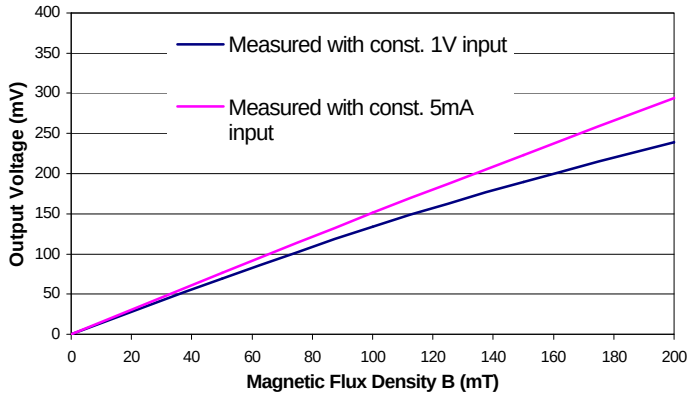
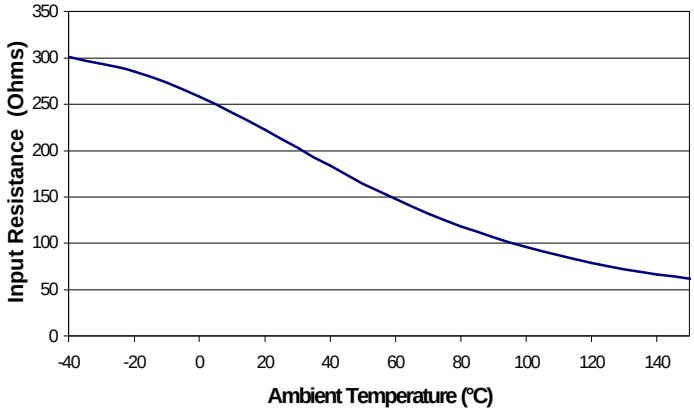
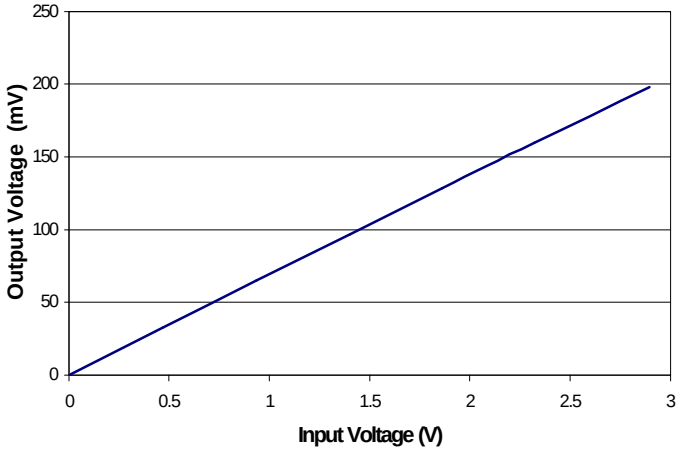
Output Voltage vs Magnetic Field @ 25°C



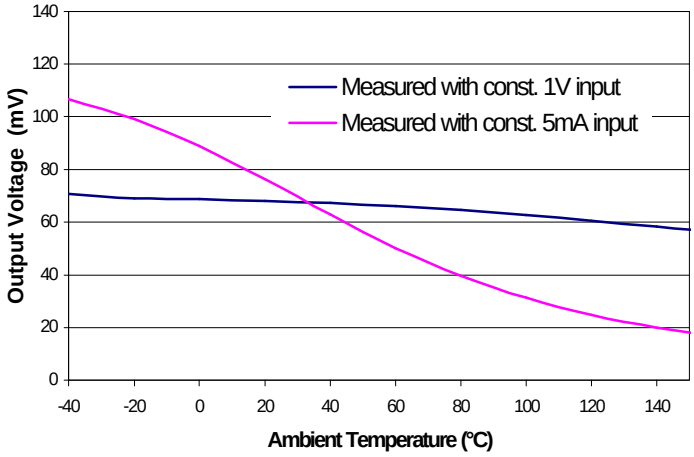
Input Resistance vs Temperature @ 0 mT



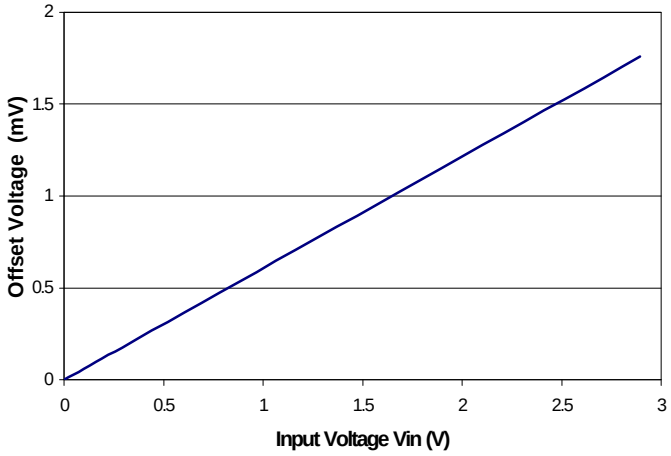
Output Voltage vs Input Voltage @ 25°C, 50mT



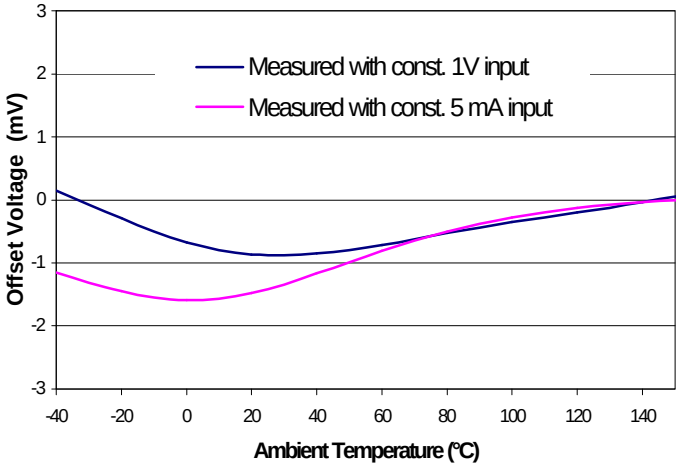
Output Voltage vs Ambient Temperature @ 50mT



Offset Voltage vs Input Voltage @ 25°C



Offset Voltage vs Temperature

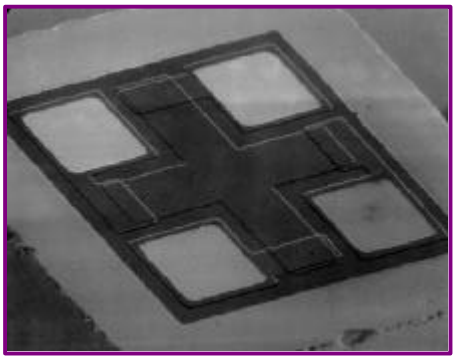


Precision Hall Sensor EHA1100

Preliminary Information

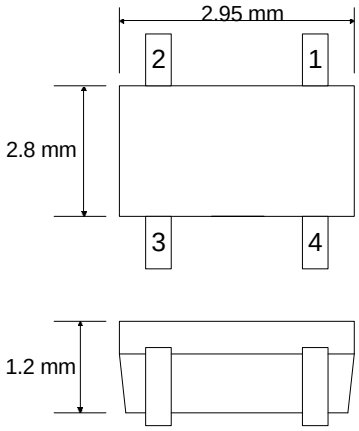
Description

The EHA1100 is a highly sensitive Hall sensor manufactured from Indium Antimonide (InSb) using state-of–the-art Metal Organic Chemical Vapor Deposition (MOCVD) and fabrication processes. Using these high performance materials and processes produces consistent device to device performance characteristics and excellent magnetic field sensing resolution over an extended temperature range. The EHA1100 provides an output voltage proportional to the magnetic field perpendicular to the face of the package when a voltage is applied to the input leads of the device.



Features

- Low offset voltage
- High sensitivity
- Able to sense unlimited field strengths
- Excellent field sensing resolution
- Measures both North and South pole fields
- Solid state construction for robust operation



Typical SOT23 package outline

Absolute Maximum Ratings

	Symbol	Limits	Units
Max. Input Current	I_C	20	mA
Operating Temp. Range	T_{OP}	-40 to150	°C
Storage Temp. Range	T_{ST}	-40 to160	°C

Electrical Characteristics (Ta=25 °C)

	Symbol	Conditions	Min.	Typical	Max.	Unit
Output Voltage	V_H	B=50mT, V_{in}=1V	60	70	80	mV
Input Resistance	R_{in}	B=50mT	190	225	260	
Output Resistance	R_{out}	B=50mT	190	225	260	
Offset Voltage	V_o	B=0mT, V_{in}=1V	-2		+2	mV
Temp. Coefficient of R_{in}		0-40 °C, 0mT V_{in}=1V		0.85		%/°C
Temp. Coefficient of R_{in}		0-40 °C, 0mT I_{in}=5mA		0.85		%/°C
Temp. Coefficient of V_H		0-40 °C, 50mT V_{in}=1V		0.11		%/°C
Temp. Coefficient of V_H		0-40 °C, 50mT I_{in}=5mA		0.85		%/°C