

Magnetic Sensor ICs
**High Sensitivity Bipolar Latch
Detection Hall-Effect
Sensor ICs**

AS1638
● General Description

Using BCD process, the AS1638 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 2.5V to 28V.

AS1638 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 : 2.5V to 28V
- Reverse Protection voltage: -30V
- Over Voltage Protection: 30V
- Bipolar Latch Operation
- High Performance BCD Process Tech.
- Magnetic Sensitivity (typical)
 $B_{OP}=270\text{Gauss}$, $B_{RP}=-270\text{Gauss}$
- Open Drain Output
- Output Pin 30V 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

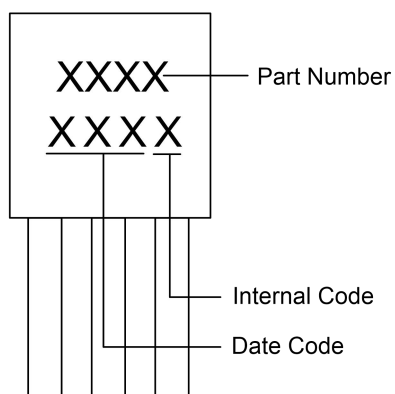
■ Ordering Information
AS1638XXX

Package:	Packing:	Temperature Grade:
M: SIP-3L	B: Bulk	Y: -40°C~125°C
W: SOT23-3L	R: Tape&Reel	Z: -40°C~150°C

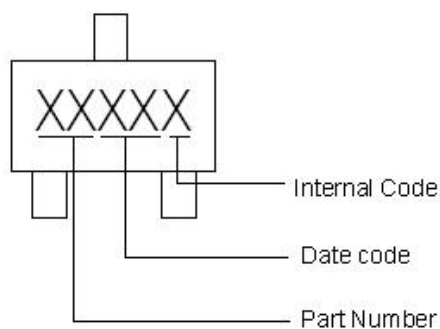
Part Number	B_{OP}/B_{RP} (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1638MBY	270/-270	SIP-3L	1K/Package	-40~125°C	RoHS
AS1638WRY	270/-270	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	RoHS
AS1638MBZ	270/-270	SIP-3L	1K/Package	-40~150°C	RoHS
AS1638WRZ	270/-270	SOT23-3L	7-in reel 3000pcs/reel	-40~150°C	RoHS

■ Marking Information

SIP-3L



SOT23-3L



■ Typical Application Circuit

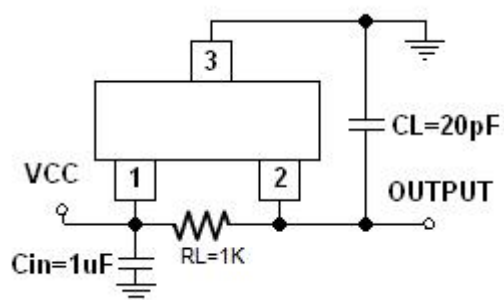
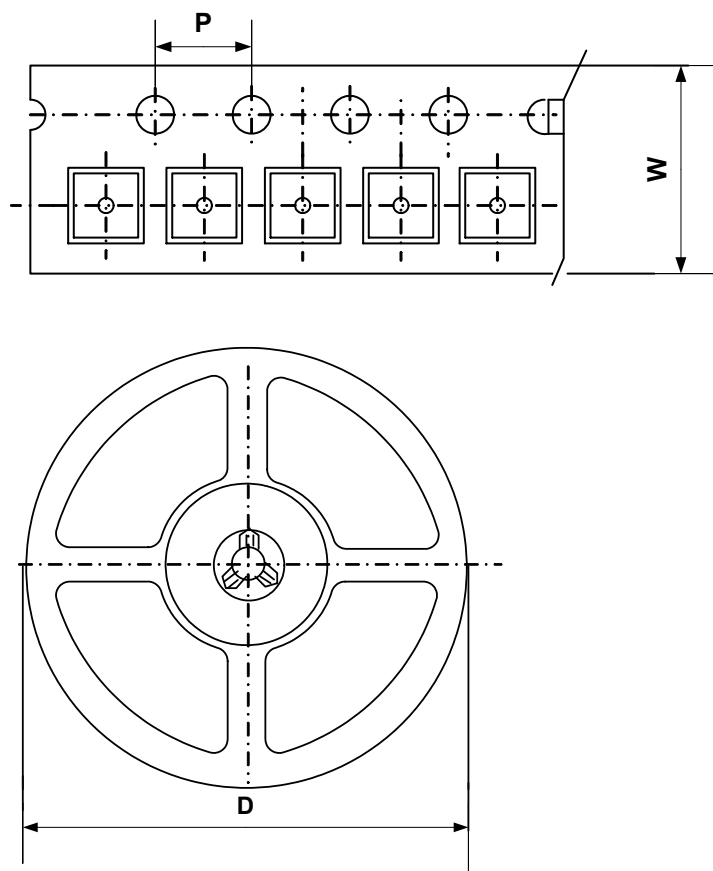


Figure 1, Typical Application Circuit of AS1638

■ 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