

Magnetic Sensor IC

Omnipolar Detection High Performance Low Power Hall-Effect Sensor IC

**AS1800**

● 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 amplifies 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 1.8uA at 1.8V 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 DFN1216-4L, SOT553, and TSOT23-3L Package and is rated over the -40°C to 85°C . The all packages are RoHS and Green compliant.

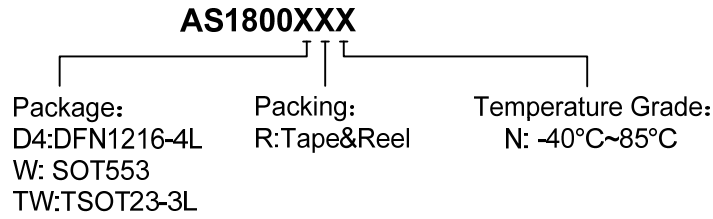
● Features

- 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)
 $B_{OP} = \pm 30\text{Gauss}$, $B_{RP} = \pm 20\text{Gauss}$
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- DFN1216-4L, SOT553 & TSOT23-3L Packages
- -40°C to $+85^{\circ}\text{C}$ 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

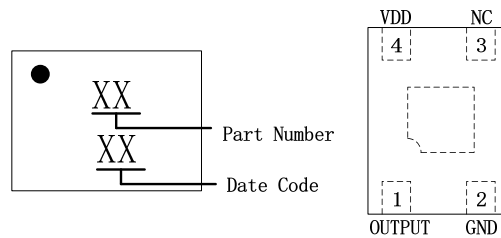
■ **Ordering Information**



Part Number	B _{OP} (Gauss)	B _{RP} Gauss)	Package Type	Package Qty	Temperature	Eco Plan	Lead
AS1800D4RN	±30Gauss	±20Gauss	DFN1216-4L	7-in reel 3000pcs/reel	-40~85°C	Green	Cu
AS1800WRN	±30Gauss	±20Gauss	SOT553	7-in reel 3000pcs/reel	-40~85°C	Green	Cu
AS1800TWRN	±30Gauss	±20Gauss	TSOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green	Cu

■ **Marking & Pin Assignment**

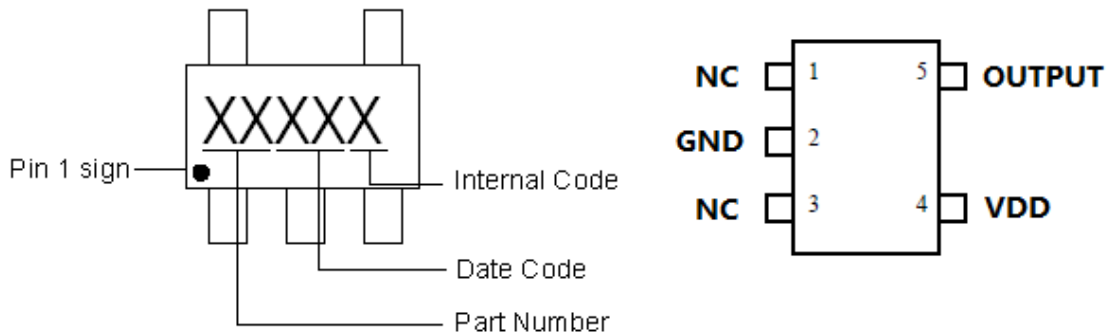
DFN1216-4L



Top View

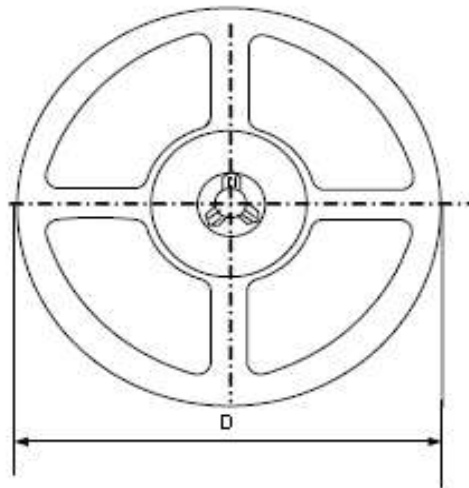
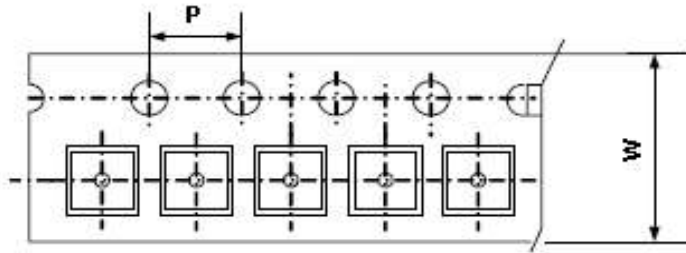
Pin Name	Pin No.	I/O	Pin Function
	DFN1216-4L		
VDD	4	P	Input Power Supply
GND	2	P	Ground
NC	3	-	Not Connected
OUTPUT	1	O	Output Pin

SOT553

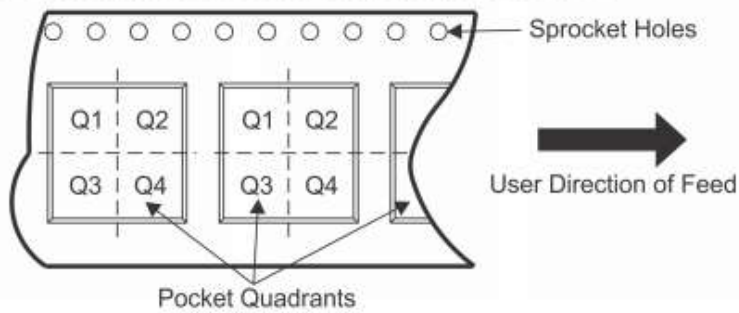


Pin Name	Pin No.	I/O	Pin Function
	SOT553		
VDD	4	P	Input Power Supply
GND	2	P	Ground
OUTPUT	5	O	Output Pin
NC	1,3	-	Not Connected

■ Packing Information



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



Device	Package Type	SPQ	Carrier Width (W)	Pitch(P)	Reel Size(D)	Pin1 Quadrant
AS1800D4RN	DFN1216-4L	3000pcs	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	Q2
AS1800WRN	SOT553	3000pcs	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	Q3
AS1800TWRN	TSOT23-3L	3000pcs	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	Q3

*All dimensions are nominal