

## Magnetic Sensor ICs

# Omnipolar Detection High Performance Hall-Effect Sensor IC



### ● General Description

Using low power CMOS process, the AS1803OD is designed for high performance omnipolar detection hall-effect application, such as cover switch, contactless switch, solid state switch and lid close sensor etc battery operation. The hall IC integrated an on-chip hall voltage generator for magnetic sensing, a comparator that amplifiers the hall voltage, a Chopper amplifier, a Schmitt trigger to provide switching hysteresis for noise rejection, and a complementary output.

AS1803OD is designed to respond to alternating North and South poles. When 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 and SIP-3L package and is rated over the -40°C to 125°C. The all packages are RoHS and Green compliant.

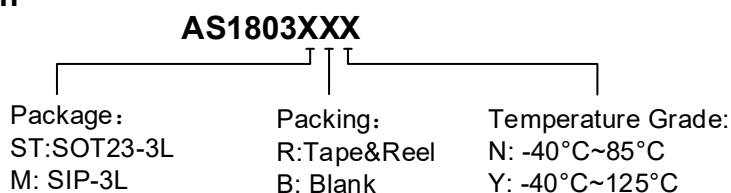
### ● Features

- Input Voltage Range : 2.2V to 5.0V
- Operation Frequency: 20kHz(min)
- Omnipolar Operation, easy to use as output
- Very high sensitivity hall sensor
- Low Power CMOS process technology
- Chopper stabilization amplifier stage
- Magnetic Sensitivity (typical)
- B<sub>OP</sub>= ±18Gauss, B<sub>RP</sub>= ±10Gauss
- Good RF noise immunity
- Open Drain Output
- Small Solution Size
- RoHS & Green Compliant
- SOT23-3L and SIP-3L Packages
- -40°C to +125 °C Temperature Range

### ● Applications

- Cover switch in clam-shell cellular phones
- Cover switch in Notebook, PC/PAD
- Contact-less switch in consumer products
- Solid State Switch
- Handheld Wireless Handset Awake Switch
- Lid close sensor for battery-powered device
- Magnet proximity sensor for reed switch replacement in low duty cycle applications
- DV, DSC, and White Goods

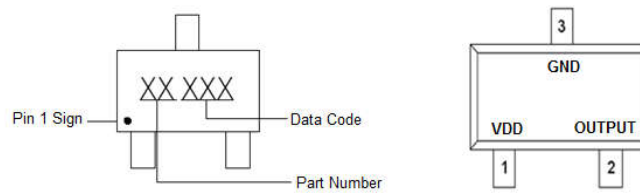
### ■ Ordering Information



Part Number	B <sub>OP</sub> (Gauss)	B <sub>RP</sub> (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1803ODSTRN	±18Gauss	±10Gauss	SOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1803ODMBN	±18Gauss	±10Gauss	SIP-3L	1000pcs/Package	-40~85°C	Rohs
AS1803ODSTRY	±18Gauss	±10Gauss	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1803ODMBY	±18Gauss	±10Gauss	SIP-3L	1000pcs/Package	-40~125°C	Rohs

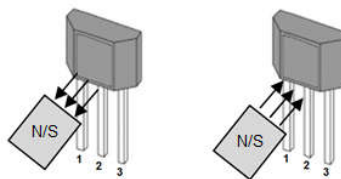
■ **Marking & Pin Assignment**

**SOT23-3L**



Pin Name	Pin No.	I/O	Pin Function
	SOT23-3L		
VDD	1	P	Input Power Supply
GND	3	P	Ground
OUTPUT	2	O	Output Pin

**SIP-3L**



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

■ **Typical Application Circuit**

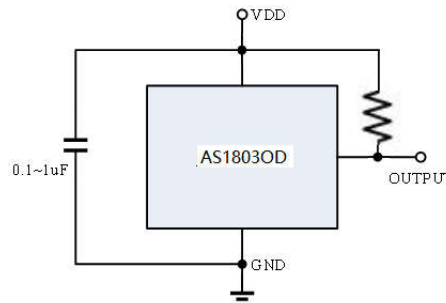


Figure 1, Typical Application Circuit of AS1803OD

■ **Block Diagram**

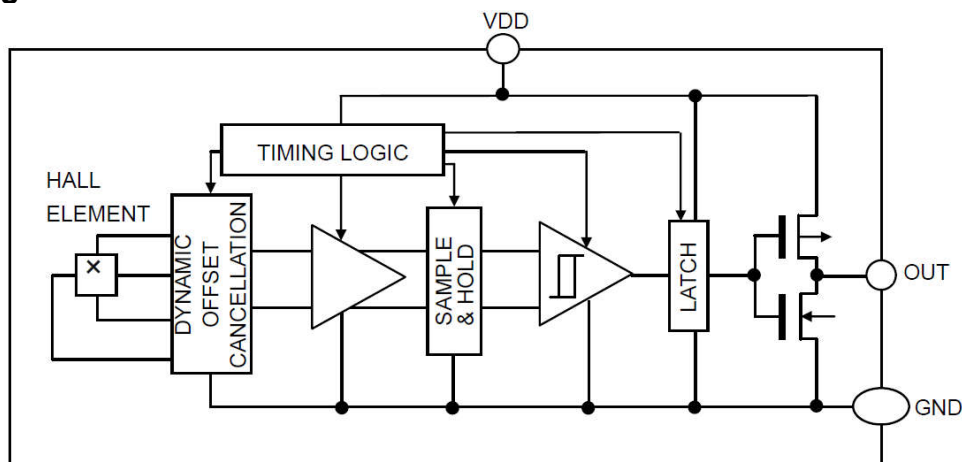
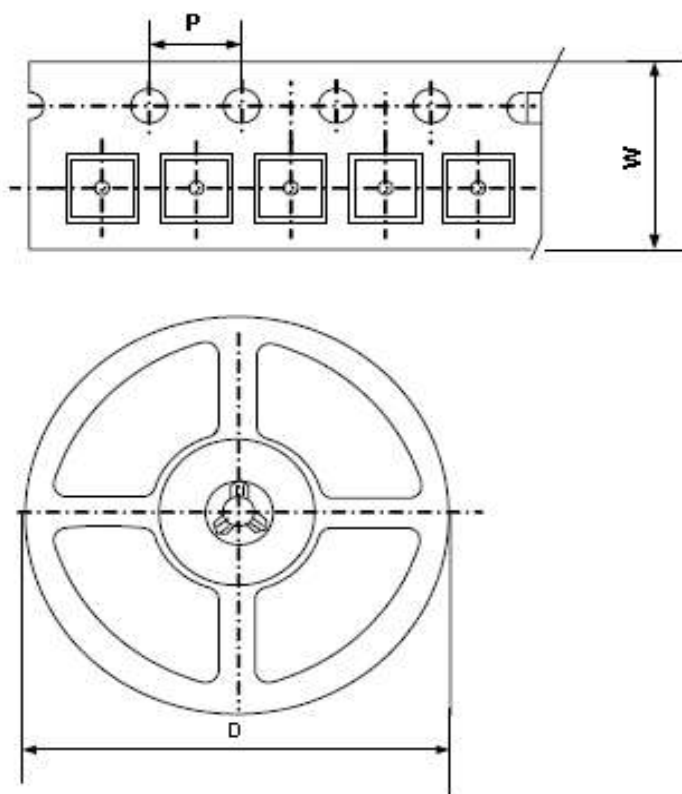


Figure 3, Block Diagram of AS1803OD

■ Packing Information



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