

Magnetic Sensor IC

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



### AS1801A

#### ● General Description

Using low power CMOS process, the AS1801A 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 AS1801A is typically less than 2.5uA at 2.8V power supply. AS1801A 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 DFN1216-4L, SOT553, TSOT23-3L and SIP-3L Package and is rated over the -40°C to 85°C. The all packages are RoHS and Green compliant

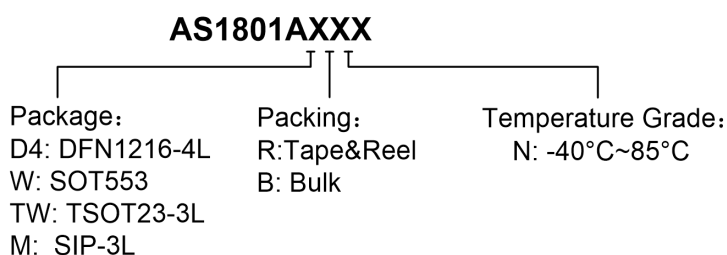
#### ● Features

- Input Voltage Range : 2.2V 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
- DFN1216-4L, SOT553, TSOT23-3L & SIP-3L Packages
- -40°C to +85 °C Temperature Range

#### ● Applications

- Smart Meter
- Cover switch
- Contact-less switch

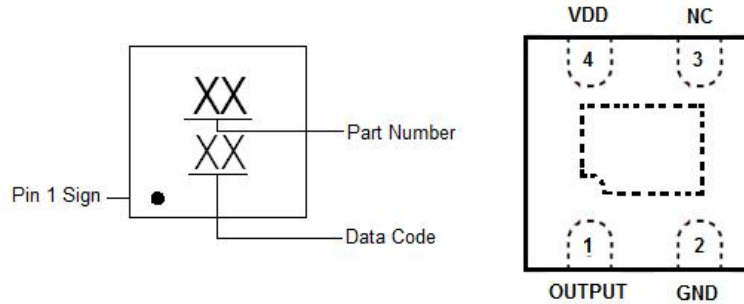
#### ■ Ordering Information



Part Number	B <sub>OP</sub> (Gauss)	B <sub>RP</sub> Gauss)	Package Type	Package Qty	Temperature	Eco Plan	Lead
AS1801AD4RN	±18Gauss	±10Gauss	DFN1216-4L	7-in reel 3000pcs/reel	-40~85°C	Green	Cu
AS1801AWRN	±18Gauss	±10Gauss	SOT553	7-in reel 3000pcs/reel	-40~85°C	Green	Cu
AS1801ATWRN	±18Gauss	±10Gauss	TSOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green	Cu
AS1801AMBN	±18Gauss	±10Gauss	SIP-3L	1K/Package	-40~85°C	RoHS	Cu

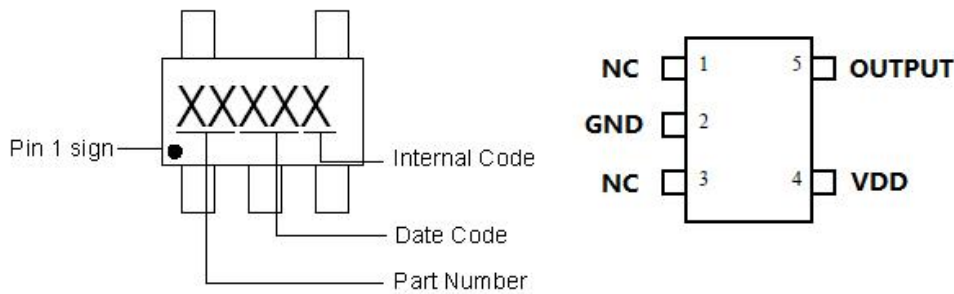
■ **Marking & Pin Assignment**

**DFN1216-4L**



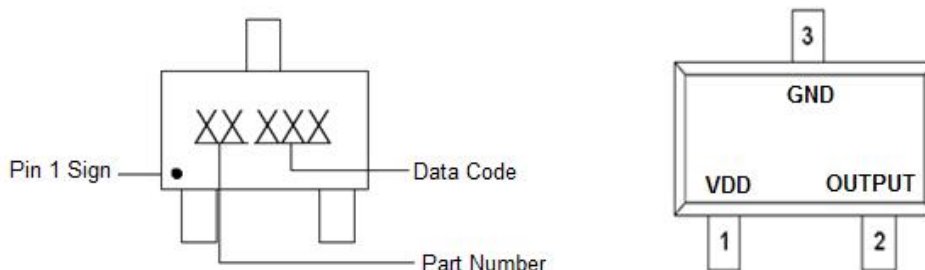
Pin Name	Pin No.	I/O	Pin Function
	DFN1216-4L		
VDD	4	P	Input Power Supply
GND	2	P	Ground
NC	3	-	Not Connected
OUTPUT	1	O	Output Pin

**SOT553**



Pin Name	Pin No.	I/O	Pin Function
	SOT553		
VDD	4	P	Input Power Supply
GND	2	P	Ground
OUTPUT	5	O	Output Pin
NC	1,3	-	Not Connected

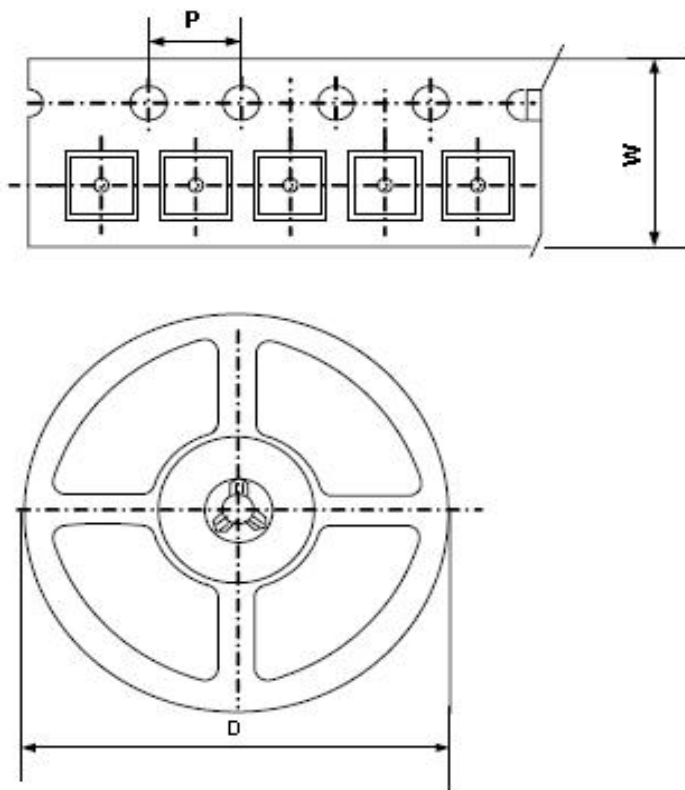
**TSOT23-3L**



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

■ **Packing Information**

DFN1216-4L/SOT553/SOT23-3L:



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum
DFN1216-4L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
SOT553	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
TSOT23-3L	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