

Magnetic Sensor ICs

Omnipolar Detection High Performance Hall-Effect Sensor IC



● **General Description**

Using CMOS process, the AS1805 is designed for 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.

AS1805 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 SOT23-5L & SOT553 Package and is rated over the -40°C to 125°C. The all packages are RoHS and Green compliant.

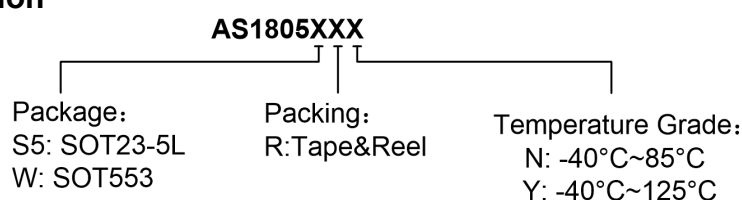
● **Features**

- Input Voltage Range : 2.5V to 5.5V
- Micro-power consumption ideal for battery power applications
- Omnipolar Operation, easy to use as output
- Very high sensitivity hall sensor
- CMOS process technology
- Chopper stabilization amplifier stage
- Magnetic Sensitivity (typical)
B_{OP}= ±35Gauss, B_{RP}= ±32Gauss
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- SOT23-5L & SOT553 Packages
- -40°C to +125 °C Temperature Range

● **Applications**

- Smart Meter
- Cover switch
- Contact-less switch

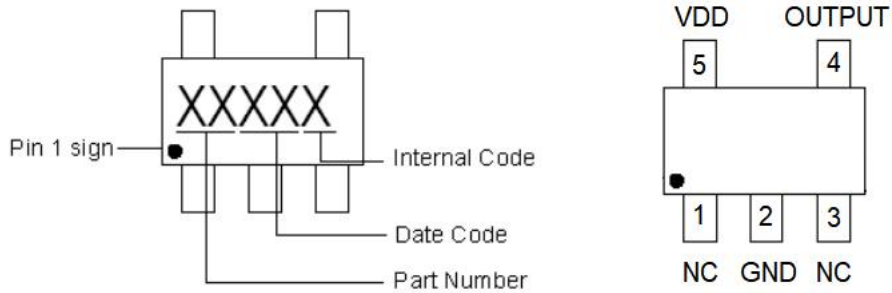
■ **Ordering Information**



Part Number	B _{OP} (Gauss)	B _{RP} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1805S5RN	±35Gauss	±32Gauss	SOT23-5L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1805WRN	±35Gauss	±32Gauss	SOT553	7-in reel 3000pcs/reel	-40~85°C	Green
AS1805S5RY	±35Gauss	±32Gauss	SOT23-5L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1805WRY	±35Gauss	±32Gauss	SOT553	7-in reel 3000pcs/reel	-40~125°C	Green

■ **Marking & Pin Assignment**

SOT23-5L / SOT553:



Pin Name	Pin No.	I/O	Pin Function
	SOT23-5L/SOT553		
NC	1	-	Not Connected
GND	2	P	Ground
NC	3	-	Not Connected
OUTPUT	4	O	Output Pin
VDD	5	P	Input Power Supply

■ **Typical Application Circuit**

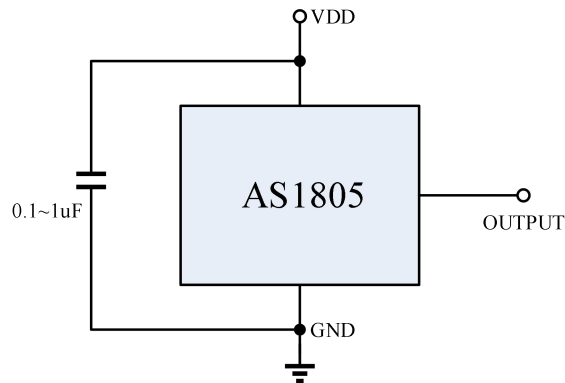


Figure 1, Typical Application Circuit of AS1805

■ **Block Diagram**

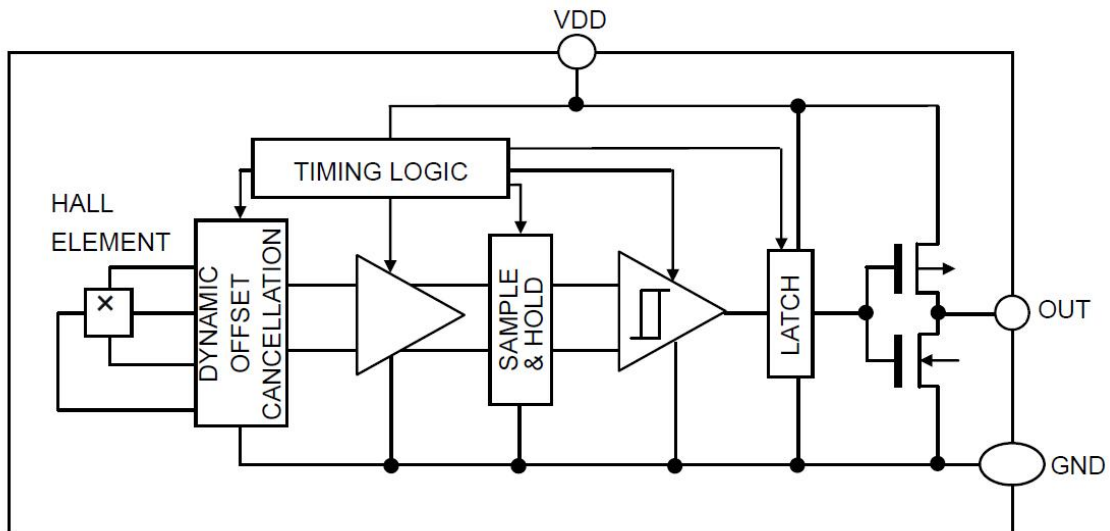
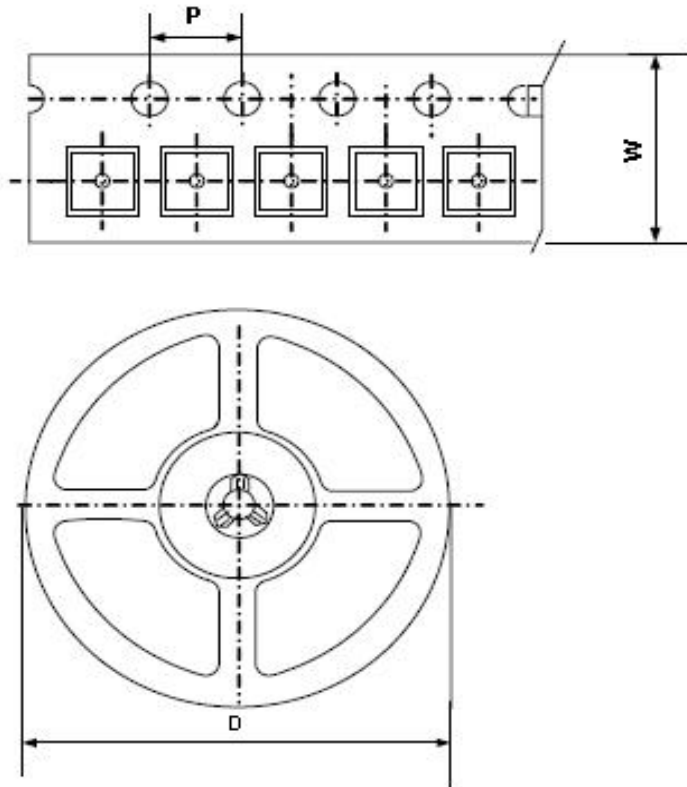


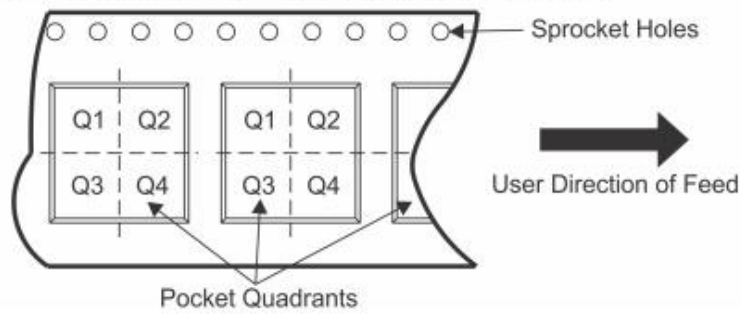
Figure 3, Block Diagram of AS1805

■ Packing Information

SOT553/SOT23-5L:



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



Device	Package Type	SPQ	Carrier Width (W)	Pitch(P)	Reel Size(D)	Pin1 Quadrant
AS1805WRN(Y)	SOT553	3000pcs	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	Q3
AS1805S5RN(Y)	SOT23-5L	3000pcs	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	Q3

Note: Carrier Tape Dimension, Reel Size and Packing Minimum