

Magnetic Sensor IC

Omnipolar Detection High Performance Low Power Hall-Effect Sensor IC



AS1801

● General Description

Using low power CMOS process, the AS1801 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 AS1801 is typically less than 1.0uA at 1.8V power supply. AS1801 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 SOT23-3L, SOT553, DFN1216-4L and SIP-3L Package and is rated over the -40°C to 150°C. The all packages are RoHS and Green compliant.

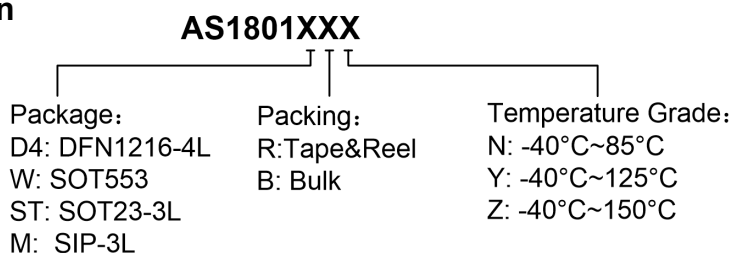
● Features

- Input Voltage Range : 1.65V to 5.5V
- 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)
 $B_{OP} = \pm 40\text{Gauss}$, $B_{RP} = \pm 23\text{Gauss}$
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- SOT23-3L, SOT553, DFN1216-4L & SIP-3L Packages
- -40°C to +150 °C Temperature Range

● Applications

- Smart Meter
- Cover switch
- Contact-less switch

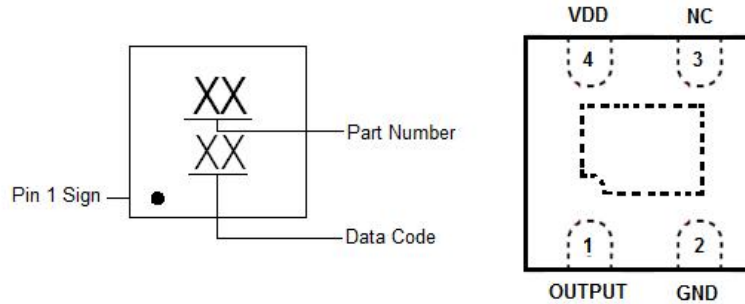
■ Ordering Information



Part Number	B_{OP} (Gauss)	B_{RP} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1801D4RN	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	DFN1216-4L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1801WRN	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SOT553	7-in reel 3000pcs/reel	-40~85°C	Green
AS1801STRN	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1801MBN	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SIP-3L	1000pcs/Package	-40~85°C	RoHS
AS1801D4RY	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	DFN1216-4L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1801WRY	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SOT553	7-in reel 3000pcs/reel	-40~125°C	Green
AS1801STRY	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1801MBY	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SIP-3L	1000pcs/Package	-40~125°C	RoHS
AS1801D4RZ	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	DFN1216-4L	7-in reel 3000pcs/reel	-40~150°C	Green
AS1801WRZ	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SOT553	7-in reel 3000pcs/reel	-40~150°C	Green
AS1801STRZ	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SOT23-3L	7-in reel 3000pcs/reel	-40~150°C	Green
AS1801MBZ	$\pm 40\text{Gauss}$	$\pm 23\text{Gauss}$	SIP-3L	1000pcs/Package	-40~150°C	RoHS

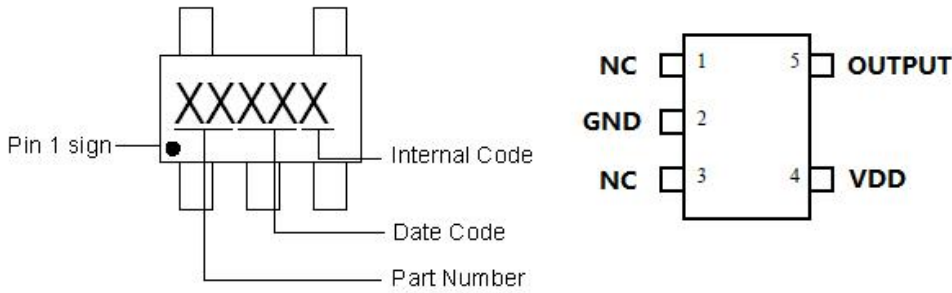
■ **Marking & Pin Assignment**

DFN1216-4L



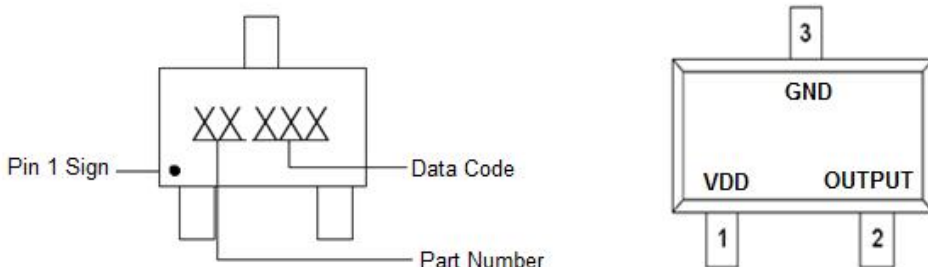
Pin Name	Pin No.	I/O	Pin Function
	DFN1216-4L		
VDD	4	P	Input Power Supply
GND	2	P	Ground
NC	3	-	Not Connected
OUTPUT	1	O	Output Pin

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

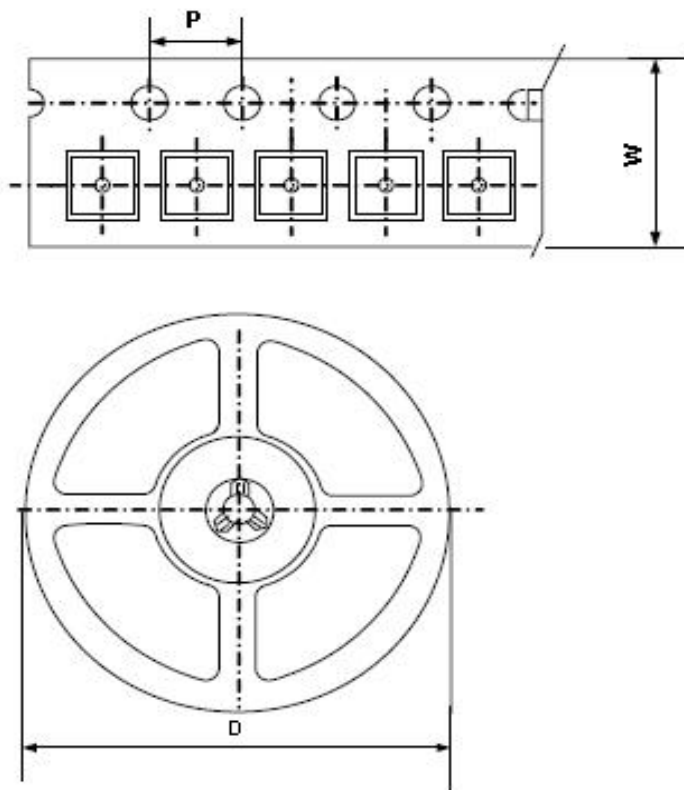
SOT23-3L



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

■ **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
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