

Magnetic Sensor IC

South Unipolar Detection High Performance Low Power Hall-Effect Sensor IC



AS1912

● General Description

Using low power CMOS process, the AS1912 is designed for low power, high performance unipolar 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 AS1912 is typically less than 3.0uA at 3.8V power supply. AS1912 is designed to respond to alternating South pole. When the magnetic flux density (B) is larger than operate point (B_{OPS}), the output will be turned on (low), the output is held until the magnetic flux density (B) is lower than release point (B_{RPS}), then turn off (high).

The device is available in DFN1010-4L Package and is rated over the -40°C to 85°C. The package is RoHS and Green compliant.

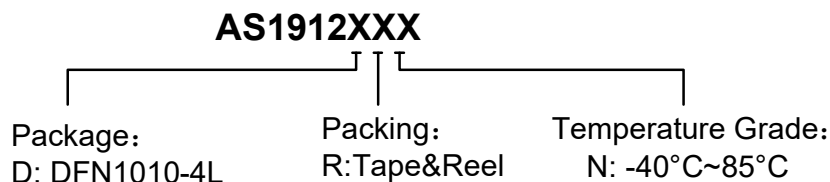
● Features

- Input Voltage Range : 2.2V to 5.5V
- Micro-power consumption ideal for battery power applications
- Unipolar Operation, easy to use as output
- Very high sensitivity hall sensor
- Low Power CMOS process technology
- Chopper stabilization amplifier stage
- Magnetic Sensitivity (typical)
 $B_{OPS}=30\text{Gauss}$, $B_{RPS}=20\text{Gauss}$
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- DFN1010-4L Package
- -40°C to +85 °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 devise
- Magnet proximity sensor for reed switch replacement in low duty cycle applications
- DV, DSC, and White Goods

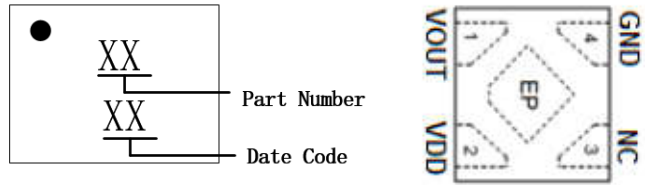
■ Ordering Information



Part Number	B_{OPS} (Gauss)	B_{RPS} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1912DRN	30	20	DFN1010-4L	7-in reel 10000pcs/reel	-40~85°C	Green

■ **Marking & Pin Assignment**

DFN1010-4L



Pin Name	Pin No.	I/O	Pin Function
	DFN1010-4L		
VDD	2	P	Input Power Supply
GND	4	P	Ground
NC	3	-	Not Connected
VOUT	1	O	Output Pin
	EP	-	Not Connected

■ **Typical Application Circuit**

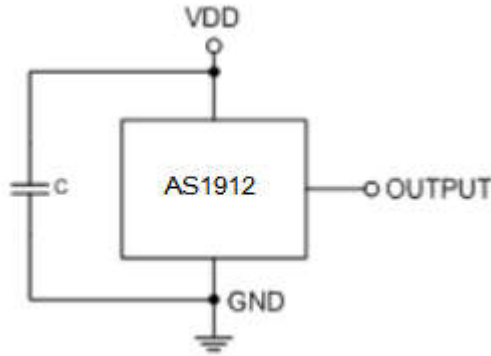


Figure 1, Typical Application Circuit of AS1912

■ **Block Diagram**

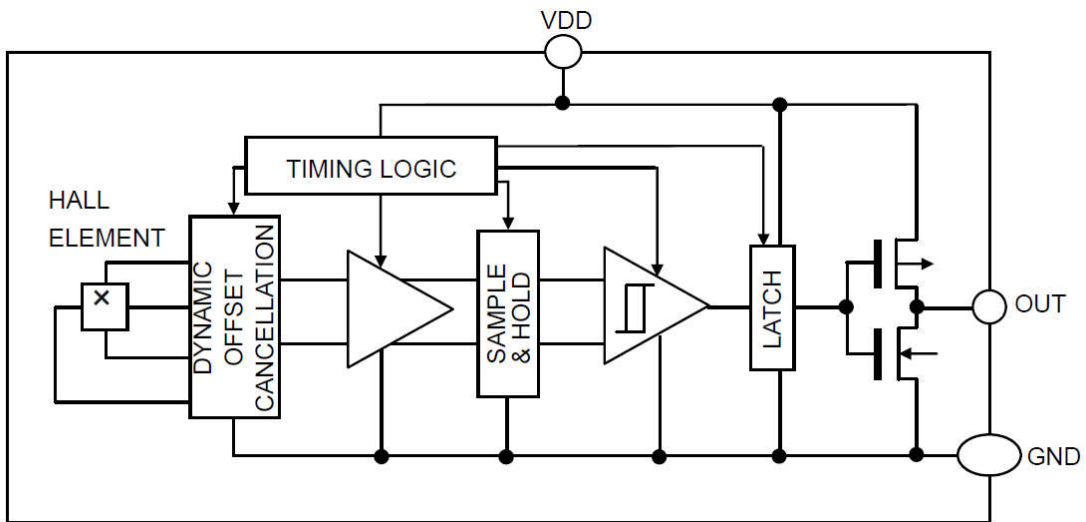
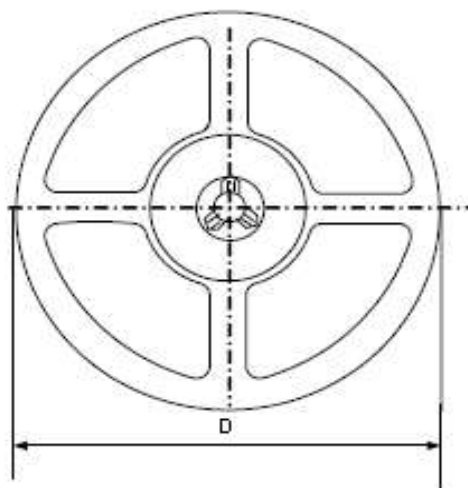
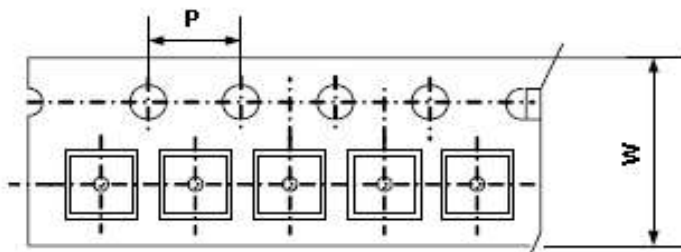
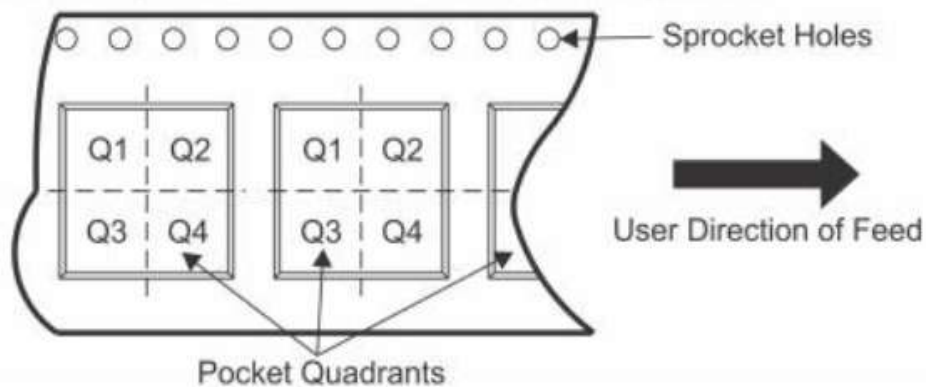


Figure 3, Block Diagram of AS1912

■ Packing Information



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum	Pin 1 Quadrant
DFN1010-4L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	10000pcs	Q1

Note: Carrier Tape Dimension, Reel Size and Packing Minimum