

PRECISION HIGH-VOLTAGE THICK FILM RESISTORS

ISO-9001
Registered



CGH SERIES

- 1/4 watt to 5 watt
- 100K ohm to 2000 megohm range
- $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$ or $\pm 5\%$ tolerance
- TCR of ± 50 or ± 100 ppm/ $^{\circ}\text{C}$



SPECIFICATIONS:

IRC Type	Power Rating @ 70°C (watts) ¹	Voltage Rating (volts) ²	Resistance Range (ohms) ³	Tol ($\pm\%$) ⁴	Maximum TCR ($\pm$ ppm/ $^{\circ}\text{C}$) 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/ $^{\circ}\text{C}$ TCR available.
5. Typical voltage coefficient of resistance is -1 to -2 ppm/V measured at full rated voltage and 10% rated voltage.

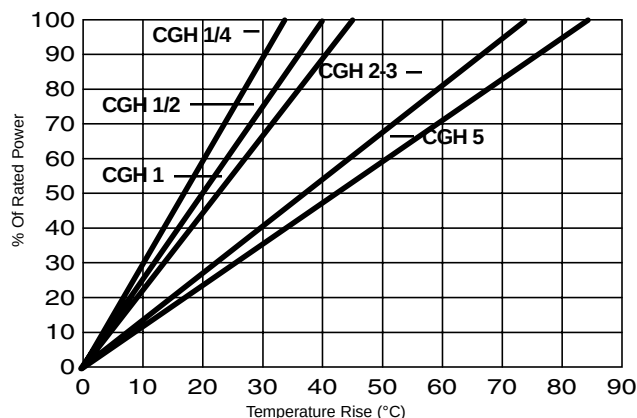
DIMENSIONS (Inches and (mm)):

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

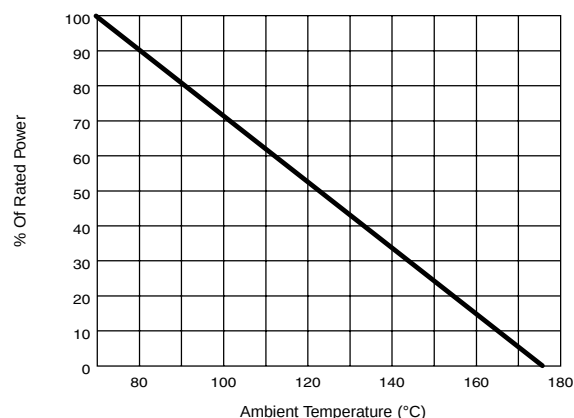
CGH ENVIRONMENTAL PERFORMANCE:

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

$\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$, $\pm 5\%$

WIREWOUND AND FILM TECHNOLOGIES DIVISION

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