Magnetic Sensor ICs

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

AS1812B

General Description

Using low power CMOS process, the AS1812B 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 AS1812B is typically less than 1.0uA at 1.8V power supply. AS1812B 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 DFN1216-4L, DFN1010-4L and SIP-3L Package and is rated over the -40°C to 85°C. The package is RoHS and Green compliant.

Features

- Input Voltage Range : 1.65V to 5.5V
- Micro-power consumption ideal for battery power applications
- Uniplar 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}=40Gauss, B_{RPS}=25Gauss
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- DFN1216-4L, DFN1010-4L and SIP-3L Package
- -40℃ to +85 ℃ 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

AS1812BXXX

Package：
D4:DFN1216-4L
D1:DFN1010-4L
M: SIP-3L

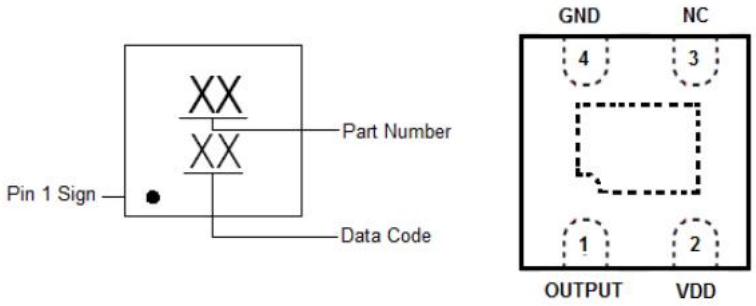
Packing：
R:Tape&Reel
B: Blank

Temperature Grade：
N: -40°C~85°C
Y: -40°C~125°C

Part Number	B_{OPS}(Gauss)	B_{RPS} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1812BD4RN	40	25	DFN1216-4L	7-in reel 3000pcs/reel	-40～85℃	Green
AS1812BD1RN	40	25	DFN1010-4L	7-in reel 3000pcs/reel	-40～85℃	Green
AS1812BMBN	40	25	SIP-3L	1000pcs/Package	-40～85℃	RoHS
AS1812BD4RY	40	25	DFN1216-4L	7-in reel 3000pcs/reel	-40～125℃	Green
AS1812BD1RY	40	25	DFN1010-4L	7-in reel 3000pcs/reel	-40～125℃	Green
AS1812BMBY	40	25	SIP-3L	1000pcs/Package	-40～125℃	RoHS

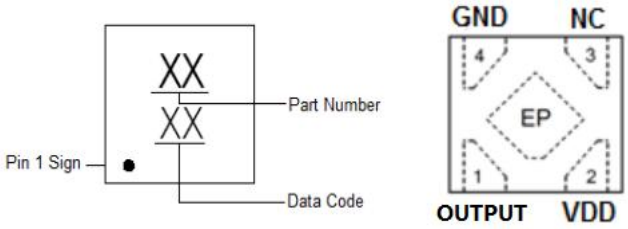
■ Marking & Pin Assignment

DFN1216-4L (Top View):



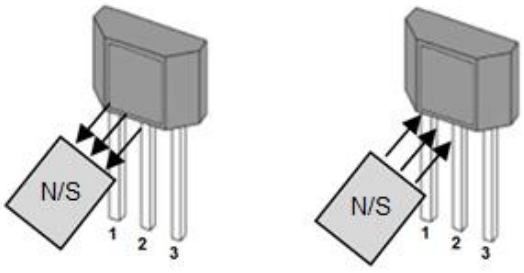
Pin Name	Pin No. DFN1216-4L	I/O	Pin Function
VDD	2	P	Input Power Supply
GND	4	P	Ground
NC	3	-	Not Connected
OUTPUT	1	O	Output Pin

DFN1010-4L (Top View):



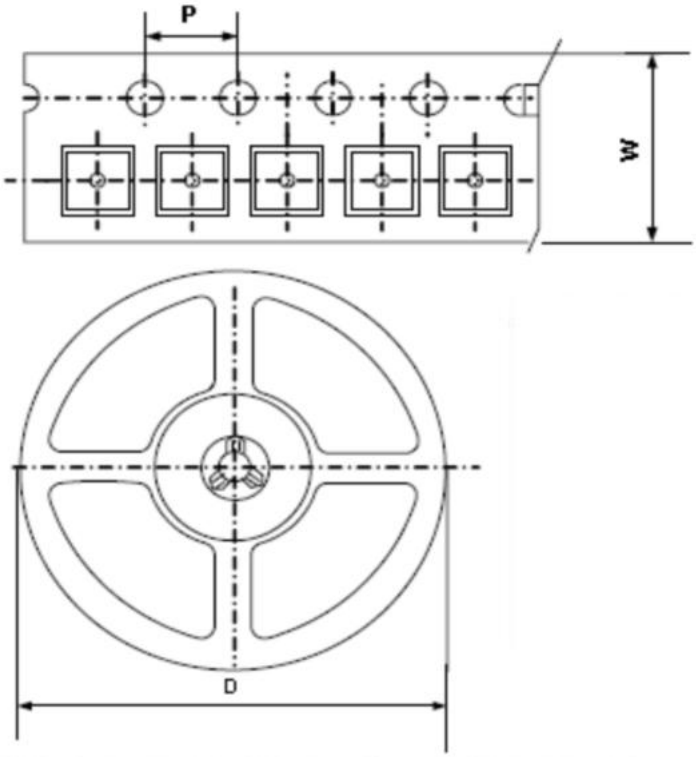
Pin Name	Pin No. DFN1010-4L	I/O	Pin Function
VDD	2	P	Input Power Supply
GND	4	P	Ground
NC	3	-	Not Connected
OUTPUT	1	O	Output Pin

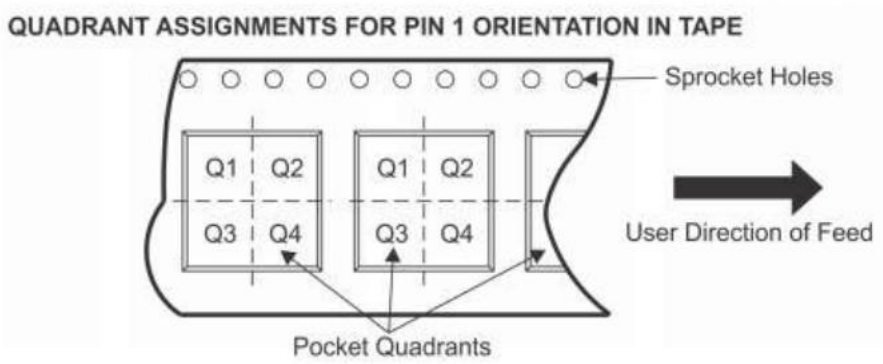
SIP-3L:



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

■ Packing Information





Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum	Pin1 Quadrant
DFN1216-4L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs	Q2
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

■ Packing Information

SIP-3L:
1, Packing type: Bulk
2, Packing minimum: 1000pcs