

Magnetic Sensor ICs

High Sensitivity Bipolar Latch Detection Hall-Effect Sensor ICs



AS1631

● General Description

Using BiCMOS process, the AS1631 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 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, reverse protection, and a voltage regulator for operation with supply voltage of 2.4V to 28V.

AS1631 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 Package and is rated over the -40°C to 150°C . the package is RoHS compliant.

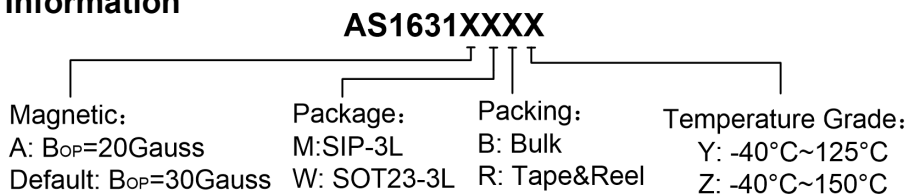
● Features

- Input Voltage Range : 2.4V to 28V
- Reverse Protection voltage: -24V
- Bipolar Latch Operation
- High Performance BiCMOS Process Tech.
- High Sensitivity Hall Sensor
- Magnetic Sensitivity (typical)
 - A: $B_{OP}=20\text{Gauss}$, $B_{RP}=-20\text{Gauss}$
 - Default: $B_{OP}=30\text{Gauss}$, $B_{RP}=-30\text{Gauss}$
- Open Drain Output
- Small Solution Size
- RoHS Compliant
- SOT23-3L and SIP-3L Packages
- -40°C to $+150^{\circ}\text{C}$ 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

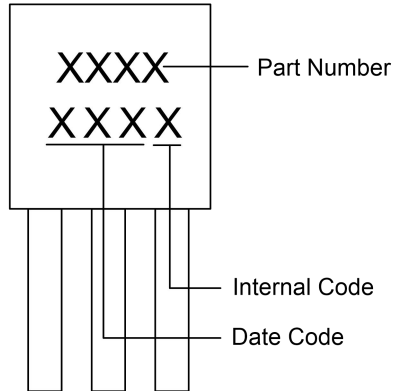
■ Ordering Information



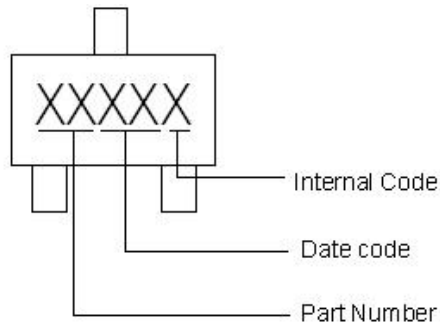
Part Number	B_{OP} (Gauss)	B_{RP} (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1631AMBY	+20	-20	SIP-3L	1K/Package	$-40\sim 125^{\circ}\text{C}$	RoHS
AS1631AWRY	-20	+20	SOT23-3L	7-in reel 3000pcs/reel	$-40\sim 125^{\circ}\text{C}$	RoHS
AS1631AMBZ	+20	-20	SIP-3L	1K/Package	$-40\sim 150^{\circ}\text{C}$	RoHS
AS1631AWRZ	-20	+20	SOT23-3L	7-in reel 3000pcs/reel	$-40\sim 150^{\circ}\text{C}$	RoHS
AS1631MBY	+30	-30	SIP-3L	1K/Package	$-40\sim 125^{\circ}\text{C}$	RoHS
AS1631WRY	-30	+30	SOT23-3L	7-in reel 3000pcs/reel	$-40\sim 125^{\circ}\text{C}$	RoHS
AS1631MBZ	+30	-30	SIP-3L	1K/Package	$-40\sim 150^{\circ}\text{C}$	RoHS
AS1631WRZ	-30	+30	SOT23-3L	7-in reel 3000pcs/reel	$-40\sim 150^{\circ}\text{C}$	RoHS

■ **Marking Information**

SIP-3L



SOT23-3L



■ **Typical Application Circuit**

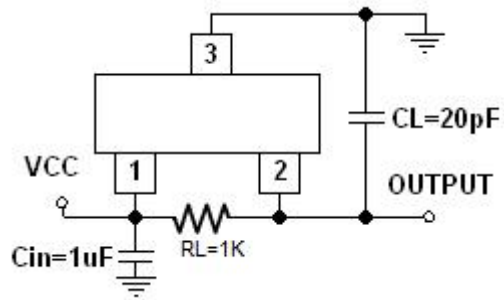
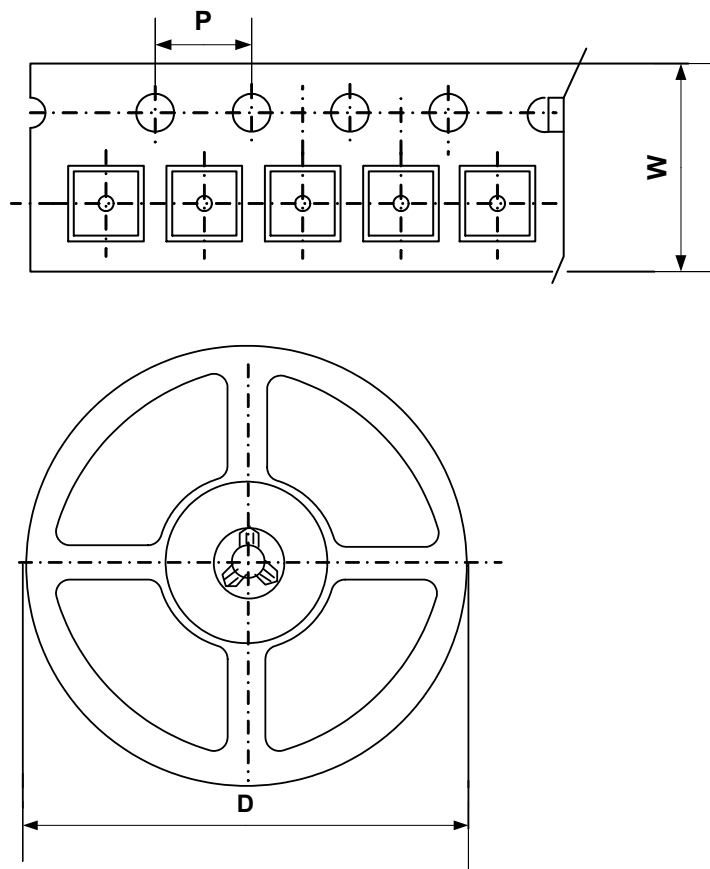


Figure 1, Typical Application Circuit of AS1631

■ **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