

Magnetic Sensor ICs

Latch Detection High Performance Hall-Effect Sensor IC



AS1640

● **General Description**

Using bipolar process, the AS1640 is designed for high performance latch detection hall effect application, such as home appliances, rotor position sensing, brushless DC motor etc. The hall IC integrated an on-chip hall voltage generator for magnetic sensing, a comparator that amplifies the hall voltage, an open collector output, and a Schmitt trigger to provide switching hysteresis for noise rejection, reverse protection, and a voltage regulator for operation with supply voltage of 3.8V to 40V.

AS1640 is designed to respond to alternating North and South poles. While the magnetic flux density (B) is larger than operate point (B_{OP}), the output will be turned on (low), the output is held until the magnetic flux density (B) is lower than release point (B_{RP}), then turn off (high).

The device is available in SOT23-3L and SIP-3L Package and is rated over the -50°C to 150°C . the package is RoHS compliant.

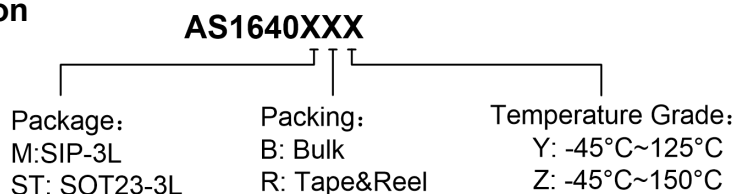
● **Features**

- Input Voltage Range : 3.8V to 40V
- Reverse Protection
- Bipolar Latch Operation
- High Performance Bipolar Process Tech.
- High Sensitivity Hall Sensor
- Magnetic Sensitivity (typical)
 $B_{OP}=45\text{Gauss}$, $B_{RP}=-45\text{Gauss}$
- Open Collector Output
- Small Solution Size
- RoHS Compliant
- SOT23-3L and SIP-3L Packages
- -50°C to $+150^{\circ}\text{C}$ Temperature Range

● **Applications**

- Automotive, Home appliances, Industrial
- Rotor Position Sensing
- Brushless DC Motor/Fan
- Speed Measurement
- Revolution Counting
- Magnetic Encoder

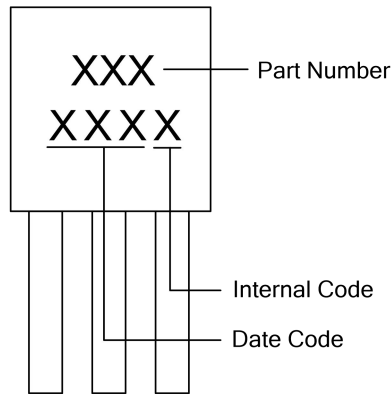
■ **Ordering Information**



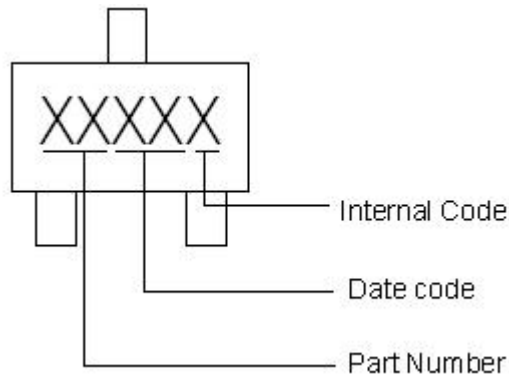
Part Number	B_{OP} (Gauss)	B_{RP} (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1640MBY	+45	-45	SIP-3L	1K/Package	$-45\sim 125^{\circ}\text{C}$	RoHS
AS1640STRY	-45	+45	SOT23-3L	7-in reel 3000pcs/reel	$-45\sim 125^{\circ}\text{C}$	RoHS
AS1640MBZ	+45	-45	SIP-3L	1K/Package	$-45\sim 150^{\circ}\text{C}$	RoHS
AS1640STRZ	-45	+45	SOT23-3L	7-in reel 3000pcs/reel	$-45\sim 150^{\circ}\text{C}$	RoHS

■ **Marking Information**

SIP-3L:



SOT23-3L:



■ **Typical Application Circuit**

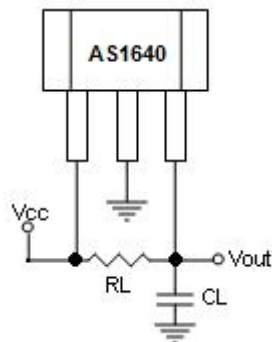
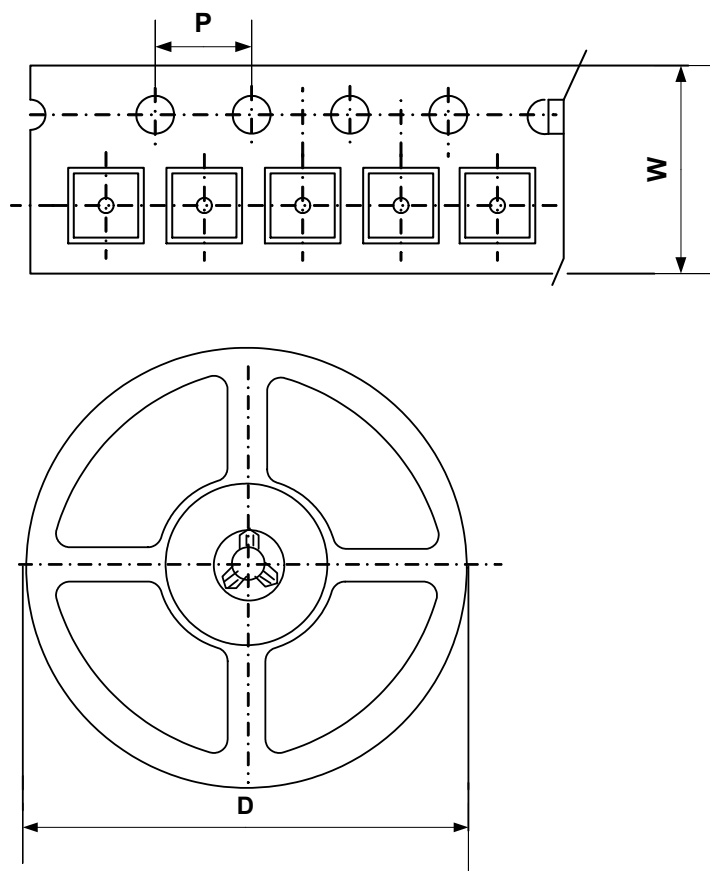


Figure 1, Typical Application Circuit of AS1640

■ **Packing Information**

SOT23-3L/TSOT23-3L:



Package Type	Carrier Width (W)	Pitch (P)	Reel Size(D)	Packing Minimum
SOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum

■ **Packing Information**

1. Packing type: Bulk
2. Packing minimum: 1000pcs