

Magnetic Sensor ICs
**Omnipolar Detection High Performance
Hall-Effect Sensor ICs**

AS1153
● General Description

Using BCD process, the AS1153 is designed for high performance Omnipolar 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 pull-up resistance, and a Schmitt trigger to provide switching hysteresis for noise rejection, and a voltage regulator for operation with supply voltage of 2.7V to 40V.

AS1153 is designed to respond to alternating North and South poles. When the magnetic flux density (B) is larger than operate point (B_{OP}), the output will be turned on (High), the output is held until the magnetic flux density (B) is lower than release point (B_{RP}), then turn off (low).

The device is available in SOT23-3L Package and is rated over the -40°C to 125°C . The all packages are RoHS and Green compliant.

● Features

- X and Z-axis Magnetic Flux Omnipolar Switch
- Omnipolar Operation, easy to use as output
- Input Voltage Range : 2.7V to 40V
- Very high sensitivity hall sensor
- Chopper stabilization amplifier stage
- High Magnetic Sensitivity
 - ✓ X-axis: $B_{OP} = \pm 60\text{Gauss}$, $B_{RP} = \pm 40\text{Gauss}$
 - ✓ Z-axis: $B_{OP} = \pm 30\text{Gauss}$, $B_{RP} = \pm 20\text{Gauss}$
- Good RF noise immunity
- PNP Open-Collector Output
- Small Solution Size
- RoHS & Green Compliant
- SOT23-3L Package
- -40°C to $+125^{\circ}\text{C}$ Temperature Range

● Applications

- Smart Meter
- Replace the Reed Switch
- Contact-less switch
- Air Cylinder, Antitheft window, Digital door lock
- Water Purifier, Humidifier Bidet
- Water Meter, Gas Meter, Wattmeter etc
- Washing Machine, Rice Cooker, Refrigerator, Electronic Dictionary, Digital Camera etc

■ Ordering Information
AS1153XXX

Package:
ST: SOT23-3L

Packing:
R: Tape&Reel
B: Bulk

Temperature Grade:
N: $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$
Y: $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$

Part Number		$B_{OP}(\text{Gauss})$	$B_{RP}(\text{Gauss})$	Package Type	Package Qty	Temperature	Eco Plan
AS1153STRN	X	± 60	± 40	SOT23-3L	7-in reel 3000pcs/reel	$-40 \sim 85^{\circ}\text{C}$	Green
	Z	± 30	± 20				
AS1153STRY	X	± 60	± 40	SOT23-3L	7-in reel 3000pcs/reel	$-40 \sim 125^{\circ}\text{C}$	Green
	Z	± 30	± 20				

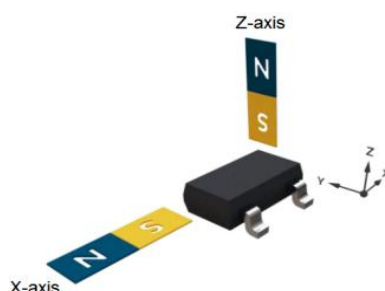
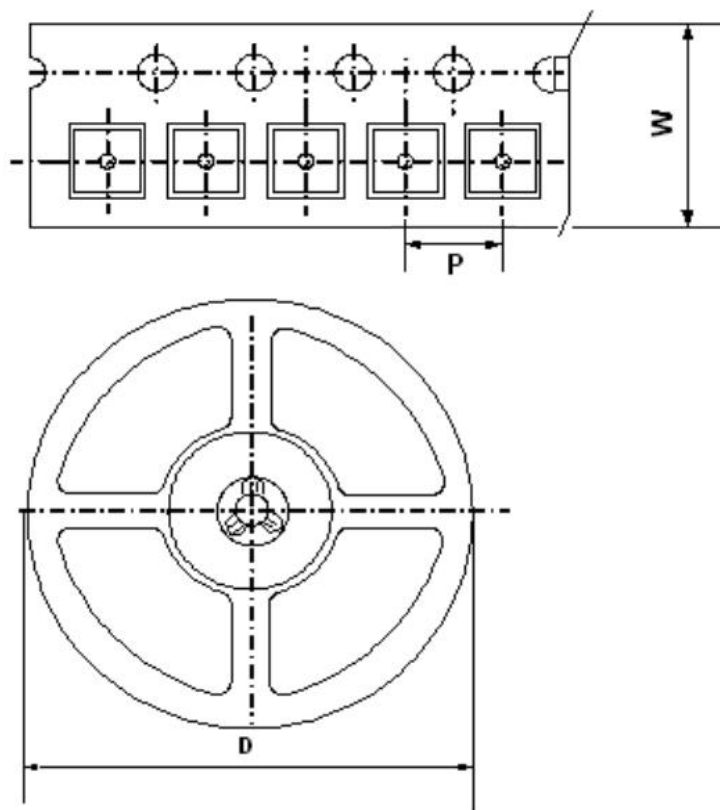


Fig 1, 3D (X/Z-Axis) Magnetic Operation of AS1153

■ 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