The MH-481, a linear Hall-effect sensor, is composed of hall sensor, linear amplifier and emitter-follower output stage. The integrated circuitry features low noise output, which makes it unnecessary to use external filtering. It also includes thin film resistors to provide increased temperature stability and accuracy. These linear Hall sensors have an operating Temperature range of –40 degree C to 100 degree C, appropriate for commercial, consumer, and industrial environments.

The high sensitivity of Hall Effect sensor accurately tracks extremely small changes in magnetic flux density. The linear sourcing output voltage is set by the supply voltage and varies in proportion to the strength of the magnetic field. Typical operation current is 6.0mA and operating voltage range is 3.0 volts to 6.5 volts.

The MH-481 is rated for operation between the ambient temperatures –40°C and 100°C for the E temperature range. The package style available provide magnetically optimized solutions for most applications. Package UA is a three-lead ultra mini SIP for through-hole mounting.

RoSH and Pb free is qualified by third party lab.

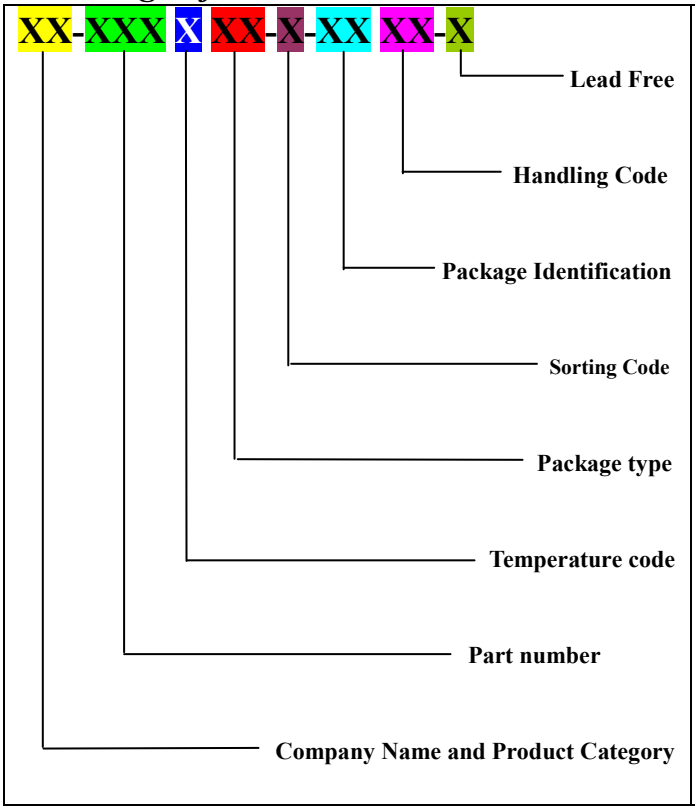
Features and Benefits

- Operating Voltage Range: 3.0V~6.5V
- Power consumption of 6 mA at 5 Vdc for energy efficiency
- Low-Noise Operation
- Single current sourcing output
- Linear output for circuit design flexibility
- Thin film resistors for a stable and accurate output
- Responds to either positive or negative gauss
- Small Size
- Magnetically Optimized Package
- Cost competitive
- Robust ESD performance

Applications

- Current sensing
- Motor control
- Position sensing
- Magnetic code reading
- Rotary encoder
- Ferrous metal detector
- Vibration sensing
- Liquid level sensing
- Weight sensing

Ordering Information



Company Name and Product Category

MH:MST Hall Effect/MP:MST Power MOSFET

Part number

181,182,183,481,482,185,248,249…

Temperature range

E: 85 Degree C, K: 125 Degree C, L: 150 Degree C

Package type

UA:TO-92S,SO:SOT-23,ST:Tsot-25,SU:USON

Sorting

α, β,Blank…..

Package Identification Code

01,02,03…..

Handling Code

BLANK: ESD bag, TR: Tape & Reel

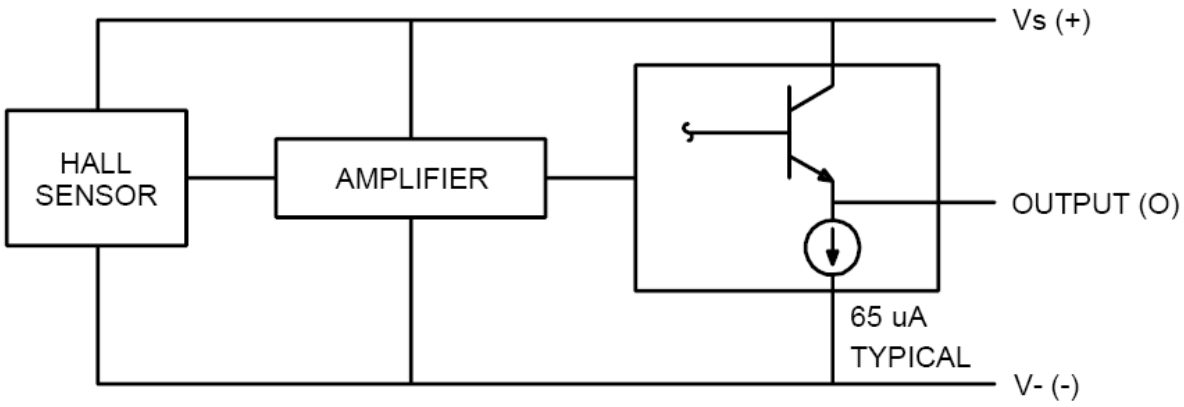
Lead Free Code

BLANK: Lead Free Device ,G: Green

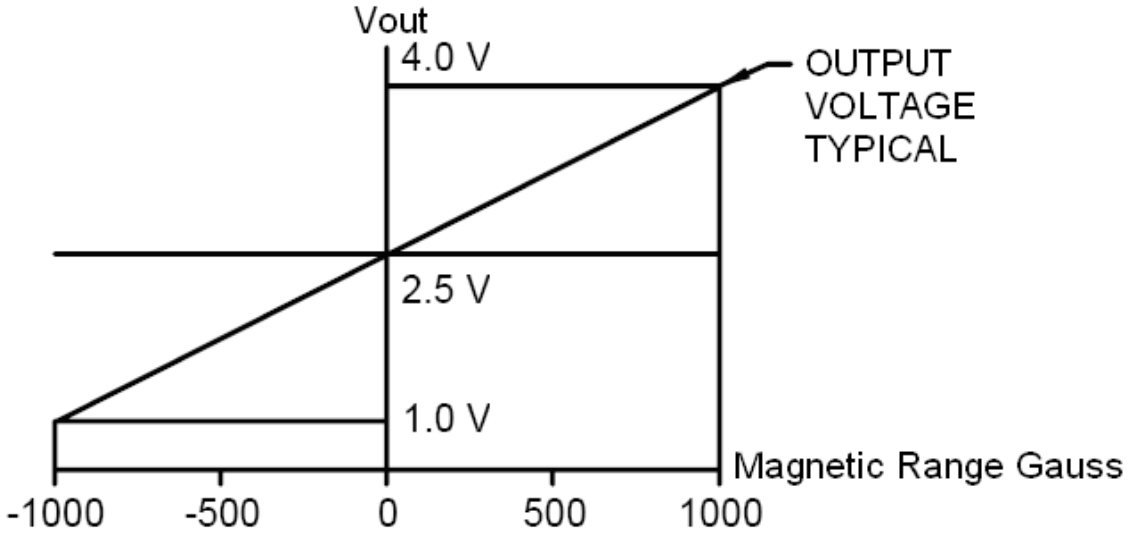
Part No.	Temperature Suffix	Package Code	Package Identification
481	E(-40℃ to +100℃)	UA (TO-92S)	01

Function Block Diagram

Block Diagram Current Sourcing Output



Transfer Characteristics (Vs=5.0VDC)



Absolute Maximum Ratings

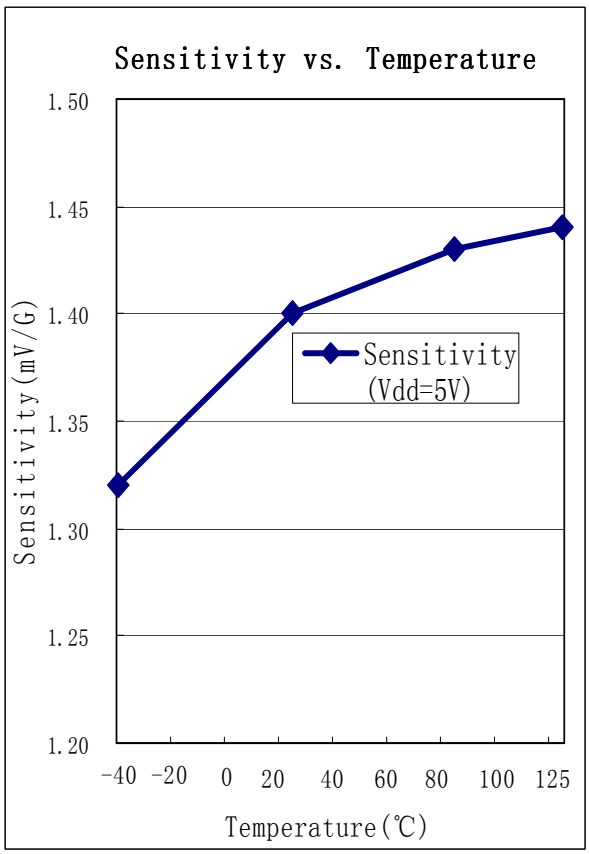
Supply Voltage, Vcc	-0.5Vdc to 8Vdc
Output Current, Iout	10mA
Operating Temperature Range, T_A "E" version	-40℃ to 100℃
Storage Temperature, Ts	-65℃ to 170℃
Magnetic Flux Density	No limit

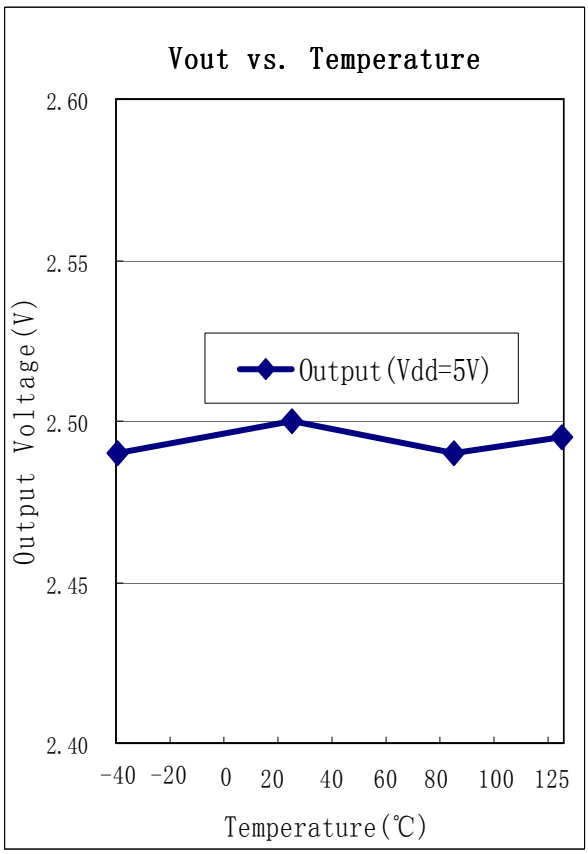
Electrical Specifications

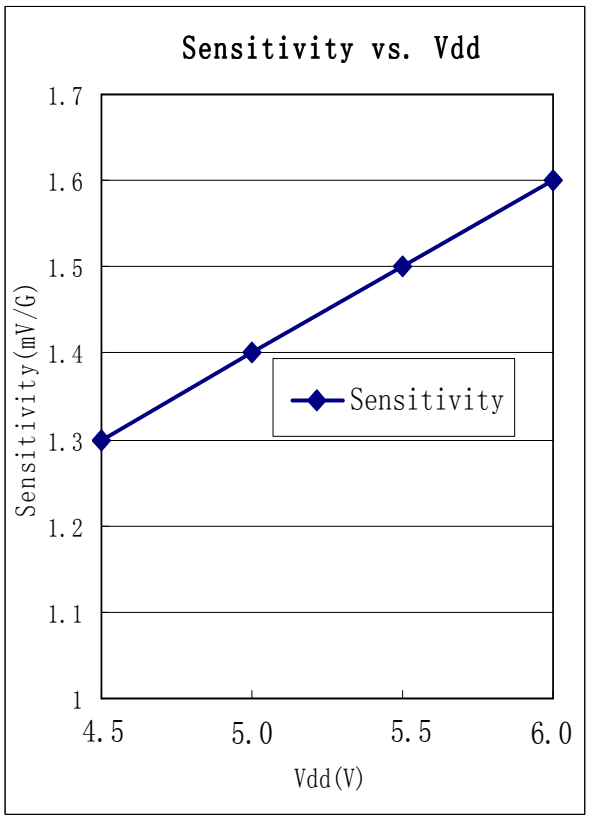
DC Operating Parameters T_A=+25℃, V_{DD}=5V (Unless otherwise specified)

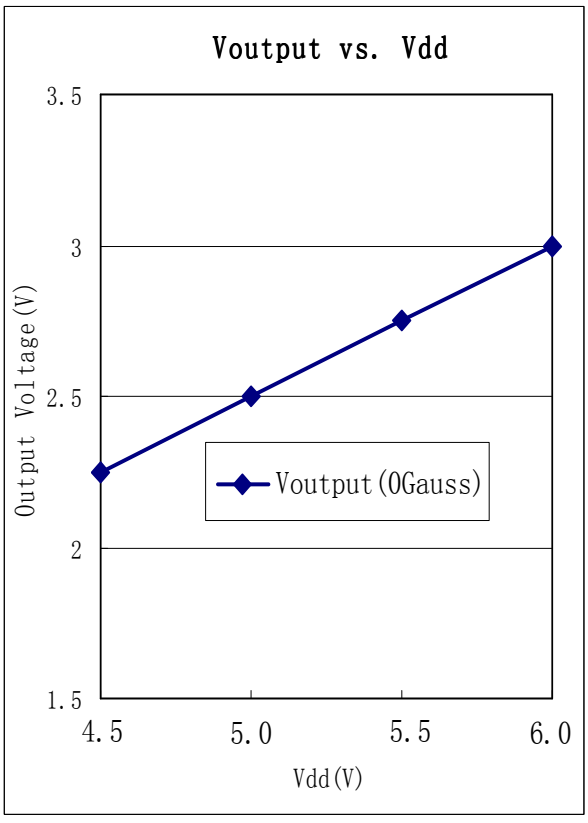
Parameters	Test Conditions	Min	Typ	Max	Units
Operating voltage		3.5		6	V
Supply current			4.5	10	mA
Output Current	Min(Vs>3V), Typ(Vs>3V)	1.0	1.5		mA
Output Voltage	Null @ 0 G		2.5		V
Output Bandwidth			20		KHz
Output Voltage Span		1.05	0.95		V
Magnetic Range Gauss		+-650	+-1000		G
Linearity	% of Span		-0.7		
Output type	Linear, Sourcing				
Magnetics type	Analog				
Response Time			3		μS
Sensitivity		1.0	1.4	1.75	mV/G

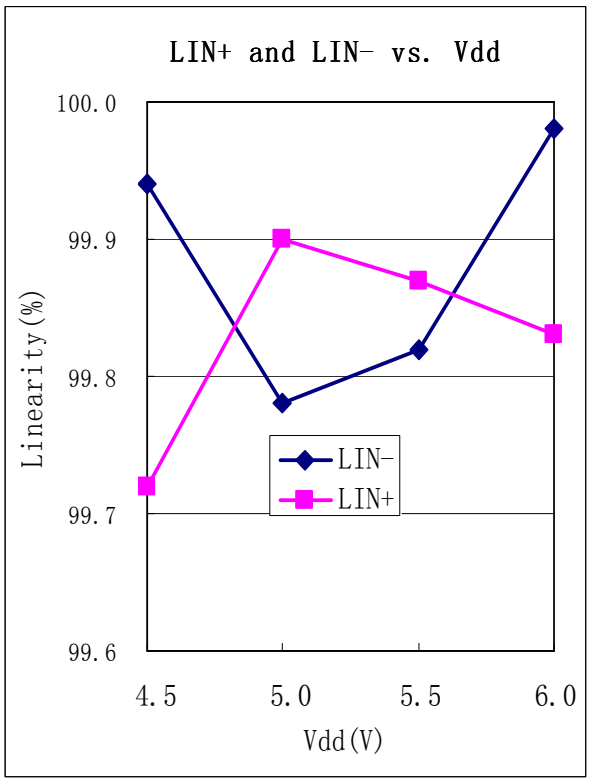
Performance Graphs

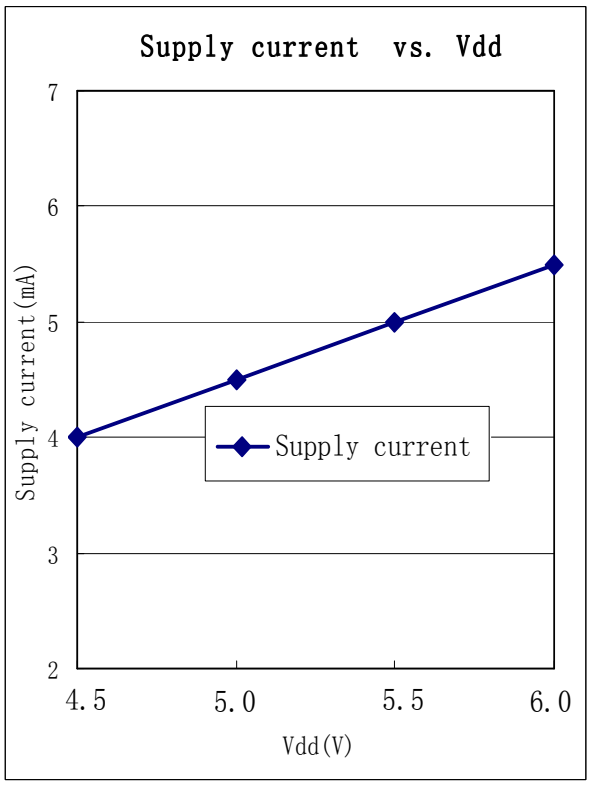






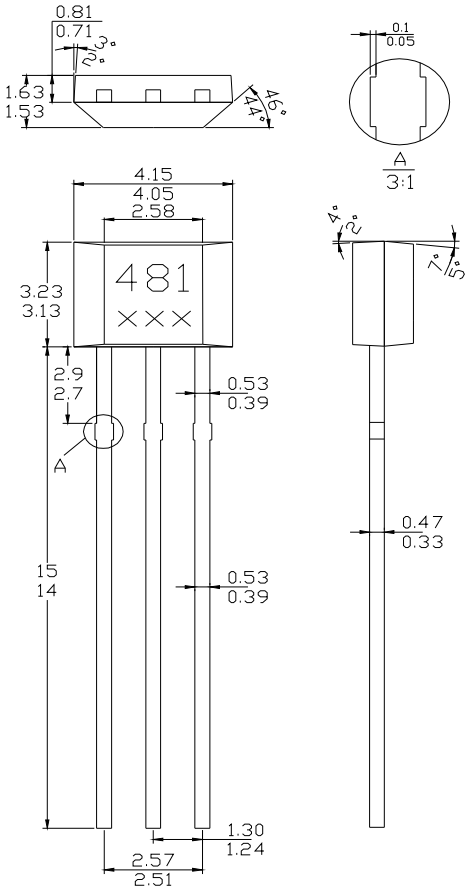






Sensor Location, package dimension and marking

MH 184 UA-01 Package



NOTES:

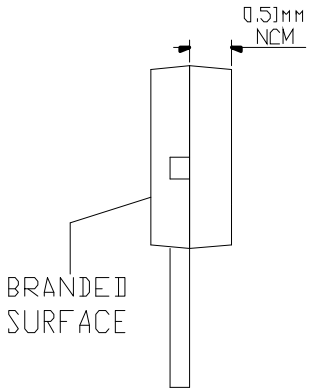
1).Controlling dimension :mm

2).Leads must be free of flash and plating voids

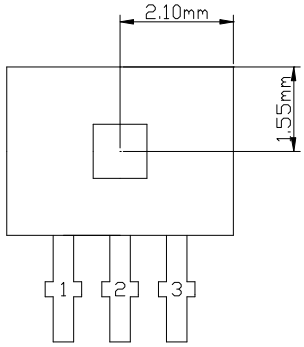
3).Do not bend leads within 1 mm of lead to package interface

4).PINOUT:

Pin 1	VDD
Pin 2	GND
Pin 3	Output



Active Area Depth



Sensor Location