

Magnetic Sensor ICs

Latch Detection High Performance Hall-Effect Sensor IC



AS1603S

● **General Description**

Using BiCMOS process, the AS1603S 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 2.8V to 24V.

AC1603 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 small SSOT23-3L Package and is rated over the -40°C to 150°C. the package is RoHS compliant.

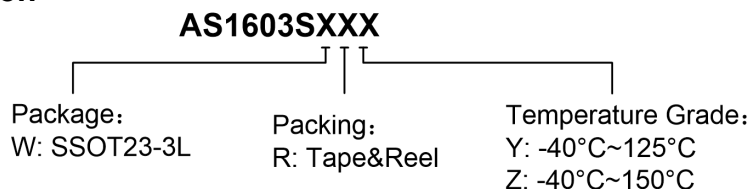
● **Features**

- High Performance BiCMOS Process Tech.
- Input Voltage Range : 2.5V to 24V
- Resistant to physical stress
- Bipolar Latch Operation
- High Sensitivity Hall Sensor
- High Chopping Frequency
- Magnetic Sensitivity (typical)
 $B_{OP}=20\text{Gauss}$, $B_{RP}=-20\text{Gauss}$
- Open Drain Output
- Small Solution Size
- RoHS Compliant
- Small SSOT23-3L Packages
- -40°C to +150 °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

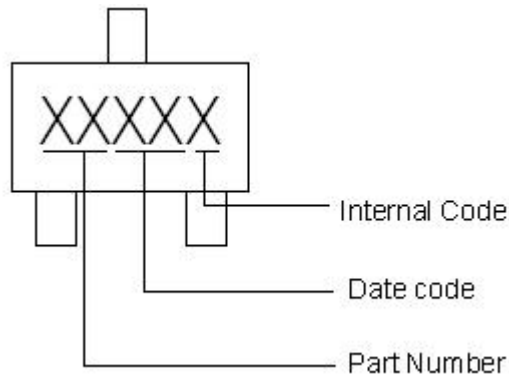
■ **Ordering Information**



Part Number	B_{OP}/B_{RP} (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1603SWRY	±20	SSOT23-3L	7-in reel 3000pcs/reel	-40~125°C	RoHS
AS1603SWRZ	±20	SSOT23-3L	7-in reel 3000pcs/reel	-40~150°C	RoHS

■ **Marking Information**

SSOT23-3L



■ **Typical Application Circuit**

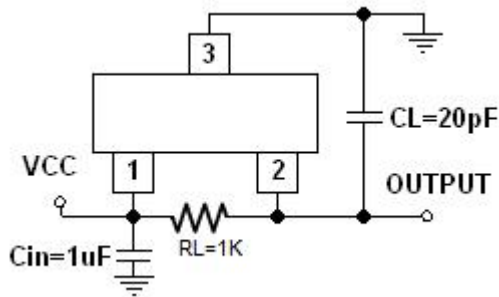


Figure 1, Typical Application Circuit of AS1603S

■ **Pin Configuration**

SSOT23-3L (Top View)

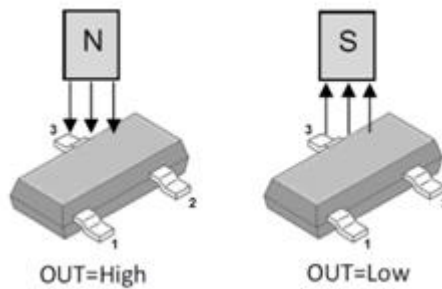
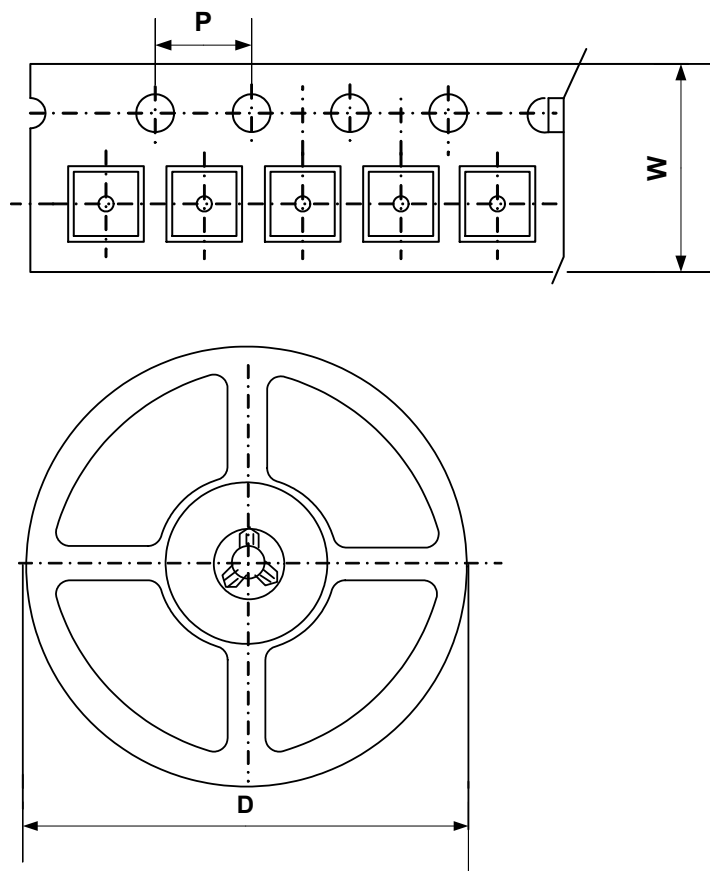


Figure 2, Pin Assignments of AS1603S

Pin Name	Pin No.	I/O	Pin Function
	SSOT23-3L		
VCC	1	P	Input Power Supply
GND	3	P	Ground
OUTPUT	2	O	Open Collector Output

■ Packing Information

SSOT23-3L



Package Type	Carrier Width (W)	Pitch (P)	Reel Size(D)	Packing Minimum
SSOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum