

Magnetic Sensor IC

Continuous-Time Ratio-metric Linear Hall-Effect Sensor IC

**AS1243**

● General Description

The AS1243 is small, versatile linear Hall effect devices which are operated by the magnetic field from a permanent magnet or an electromagnet. They are optimized to accurately provide a voltage output that is proportional to an applied magnetic field. These devices have a quiescent output voltage that is about 2.5V voltage.

The Hall-effect integrated circuit included in each device includes a Hall sensing element, a linear amplifier, and a CMOS Class AB output structure. Integrating the Hall sensing element and the amplifier on a single chip minimizes many of the problems normally associated with low voltage level analog signals.

High precision in output levels is obtained by internal gain and offset trim adjustments made at end-of-line during the manufacturing process.

The integrated circuitry provides increased temperature stability and sensitivity, for both linear target motion and rotational motion. These linear position sensors have an operating temperature range of -40°C to +150°C, appropriate for industrial environments. They respond to either positive or negative gauss, monitoring either or both magnetic poles. The quad Hall sensing element minimizes the effects of mechanical or thermal stress on the output. The positive temperature coefficient of the sensitivity helps compensate for the negative temperature coefficients of low cost magnets, providing a robust design over a wide temperature range.

The AS1243 is available in SOT89-3L & SIP-3L packages, and is rated over the -40°C to +150°C. These packages are available in a lead (Pb) free version.

● Features

- Input Voltage Range : 3.5V to 10.5V
- Fast Power-on Time
- Power consumption of 4.5mA/5V
- Single Current Sinking or Current Sourcing Output
- Linear Output For Circuit Design Flexibility
- Ratio-metric Output for A/D Interface
- Sensitivity: 3.125mV (typ.)/Gauss
- Rail to Rail Operation Provides More Useable Signal For Higher Accuracy
- Temperature Stable Quiescent Output Voltage
- Quad Hall Sensing Element For Stable Output
- Responds to Either Positive or Negative Gauss
- Robust EMC Protection
- Small Solution Size
- RoHS Compliant
- SOT89-3L & SIP-3L Packages
- -40°C to +150 °C Temperature Range

● Applications

- Angular Position
- Current Sensing
- Motor Control
- Linear Position Sensing
- Magnetic Code Reading
- Rotary Position Sensing
- Ferrous Metal Detector
- Vibration Sensing
- BLDC motor current monitoring
- Weigh and liquid level sensing

■ **Ordering Information**

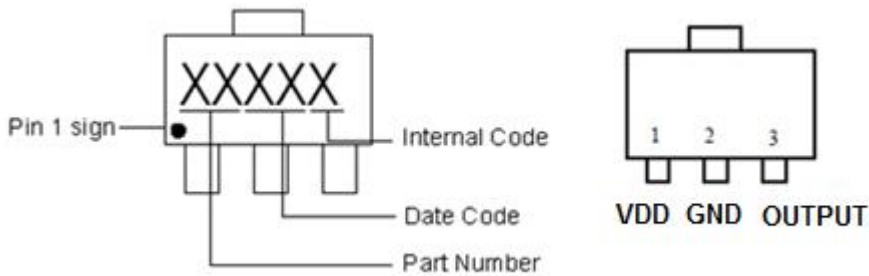
AS1243XXX

Package:	Packing:	Temperature Grade:
M: SIP-3L	R: Tape&Reel	Z: -40°C~150°C
Y: SOT89-3L	B: Blank/Package	

Part Number	Sensitivity (Typ.)	Package Type	Package Qty	Temperature	Eco Plan
AS1243YRZ	3.125mV/Gauss	SOT89-3L	1000pcs/package	-40~150°C	Rohs
AS1243MBZ	3.125mV/Gauss	SIP-3L	1000pcs/package	-40~150°C	Rohs

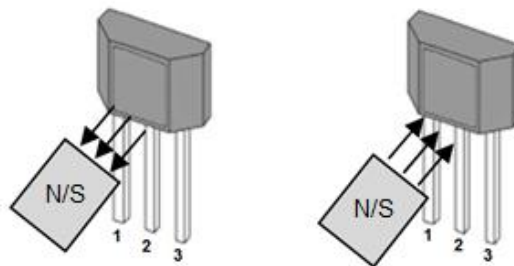
■ **Marking & Pin Assignment**

SOT89-3L



Pin Name	Pin No.	I/O	Pin Function
	SOT89-3L		
VDD	1	P	Input Power Supply
GND	2	P	Ground
OUTPUT	3	O	Output Pin

SIP-3L



Pin Name	Pin No.	I/O	Pin Function
	SIP-3L		
VDD	1	P	Input Power Supply
GND	2	P	Ground
OUTPUT	3	O	Output Pin.