

Magnetic Sensor ICs

Latch Detection High Performance Hall-Effect Sensor IC



AS1641

● General Description

Using BiCMOS process, the AS1641 is designed for high performance latch detection hall-effect application, such as automotive, industrial, electric tools, 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 amplifiers the hall voltage, hall sensor with dynamic offset cancellation system, an open drain output, and a Schmitt trigger to provide switching hysteresis for noise rejection, and a voltage regulator for operation with supply voltage of 2.4V to 24V.

AS1641 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 SIP-3L and SOT23-3L Package and is rated over the -40°C to 125°C . the package is RoHS compliant.

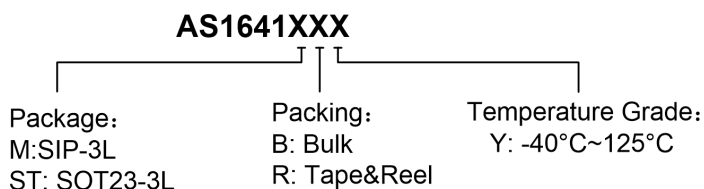
● Features

- High Performance BiCMOS Process Tech.
- Input Voltage Range : 2.4V to 24V
- Resistant to physical stress
- Bipolar Latch Operation
- High Sensitivity Hall Sensor
- High Chopping Frequency
- Magnetic Sensitivity (typical)
 $B_{OP}=17\text{Gauss}$, $B_{RP}=-17\text{Gauss}$
- Open Drain Output
- Small Solution Size
- RoHS Compliant
- SIP-3L and SOT23-3L Packages
- -40°C to $+125^{\circ}\text{C}$ Temperature Range

● Applications

- Electric Tools
- Automotive, Home appliances, Industrial
- Rotor Position Sensing and Flow Meters
- Brushless DC Motor/Fan
- Speed Measurement
- Revolution Counting
- Valve and Solenoid Status
- Proximity Sensing
- Tachometers
- Magnetic Encoder

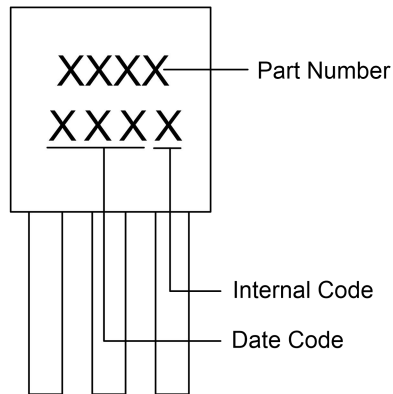
■ Ordering Information



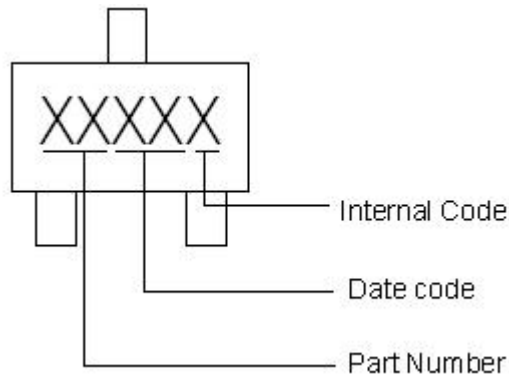
Part Number	B_{OP}/B_{RP} (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1641MBY	± 17	SIP-3L	1K/Package	$-40\sim 125^{\circ}\text{C}$	RoHS
AS1641STRY	± 17	SOT23-3L	7-in reel 3000pcs/reel	$-40\sim 125^{\circ}\text{C}$	RoHS

■ **Marking Information**

SIP-3L



SOT23-3L



■ **Typical Application Circuit**

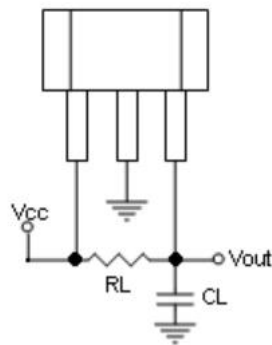
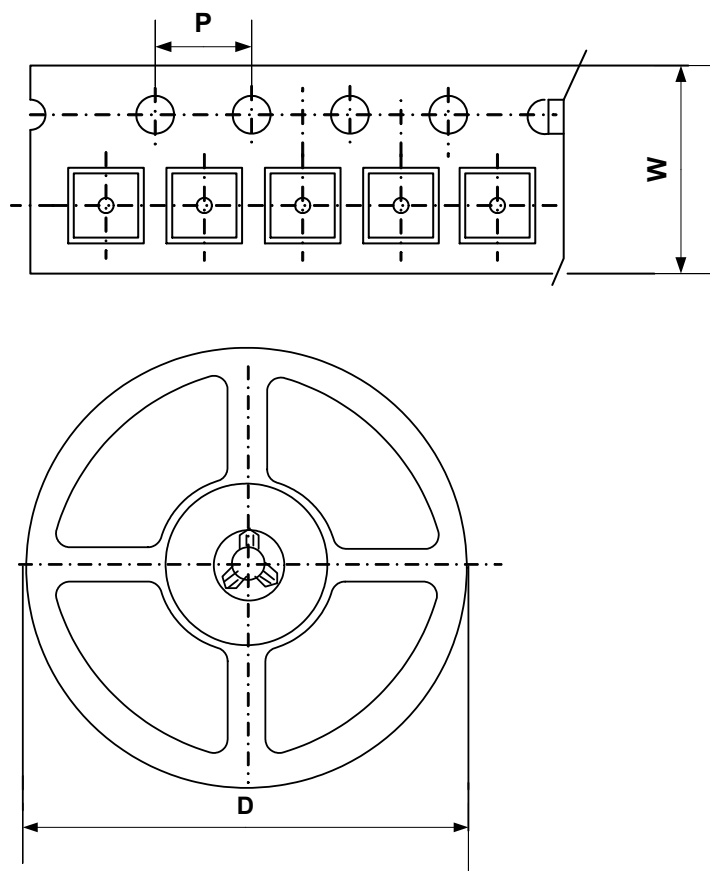


Figure 1, Typical Application Circuit of AS1641

■ **Packing Information**

SOT23-3L



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