750M	.5, 1, 2, 5	50, 100	0 to -5
CGH-2	2	5,000	100K-1500M	.5, 1, 2, 5	50, 100	0 to -5
CGH-3	3	10,000	200K-2000M	.5, 1, 2, 5	50, 100	0 to -5
CGH-5	5	20,000	300K-2000M	.5, 1, 2, 5	50, 100	0 to -5

NOTES:

1. For power rating above 70°C, see derating curve.
2. Voltage rating shown is the rated DC continuous working voltage or the sine-wave RMS absolute maximum voltage at commercial line frequency. For DC applications the absolute maximum permissible voltage is 1.5 times the value shown for low repetition short-time-overload or pulse conditions of 10 seconds or less duration.
3. Contact factory for higher resistance values.
4. For CGH-1 and 2 above 500 meg and CGH-3 and 5 above 1000M only 2 and 5% tolerance and 100 ppm/°C TCR available.
5. Typical voltage coefficient of resistance is -1 to -2 ppm/V measured at full rated voltage and 10% rated voltage.

DIMENSIONS (Inches and (mm)):



* CGH 1/4 leads are 0.025 (0.64) in diameter

IRC Type	Body Length - BL	Body Diameter - BD	Clean Lead to Clean Lead - CL
CGH-1/4	0.275±0.031 (6.98±0.79)	0.088±0.010 (2.22±0.25)	0.400 (10.16)
CGH-1/2	0.400±0.031 (10.16±0.79)	0.138±0.016 (3.51±0.41)	0.525 (13.34)
CGH-1	0.690±0.062 (17.53±1.57)	0.297±0.031 (7.54±0.79)	0.900 (22.86)
CGH-2	1.062±0.062 (26.97±1.57)	0.297±0.031 (7.54±0.79)	1.250 (31.75)
CGH-3	2.062±0.062 (52.37±1.57)	0.297±0.031 (7.54±0.79)	2.250 (57.15)
CGH-5	3.062±0.062 (77.77±1.57)	0.297±0.031 (7.54±0.79)	3.250 (82.55)

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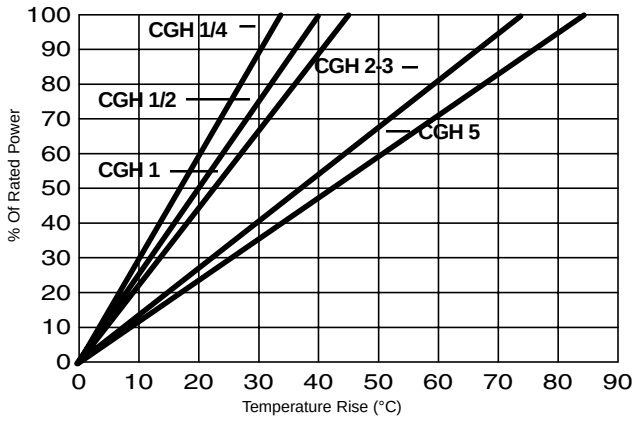
CGH ENVIRONMENTAL PERFORMANCE:

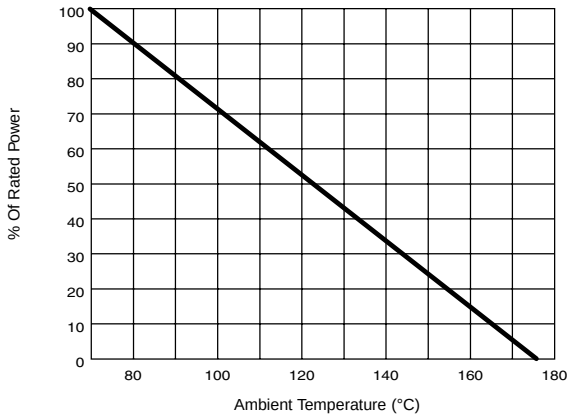
TEST CONDITION[1]	Maximum ΔR (±3σ)	Typical[2] ΔR
Temperature Shock	±0.25%	±0.10%
Short-Time Overload (1.5 times rated V for 10 sec)	±0.20%	±0.10%
Solder Effect	±0.015%	±0.05%
Terminal Strength	±0.20%	±0.05%
Moisture Resistance (no load or polar)	±0.50%	±0.20%
Load Life (1000 Hours at 70°C)	±1.00%	±0.25%
Shelf Life (1 year at 25°C)	±0.10%	±0.03%
High -Temperature Exposure (150°C for 2000 Hours)	±0.75%	±0.30%
(175°C for 2000 Hours)	±1.0%	±0.40%
Dielectric Breakdown[3] (1/4 and 1/2 watt size)	2000 VDC, 1500 VAC	
(1 watt through 5 watt size)	3500 VDC, 2500 VAC	
Dielectric Strength[4]	±0.15%	±0.05%
Insulation Resistance at 500 VDC	10^9 ohms min.	10^{11} ohms typ.

NOTES:
1. Test method per MIL-STD-202 unless otherwise indicated
2. Typical defined as that percent change which will include a minimum of 50% of the measured changes in resistance from a variety of lots representing various unit sizes and ranges
3. Values shown are the maximum safe dielectric voltage applied from a V block or foil wrapping which extends the complete body length of the resistor under test
4. Percent change after the maximum safe dielectric voltage is applied for 1 minute

TEMPERATURE RISE:



POWER DERATING:



HOW TO ORDER:

Sample Part No.: **CGH 3 - 50ppm/°C - 2205 (22M) - 1%**

IRC Type
CGH 1/4, CGH 1/2, CGH 1, CGH 2, CGH 3, CGH 5

Temperature Coefficient
±100 ppm/°C, ±50 ppm/°C

Resistance
Standard EIA/MIL values for metal film resistors. See specification chart on back inside cover for range.

Tolerance
±0.5%, ±1%, ±2%, ±5%

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