

## Magnetic Sensor ICs

# Omnipolar Detection High Performance Low Power Hall-Effect Sensor IC



## AS1800D

### ● General Description

Using low power CMOS process, the AS1800 is designed for low power, 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.

The total power consumption of AS1800 is typically less than 2.5uA at 2.8V power supply. AS1800 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 (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 TSOT23-3L&SIP-3L Package is rated over the -40°C to 85°C.

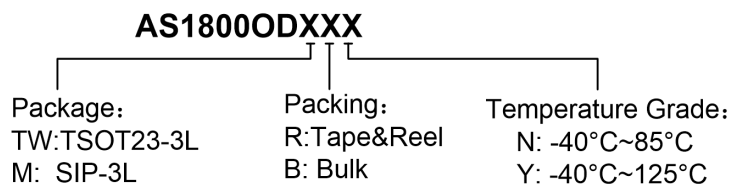
### ● Features

- Input Voltage Range: 1.65V to 5.5V
- Micro-power consumption ideal for battery power applications
- Omnipolar Operation, easy to use as output
- Sensitivity hall sensor
- Low Power CMOS process technology
- Chopper stabilization amplifier stage
- Magnetic Sensitivity (typical)  
 $B_{OP} = \pm 30\text{Gauss}$ ,  $B_{RP} = \pm 20\text{Gauss}$
- Good RF noise immunity
- RoHS & Green Compliant
- TSOT23-3L & SIP-3L Packages
- -40°C to +85 °C Temperature Range

### ● Applications

- Smart Meter
- Cover switch
- Contact-less switch

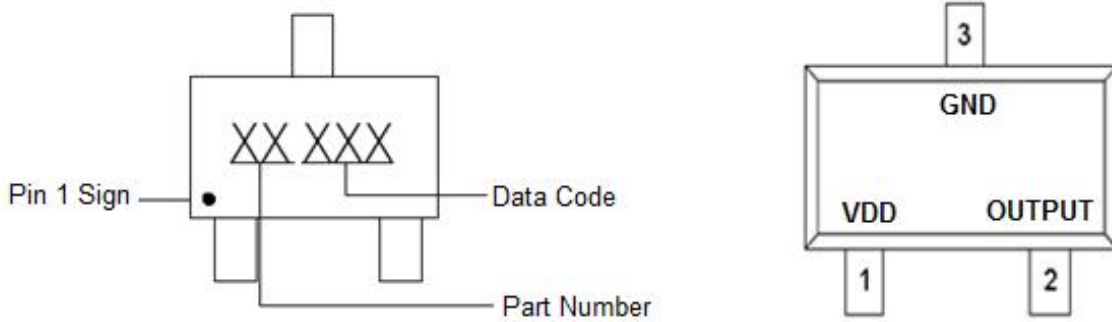
### ■ Ordering Information



Part Number	$B_{OP}$ (Gauss)	$B_{RP}$ Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1800ODTWRN	$\pm 30\text{Gauss}$	$\pm 20\text{Gauss}$	TSOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1800ODMBN	$\pm 30\text{Gauss}$	$\pm 20\text{Gauss}$	SIP-3L	1K/Package	-40~85°C	RoHS
AS1800ODTWRY	$\pm 30\text{Gauss}$	$\pm 20\text{Gauss}$	TSOT23-3L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1800ODMBY	$\pm 30\text{Gauss}$	$\pm 20\text{Gauss}$	SIP-3L	1K/Package	-40~125°C	RoHS

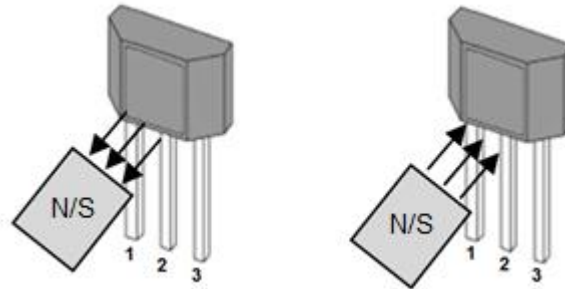
■ **Marking & Pin Assignment**

**TSOT23-3L**



Pin Name	Pin No.	I/O	Pin Function
	TSOT23-3L		
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		
VDD	1	P	Input Power Supply
GND	2	P	Ground
OUTPUT	3	O	Output Pin.

■ **Typical Application Circuit**

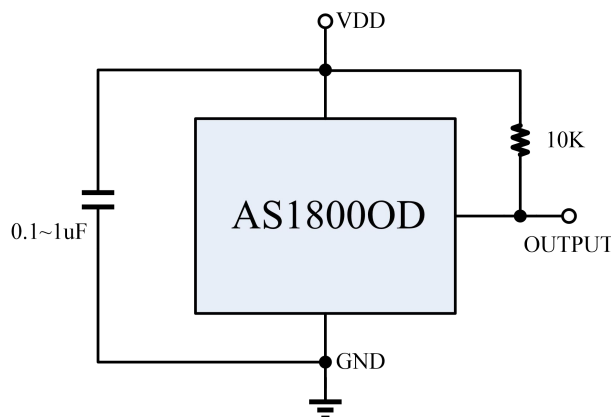
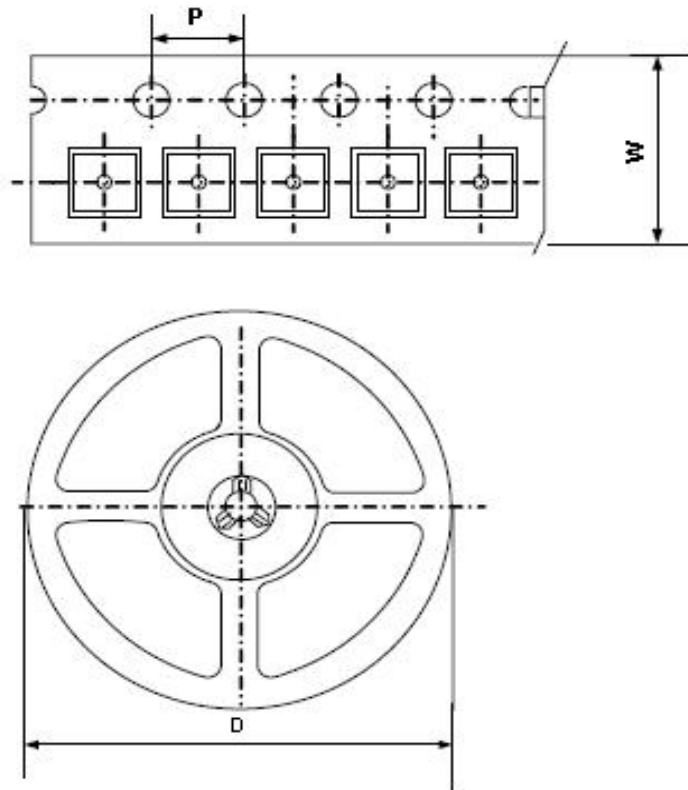


Figure 1, Typical Application Circuit of AS1800OD

■ Packing Information

TSOT23-3L:



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum
TSOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

SIP-3L:

1. Packingtype: Bulk
2. Packing minimum: 1000pcs