

Magnetic Sensor IC

## High Sensitivity Bipolar Latch Detection Hall-Effect Sensor ICs



### AS1631S

#### ● General Description

Using BiCMOS process, the AS1631S is designed for high performance latch detection hall effect application, such as transportation, industrial and commercial, medical, 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, hall sensor with dynamic offset cancellation system, an open drain output, and a Schmitt trigger to provide switching hysteresis for noise rejection, reverse protection, and a voltage regulator for operation with supply voltage of 2.5V to 28V.

AS1631S is designed to respond to alternating North and South poles. While the magnetic flux density (B) is larger than operate point (B<sub>OP</sub>), the output will be turned on (low), the output is held until the magnetic flux density (B) is lower than release point (B<sub>RP</sub>), then turn off (high).

The device is available in SOT23-3L Package and is rated over the -40°C to 150°C. the package is RoHS compliant.

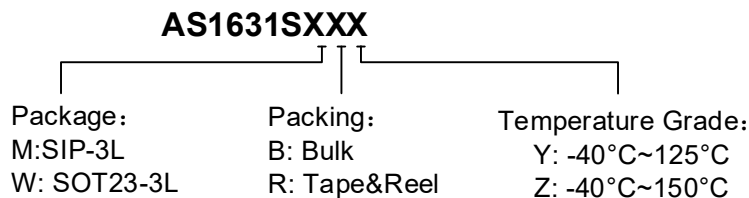
#### ● Features

- Input Voltage Range : 2.5V to 28V
- Reverse Protection voltage: -30V
- Over Voltage Protection: 30V
- Bipolar Latch Operation
- High Performance BiCMOS Process Tech.
- High Sensitivity Hall Sensor
- Magnetic Sensitivity (typical)  
B<sub>OP</sub>=30Gauss, B<sub>RP</sub>=-30Gauss
- Open Drain Output
- Output Pin 36V Over Voltage Protection
- Small Solution Size
- RoHS Compliant
- SOT23-3L and SIP-3L Packages
- -40°C to +150°C Temperature Range

#### ● Applications

- Automotive, Home appliances, Industrial
- Rotor Position Sensing
- Brushless DC Motor/Fan
- Speed & RPM Sensing
- Tachometer, Counter Pickup
- Motor and Fan Control
- Electronic Window Lift
- Convertible Roof Position
- Revolution Counting
- Robotics Control
- Medical Equipment Using Electric Motors

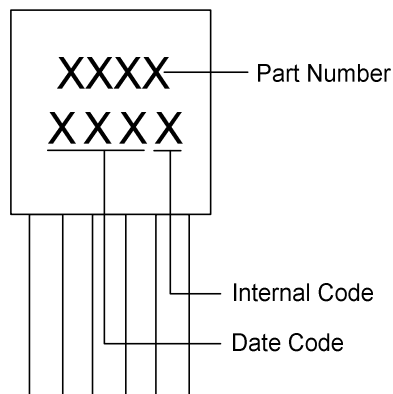
#### ■ Ordering Information



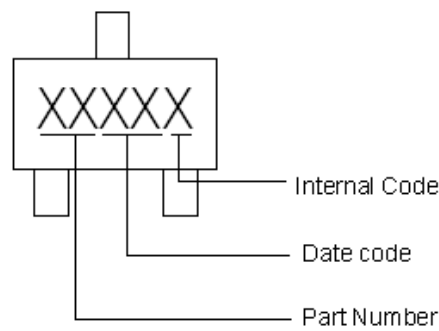
Part Number	B <sub>OP</sub> /B <sub>RP</sub> (Gauss)	Package Type	Package Qty	Temperature	Eco Plan	Lead
AS1631SMBY	30/-30	SIP-3L	1K/Package	-40~125°C	RoHS	Cu
AS1631SWRY	30/-30	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	RoHS	Cu
AS1631SMBZ	30/-30	SIP-3L	1K/Package	-40~150°C	RoHS	Cu
AS1631SWRZ	30/-30	SOT23-3L	7-in reel 3000pcs/reel	-40~150°C	RoHS	Cu

■ **Marking Information**

SIP-3L



SOT23-3L



■ **Typical Application Circuit**

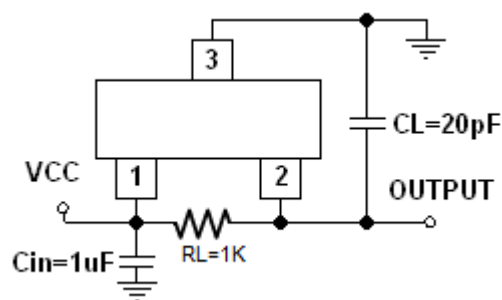
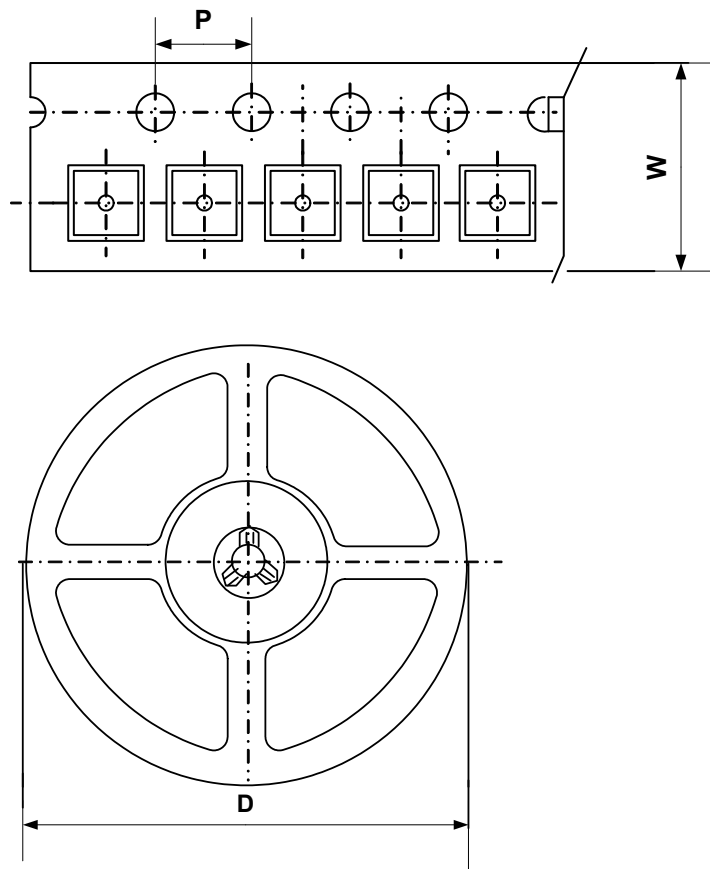


Figure 1, Typical Application Circuit of AS1631S

■ **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**

**SIP-3L**

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