

Magnetic Sensor IC

Omnipolar Detection High Performance Low Power Hall-Effect Sensor IC

**AS1801B**

● General Description

Using low power CMOS process, the AS1801B 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 AS1801B is typically less than 1.5uA at 1.8V power supply. AS1801B 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 Package and is rated over the -40°C to 85°C. The all packages are RoHS and Green compliant.

● Features

- Input Voltage Range : 1.60V to 3.65V
- 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)
 $B_{OPS} = \pm 30\text{Gauss}$, $B_{RPS} = \pm 20\text{Gauss}$
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- DFN1216-4L 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

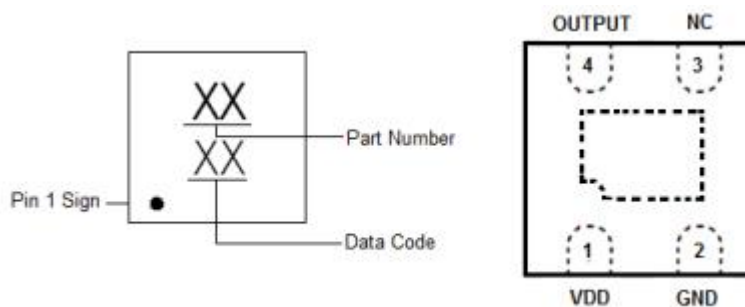
■ **Ordering Information**



Part Number	B _{OPS} (Gauss)	B _{RPS} Gauss)	Package Type	Package Qty	Temperature	Eco Plan	Lead
AS1801BD4RN	± 30	± 20	DFN1216-4L	7-in reel 3000pcs/reel	-40~85°C	Green	Cu

■ **Marking & Pin Assignment**

DFN1216-4L



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

■ **Typical Application Circuit**

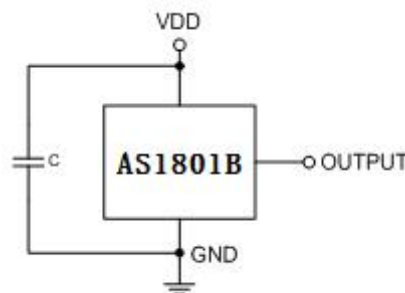
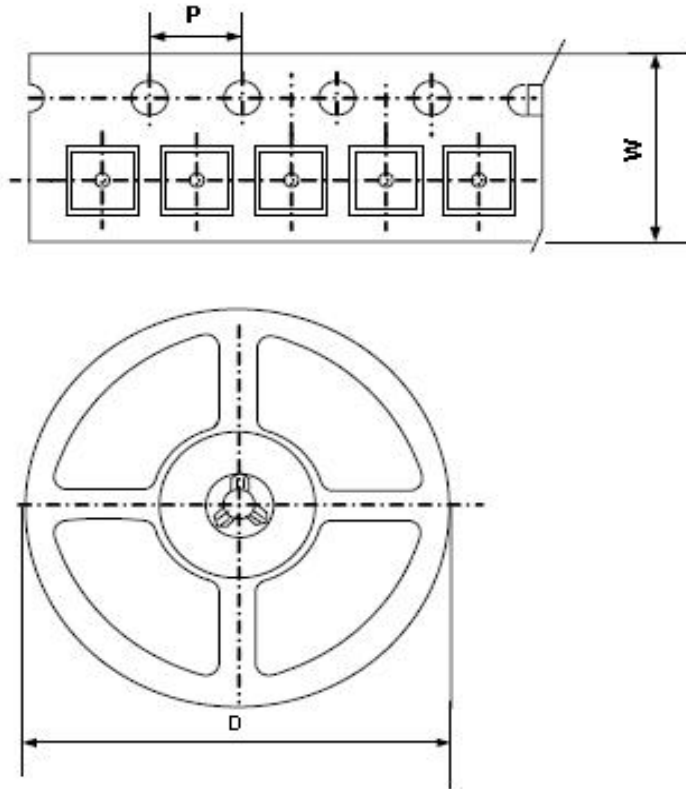


Figure 1, Typical Application Circuit of AS1801B

■ Packing Information



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

Note: Carrier Tape Dimension, Reel Size and Packing Minimum