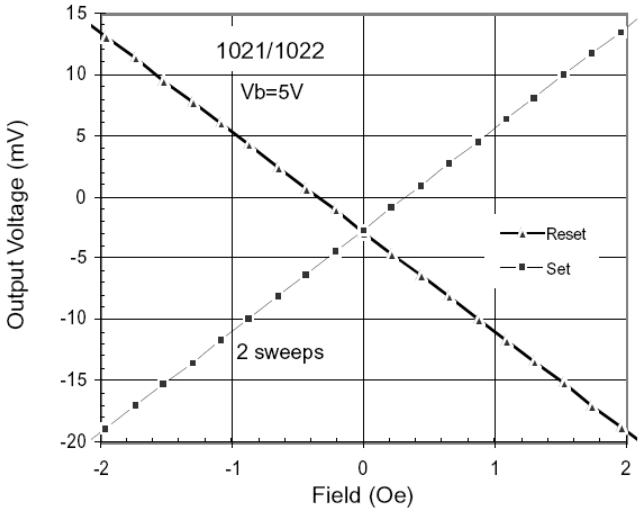
HMC1021/1022 SPECIFICATIONS

Characteristics	Conditions*	Min	Typ	Max	Units
Bridge Elements					
Supply	Vbridge (Vb) referenced to GND	2	5.0	25	Volts
Resistance	Bridge current = 10mA per bridge	800	1100	1300	ohms
Operating Temperature	Ambient	-55		150	°C
Storage Temperature	Ambient, unbiased	-55		175	°C
Field Range	Full scale (FS) – total applied field	-6		+6	gauss
Linearity Error	Best fit straight line ± 1 gauss ± 3 gauss ± 6 gauss		0.05 0.4 1.6		%FS
Hysteresis Error	3 sweeps across ±2 gauss		0.08		%FS
Repeatability Error	3 sweeps across ±2 gauss		0.08		%FS
Bridge Offset	Offset = (OUT+) – (OUT-) Field = 0 gauss after Set pulse, Vb = 5V	-10	±2.5	+11.25	mV
Sensitivity	Set/Reset Current = 0.5A	0.8	1.0	1.25	mV/V/gauss
Noise Density	@ 1Hz, Vb=5V		48		nV/sqrt Hz
Resolution	10Hz Bandwidth, Vb=5V		85		µgauss
Bandwidth	Magnetic signal (lower limit = DC)		5		MHz
Disturbing Field	Sensitivity starts to degrade. Use S/R pulse to restore sensitivity.	20			gauss
Sensitivity Tempco	T_A= -40 to 125°C, Vb=5V T_A= -40 to 125°C, Ibridge=5mA	-0.32	-0.30 -0.06	-0.28	%/°C
Bridge Offset Tempco	T_A= -40 to 125°C, No Set/Reset T_A= -40 to 125°C, With Set/Reset		±0.05 ±0.001		%/°C
Bridge Ohmic Tempco	T_A= -40 to 125°C		0.25		%/°C
Cross-Axis Effect	Cross field = 1 gauss, Happlied = ±1 gauss		+0.3		%FS
Max. Exposed Field	No perming effect on zero reading			10000	gauss
Set/Reset Straps					
Resistance	Measured from S/R+ to S/R-	5.5	7.7	9	ohms
Current	0.1% duty cycle, or less, 2µsec current pulse	0.5	0.5	4.0	Amp
Resistance Tempco	T_A= -40 to 125°C		0.37		%/°C
Offset Straps					
Resistance	Measured from OFF+ to OFF-	38	50	60	ohms
Offset Constant	DC Current Field applied in sensitive direction	4.0	4.6	6.0	mA/gauss
Resistance Tempco	T_A= -40 to 125°C		0.39		%/°C

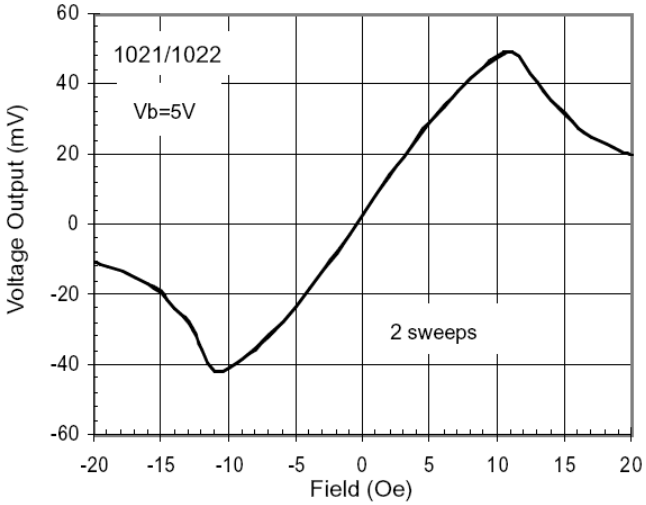
* Tested at 25°C except stated otherwise.

KEY PERFORMANCE DATA

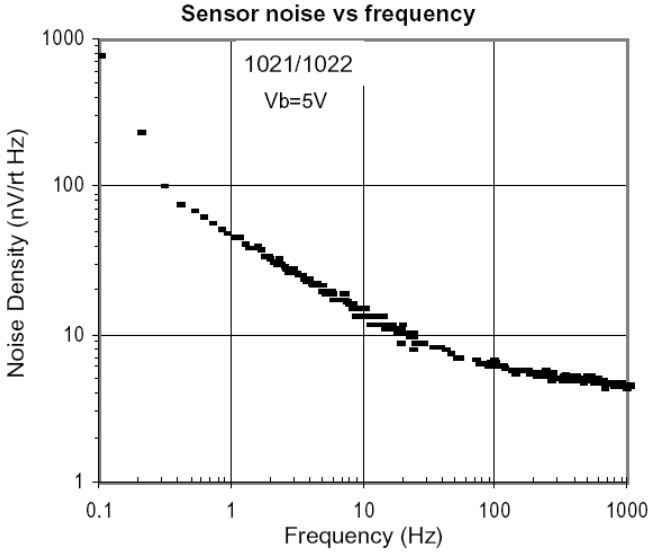
Sensor output vs magnetic field
after being set or reset



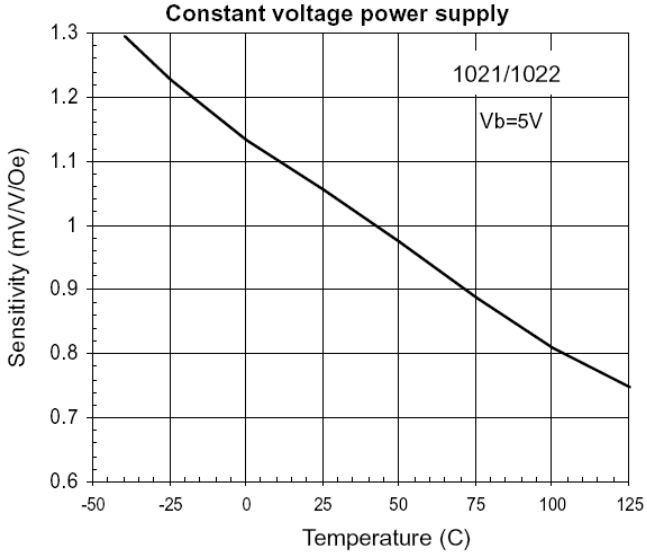
Sensor output vs magnetic field
Output is repeatable in field range ±20 Oe



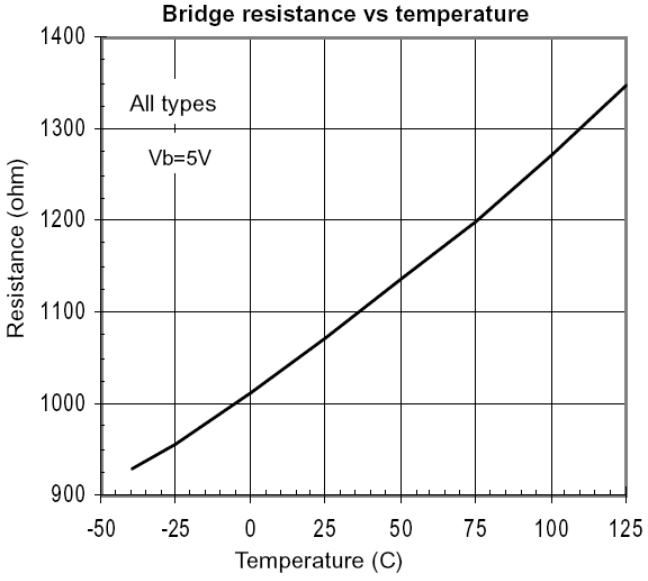
Sensor noise vs frequency



Sensitivity vs temperature
Constant voltage power supply



Bridge resistance vs temperature



Effects of set/reset pulse variation
2µ sec pulse duration, S/R voltage ≥4V is recommended