

Magnetic Sensor ICs

Unipolar South Detection High Performance Hall-Effect Sensor IC



AS1916

● General Description

Using low power CMOS process, the AS1916 is designed for low power, high performance unipolar detection hall-effect application, such as home appliance, industrial, electric tools, brushless DC motor etc, 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 AS1916 is typically less than 2.0mA at 3.6V power supply. AS1916 is designed to respond to alternating 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 small SOT23-3L Package and is rated over the -40°C to 125°C . The all packages are RoHS and Green compliant.

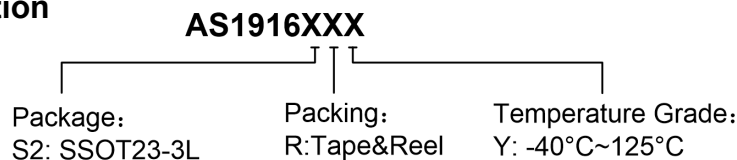
● Features

- Input Voltage Range : 2.2V to 5.5V
- South Unipolar Operation
- Chopper stabilization amplifier stage
- Magnetic Sensitivity (typical)
 $B_{OP}= 29\text{Gauss}$, $B_{RP}= 18\text{Gauss}$
- Good RF noise immunity
- Open-Drain Output Capable of 20mA
- Small Solution Size
- RoHS Compliant
- Small SOT23-3L Packages
- -40°C to $+125^{\circ}\text{C}$ Temperature Range

● Applications

- Home Appliance
- Industrial Valves, Solenoids
- 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
- Brushed DC Motor Feedback
- Docking Detection
- Door Open and Close Detection

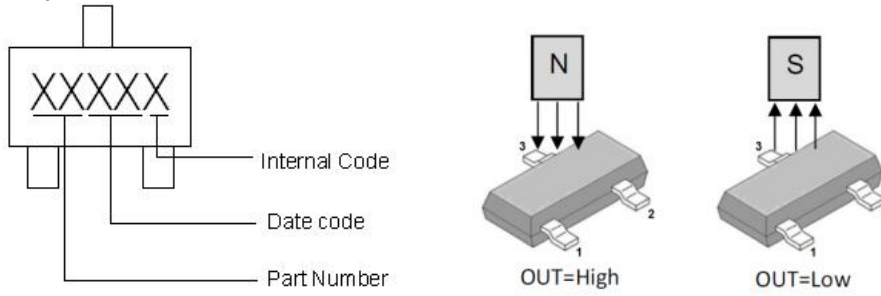
■ Ordering Information



Part Number	B_{OP} (Gauss)	B_{RP} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1916S2RY	+29Gauss	+18Gauss	SSOT23-3L	7-in reel 3000pcs/reel	$-40\sim 125^{\circ}\text{C}$	Green

■ **Marking Information**

SSOT23-3L (Top View):



Pin Name	Pin No.	I/O	Pin Function
	SSOT23-3L		
VDD	1	P	Input Power Supply.
GND	3	P	Ground.
OUT	2	O	Output Pin.

■ **Typical Application Circuit**

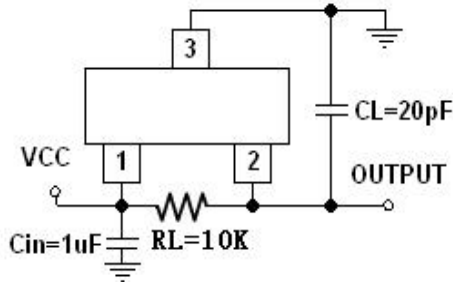


Figure 1, Typical Application Circuit of AS1916

■ **Block Diagram**

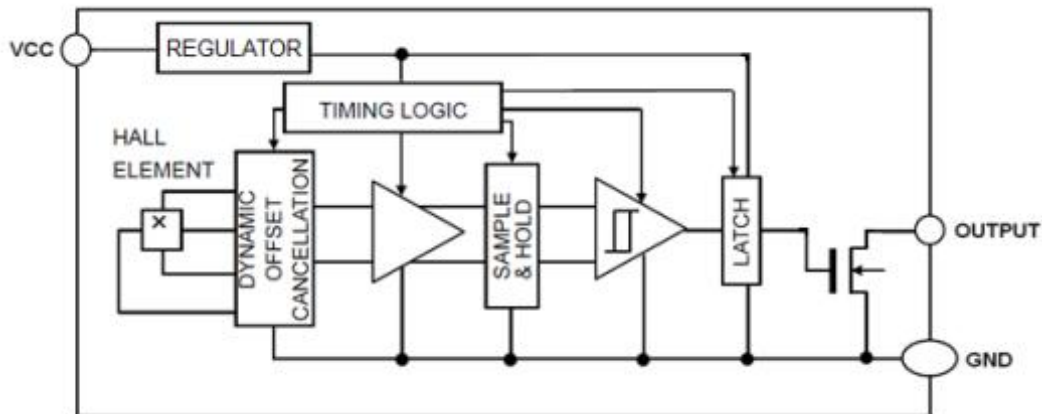
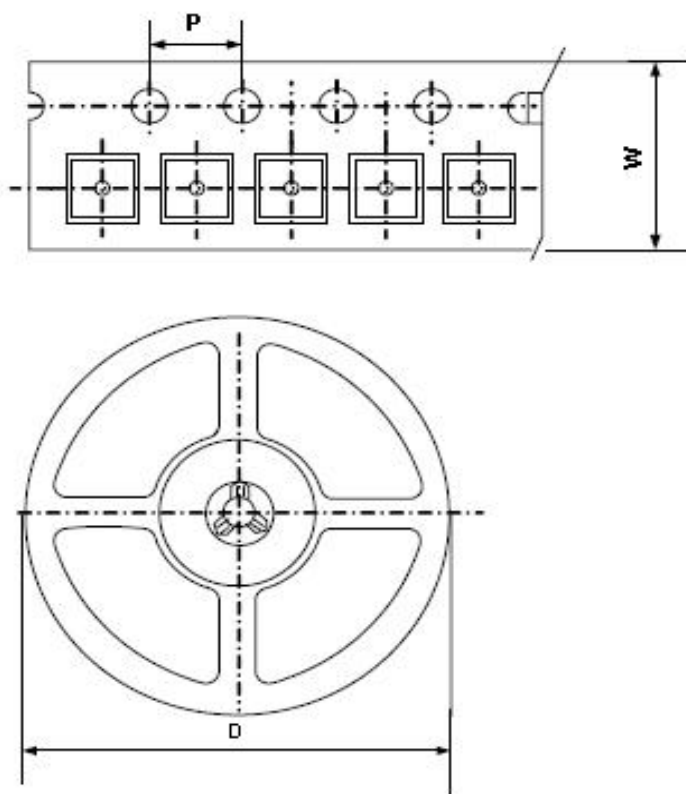


Figure 3, Block Diagram of AS1916

■ Packing Information



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum
SSOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum