

Specifications

Axial	HGA-2010	HGA-3010	HGA-3030
Description	General purpose axial; high sensitivity.	Instrumentation quality axial; low temperature coefficient; phenolic package.	Instrumentation quality axial; phenolic package.
Active area	0.005" x 0.005" square.	0.030" dia. circle	0.030" dia. circle
Input resistance	450 to 900 ohms	1 ohm	2 ohms
Output resistance	550 to 1350 ohms	1 ohm	2 ohms
Nominal control current (I_{CN})	1 mA	100 mA	100 mA
Maximum continuous current (non- heat sinked)	10 mA	300 mA	300 mA
Magnetic sensitivity ($I_C =$ nominal control current)	11 to 28 mV/kg	0.56 to 1.04 mV/kg	6.0 to 10.0 mV/kg
Maximum linearity error (sensitivity versus field)	±1% RDG (-10 to +10 kG) ±2% RDG (-20 to +20 kG)	±1% RDG (-20 to +20 kG) ±1.5% RDG (-100 to +100 kG)	±0.25% RDG (-10 to +10 kG) ±1.00% RDG (-30 to +30 kG)
Zero field offset voltage ($I_C =$ nominal control current)	±2.8 mV (max.)	±50 μ V (max.)	±75 μ V (max.)
Operating temperature range	-20 to 75 °C	-40 to +100 °C	-40 to +100 °C
Mean temperature coefficient of magnetic sensitivity	-0.06%/°C (max.)	±0.005%/°C (max.)	-0.04%/°C (max.)
Mean temperature coefficient of offset ($I_C =$ nominal control current)	±1 μ V/°C (max.)	±0.4 μ V/°C (max.)	±0.3 μ V/°C (max.)
Mean temperature coefficient of resistance	+0.15%/°C (approx)	±0.15%/°C (approx)	+0.18%/°C (approx)
Leads	34 AWG copper with poly-nylon insulation.	34 AWG copper with poly-nylon insulation.	34 AWG copper with poly-nylon insulation.
Data	Uncalibrated.	Room temperature, 20 kG data supplied.	Room temperature, 30 kG data supplied.

Transverse	HGT-1010	HGT-2010	HGT-2100	HGT-3010	HGT-3030
Description	General purpose transverse; 0.020" thick.	General purpose transverse; high sensitivity.	Low cost; high sensitivity; surface mount.	Instrumentation quality transverse; low temperature coefficient; ceramic package.	Instrumentation quality transverse ceramic package.
Active area	0.040" dia. circle	0.005" x 0.005" square	0.005" x 0.005" square	0.040" dia. circle	0.040" dia. circle
Input resistance	2 ohms	450 to 900 ohms	450 to 900 ohms	1 ohm	2 ohms
Output resistance	2 ohms	550 to 1350 ohms	550 to 1350 ohms	1 ohm	2 ohms
Nominal control current (I_{CN})	100 mA	1 mA	5 mA	100 mA	100 mA
Maximum continuous current (non- heat sinked)	300 mA	10 mA	10 mA	300 mA	300 mA
Magnetic sensitivity ($I_C =$ nominal control current)	7.7 to 12.5 mV/kg	11 to 28 mV/kg	55 to 140 mV/kg	0.56 to 1.04 mV/kg	6.0 to 10.0 mV/kg
Maximum linearity error (sensitivity versus field)	±1.0% RDG (-10 to 10 kG)	±1% RDG (-10 to 10 kG) ±2% RDG (-20 to 20 kG)	±1% RDG (-10 to 10 kG) ±2% RDG (-20 to 20 kG)	±1% RDG (-20 to 20 kG) ±1.5% RDG (-100 to 100 kG)	±0.25% RDG (-10 to 10 kG) ±1.00% RDG (-30 to 30 kG)
Zero field offset voltage ($I_C =$ nominal control current)	±100 μ V (max.)	±2.8 mV (max.)	±14 mV (max.)	±50 μ V (max.)	±75 μ V (max.)
Operating temperature range	-40 to +100 °C	-20 to +75 °C	-55 to +125 °C	-40 to +100 °C	-40 to +100 °C
Mean temperature coefficient of magnetic sensitivity	-0.08%/°C (max.)	-0.06%/°C (max.)	-0.06%/°C (max.)	±0.005%/°C (max.)	-0.04%/°C (max.)
Mean temperature coefficient of offset ($I_C =$ nominal control current)	±1 μ V/°C (max.)	±1 μ V/°C (max.)	±5 μ V/°C (max.)	±0.4 μ V/°C (max.)	±0.3 μ V/°C
Mean temperature coefficient of resistance	±0.18%/°C (approx)	+0.15%/°C (approx)	+0.15%/°C (approx)	±0.15%/°C (approx)	+0.18%/°C (approx)
Leads	34 AWG copper with poly-nylon insulation.	34 AWG copper with poly-nylon insulation.	Not applicable.	34 AWG copper with poly-nylon insulation.	34 AWG copper with poly-nylon insulation.
Data	Uncalibrated.	Uncalibrated.	Uncalibrated.	Room temperature, 20 kG data supplied.	Room temperature, 30 kG data supplied.

5335450 0001191 721

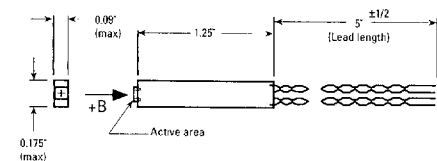
Cryogenic

HGCA-3020

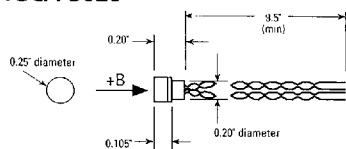
HGCT-3020

Description	Cryogenic axial; phenolic package.	Cryogenic transverse; ceramic package.
Active area	0.030" dia. circle	0.040" dia. circle
Input resistance	1 ohm	1 ohm
Output resistance	1 ohm	1 ohm
Nominal control current (I_{CN})	100 mA	100 mA
Maximum continuous current (non- heat sunk)	300 mA	300 mA
Magnetic sensitivity ($I_C =$ nominal control current)	0.56 to 1.04 mV/kG	0.56 to 1.04 mV/kG
Maximum linearity error (sensitivity versus field)	$\pm 1.0\%$ RDG (-30 to +30 kG) $\pm 2.0\%$ RDG (-150 to +150 kG)	$\pm 1.0\%$ RDG (-30 to +30 kG) $\pm 2.0\%$ RDG (-150 to +150 kG)
Zero field offset voltage ($I_C =$ nominal control current)	$\pm 200 \mu\text{V}$ (max.)	$\pm 200 \mu\text{V}$ (max.)
Operating temperature range	4.2 K to 375 K	4.2 K to 375 K
Mean temperature coefficient of magnetic sensitivity	$\pm 0.01\%/K$ (approx)	$\pm 0.01\%/K$ (approx)
Mean temperature coefficient of offset ($I_C =$ nominal control current)	$\pm 0.4 \mu\text{V}/K$ (max.)	$\pm 0.4 \mu\text{V}/K$ (max.)
Mean temperature coefficient of resistance	$\pm 0.6\%/K$ (max.)	$\pm 0.6\%/K$ (max.)
Leads	34 AWG copper with teflon insulation.	34 AWG copper with teflon insulation.
Data	Room temperature, 30 kG data supplied.	Room temperature, 30 kG data supplied.

HGA-2010

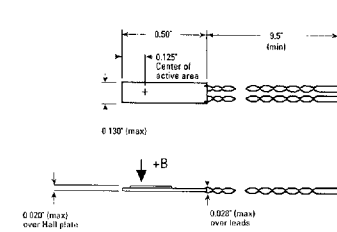


HGA-3010 HGA-3030 HGCA-3020

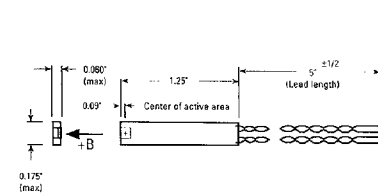


The active area is symmetrical with the center line of the assembly and is located approximately 0.030" behind the front surface of the assembly.

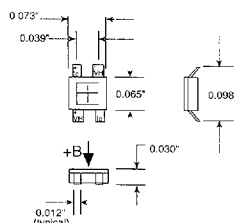
HGT-1010



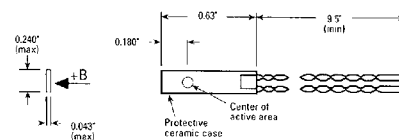
HGT-2010



HGT-2100



HGT-3010 HGT-3030 HGCT-3020



Lead Color Code: HGT-1010, HGA-2010, HGT-2010, HGA-3010, HGT-3010, HGA-3030, HGT-3030

Red	$+I_C$
Green	$-I_C$
Blue	$+V_H$
Clear	$-V_H$

Cryogenic Lead Color Code: HGCA-3020, HGCT-3020

Red	$+I_C$
Black	$-I_C$
Blue	$+V_H$
Yellow	$-V_H$

Ordering Information

Model	Description
HGT-1010	Transverse Hall generator.
HGA-2010	Axial Hall generator.
HGT-2010	Transverse Hall generator.
HGT-2100	Surface mount Hall generator. Available in quantities of 10, 100 or 1000.
HGA-3010	Axial Hall generator.
HGT-3010	Transverse Hall generator.
HGA-3030	Axial Hall generator.
HGT-3030	Transverse Hall generator.
HGCA-3020	Cryogenic axial Hall generator.
HGCT-3020	Cryogenic transverse Hall generator.

5335450 0001192 668

Lake Shore Cryotronics Fax: (614) 891-1392 Telephone: (614) 891-2243 E-mail address: lsci-sales@bronze.coil.com 13