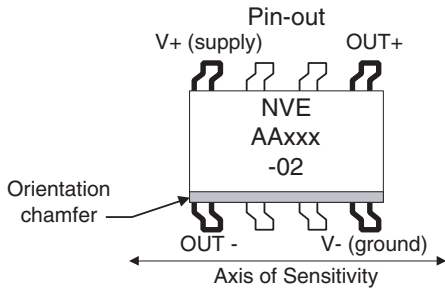
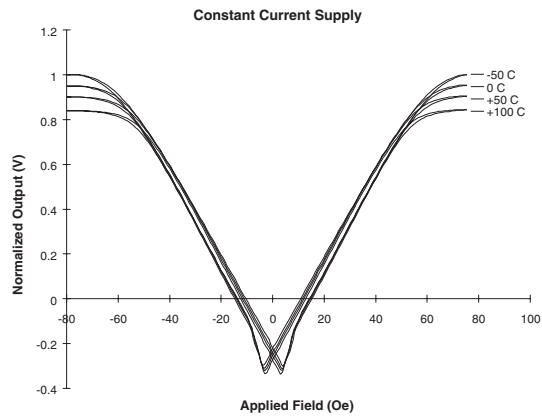
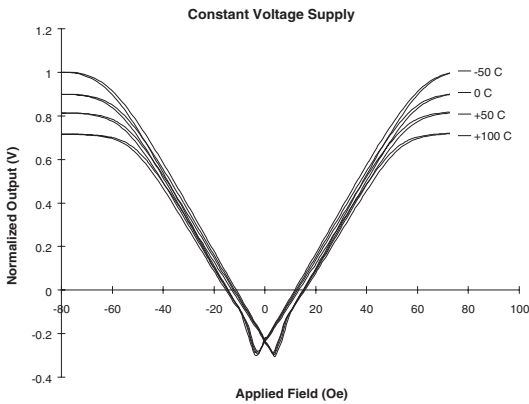


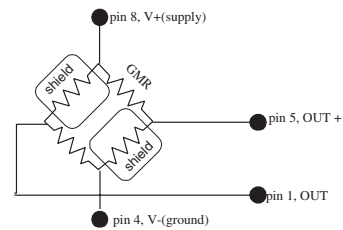
NVE's Giant Magnetoresistive Field Sensors offer unique and unparalleled magnetic sensing capabilities. The high sensitivity and ability to sense static magnetic fields provides superior performance which set them apart from other sensors on the market today. NVE's sensors provide high sensitivity, temperature stability, low power consumption, and small size.

NVE's Sensors can be applied to :

- Proximity Sensing
- Motion, Speed, and Position Sensing
- Current Detection
- Magnetic Media Detection
- Synchronization
- Earth's Field Sensing



Functional Block Diagram



**Magnetic Characteristics (5 kΩ ± 20% bridge)**

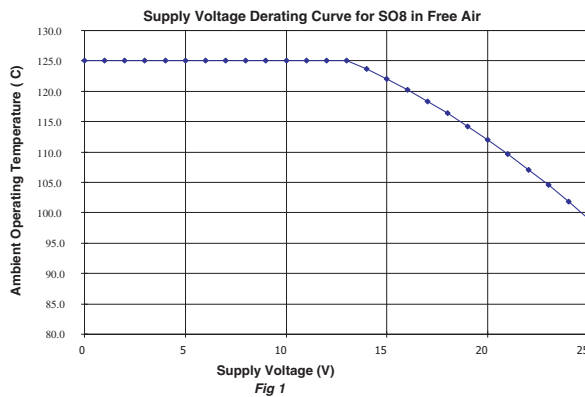
Part Number	Saturation Field (Oe)	Specified Linear Range (lOe)		Sensitivity (mV/V/Oe)		Package <sup>2</sup>	Die <sup>3</sup> Size(μm)	Marking
		Min	Max	min	max			
AA002-02	15	0	10.5	3	4.2	SO8	436x3370	NVE
AA003-02	20	0	14	2	3.2	SO8	436x3370	
AA004-02	50	0	35	0.9	1.3	SO8	411x1458	
AA005-02	100	0	70	0.45	0.65	SO8	411x1458	
AA004-00	50	0	35	0.9	1.3	TSSOP	411x1458	CDB

**Low Power Magnetic Field Sensor (30 kΩ ± 20% bridge)**

Part Number	Saturation Field (Oe)	Specified Linear Range (lOe)		Sensitivity (mV/V/Oe)		Package <sup>2</sup>	Die <sup>3</sup> Size(μm)	Marking
		Min	Max	min	max			
AA006-02	50	0	35	0.9	1.3	SO8	836x1986	NVE
AA006-00	50	0	35	0.9	1.3	TSSOP	836x1986	CBC

**General Characteristics Magnetic Field Sensors**

Property	Min	Nominal	Max	Unit
Input Voltage Range			±25 <sup>4</sup>	V
Operating Frequency	DC		>1 <sup>5</sup>	MHz
Temperature Range	-50		125 <sup>4</sup>	°C
Electrical Offset (V)	-4		4	mV/V
Max Output		45 <sup>1</sup>		mV/V
Nonlinearity			2 <sup>6</sup>	% (unipolar)
Hysteresis			4 <sup>6</sup>	% (unipolar)
TCR		+0.14		% / K
TCOI		+0.03		% / K
TCOV		-0.1		% / K
Off-axis Characteristic		Cos. β <sup>7</sup>		
ESD		400		V pin to pin HBM



**Notes:**

1. The output is differential. The use of a common ground for power and output will result in an output that is not within specifications.
2. For SO8 package dimensions, see package dimension bulletin.
3. Sensors can be provided in die/wafer form by special request.
4. See Fig 1.
5. GMR has been tested to 1 MHz.
6. Output measured at bipolar saturation. Normal unipolar use will result in significantly smaller values.
7. Beta (β) is any angle from sensitive axis.