

Magnetic Sensor ICs

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



### AS1890A

#### ● General Description

Using low power CMOS process, the AS1890A 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 AS1890A is typically less than 2.0uA at 2.8V power supply. AS1890A 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, DFN1216-4L and SIP-3L Package and is rated over the -40°C to 125°C. The all packages are RoHS and Green compliant.

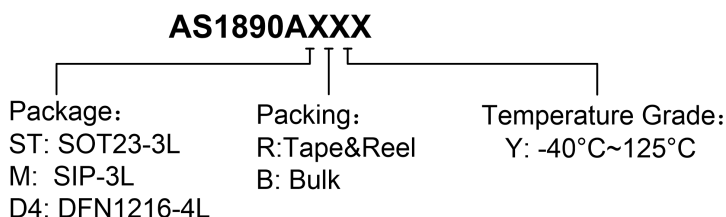
#### ● Features

- Input Voltage Range : 2.4V to 5.0V
- Micro-power consumption ideal for battery power applications
- 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
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- SOT23-3L, DFN1216-4L & SIP-3L Packages
- -40°C to +125 °C Temperature Range

#### ● Applications

- Smart Meter
- Cover switch
- Contact-less switch

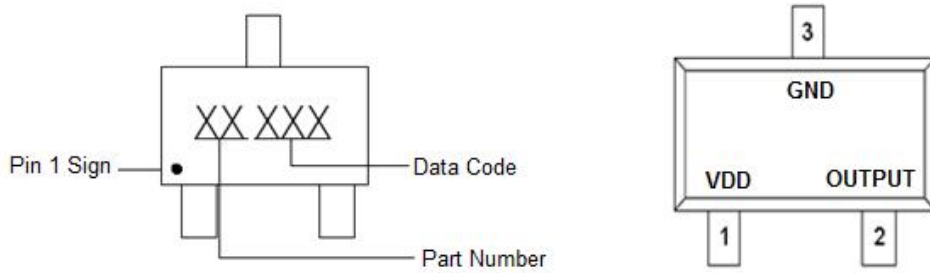
#### ■ Ordering Information



Part Number	B <sub>OP</sub> (Gauss)	B <sub>RP</sub> Gauss	Package Type	Package Qty	Temperature	Eco Plan
AS1890ASTRY	±18Gauss	±10Gauss	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1890AMBY	±18Gauss	±10Gauss	SIP-3L	1K/Package	-40~125°C	RoHS
AS1890AD4RY	±18Gauss	±10Gauss	DFN1216-4L	7-in reel 3000pcs/reel	-40~125°C	Green

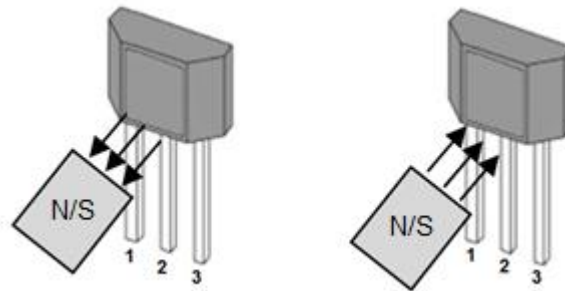
■ **Marking & Pin Assignment**

**SOT23-3L**



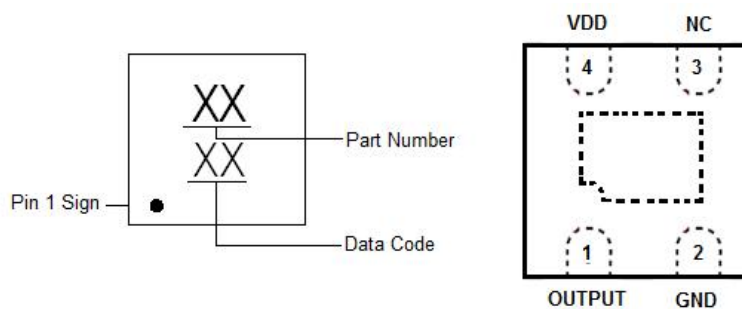
Pin Name	Pin No.	I/O	Pin Function
	SOT23-3L		
VDD	1	P	Input Power Supply
GND	3	P	Ground
OUTPUT	2	O	Output Pin

**SIP-3L**



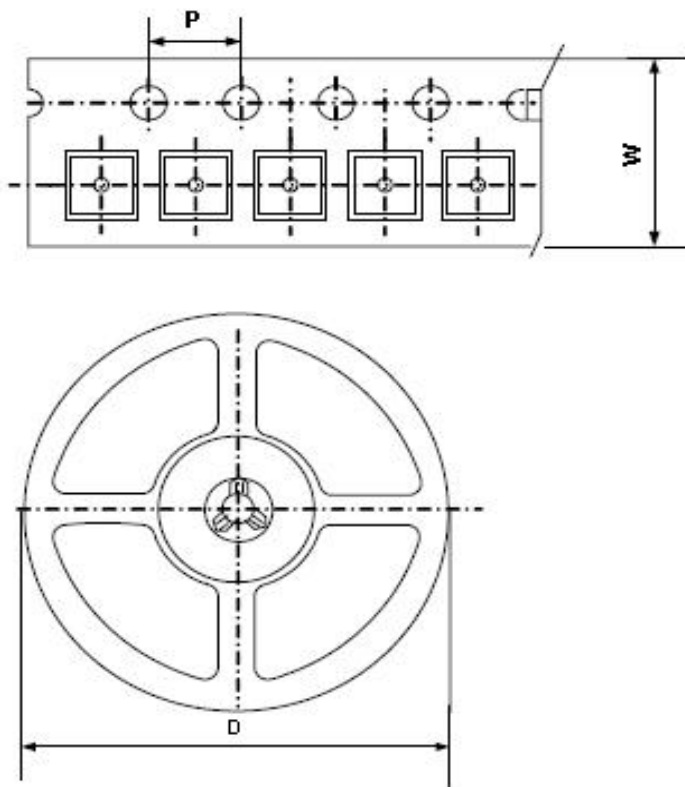
Pin Name	Pin No.	I/O	Pin Function
	SIP-3L		
VCC	1	P	Input Power Supply
GND	2	P	Ground
OUTPUT	3	O	Output Pin.

**DFN1216-4L**



Pin Name	Pin No.	I/O	Pin Function
	DFN1216-4L		
VDD	4	P	Input Power Supply
GND	2	P	Ground
NC	3	-	Not Connected
OUTPUT	1	O	Output Pin

■ **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
DFN1216-4L	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