

Magnetic Sensor ICs

Unipolar Detection High Performance Low Power Hall-Effect Sensor IC

**AS1918**

● General Description

Using low power CMOS process, the AS1918 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 AS1918 is typically less than 2.0uA at 3.3V power supply. AS1918 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 SIP-3L, SSOT23-3L, SOT23-3L, DFN1010-4L and SOT553 Packages and is rated over the -40°C to 85°C . The package is RoHS compliant.

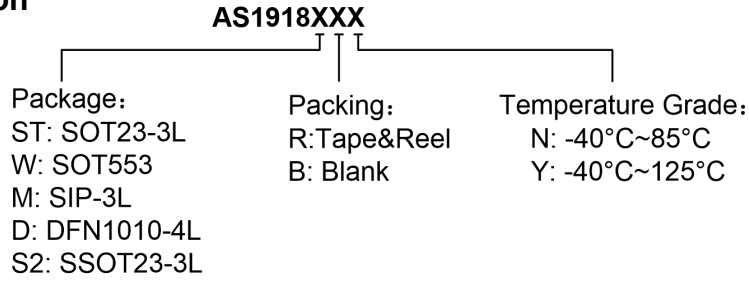
● Features

- Input Voltage Range : 1.65V 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)
 $B_{OP}=\pm 40\text{Gauss}$, $B_{RP}=\pm 25\text{Gauss}$
- Good RF noise immunity
- No need pull-up resistor
- Small Solution Size
- RoHS & Green Compliant
- SIP-3L, SSOT23-3L, SOT23-3L, DFN1010-4L and SOT553 Packages
- -40°C to $+125^{\circ}\text{C}$ 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 device
- Magnet proximity sensor for reed switch replacement in low duty cycle applications
- DV, DSC, and White Goods

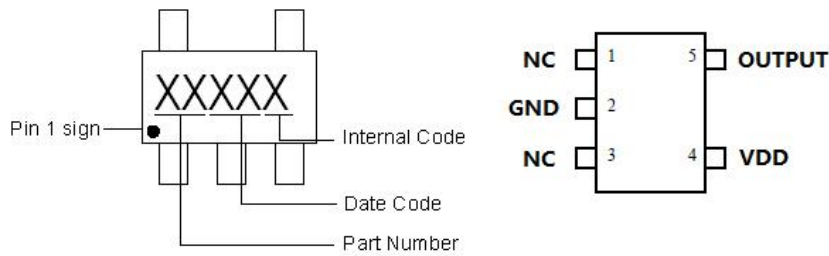
Ordering Information



Part Number	B _{OP} (Gauss)	B _{RP} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1918STRN	-40	-25	SOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1918WRN	+40	+25	SOT553	7-in reel 3000pcs/reel	-40~85°C	Green
AS1918S2RN	-40	-25	SSOT23-3L	7-in reel 3000pcs/reel	-40~85°C	Green
AS1918DRN	+40	+25	DFN1010-4L	7-in reel 10000pcs/reel	-40~85°C	Green
AS1918MBN	+40	+25	SIP-3L	1000pcs/Package	-40~85°C	Rohs
AS1918STRY	-40	-25	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1918WRY	+40	+25	SOT553	7-in reel 3000pcs/reel	-40~125°C	Green
AS1918S2RY	-40	-25	SSOT23-3L	7-in reel 3000pcs/reel	-40~125°C	Green
AS1918DRY	+40	+25	DFN1010-4L	7-in reel 10000pcs/reel	-40~125°C	Green
AS1918MBY	+40	+25	SIP-3L	1000pcs/Package	-40~125°C	Rohs

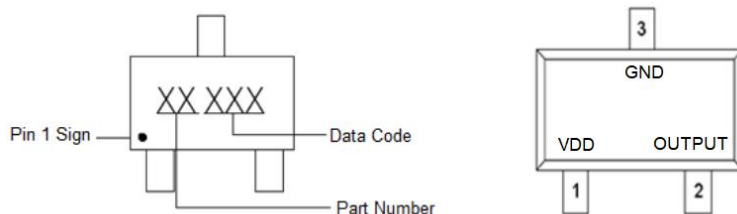
Marking & Pin Assignment

SOT553:



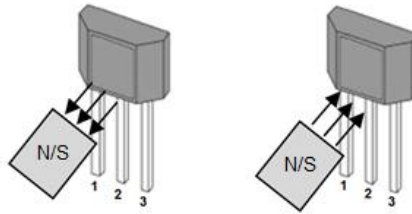
Pin Name	Pin No. SOT553	I/O	Pin Function
VDD	4	P	Input Power Supply
GND	2	P	Ground
NC	1, 3	-	Not Connected
OUTPUT	5	O	Output Pin

SOT23-3L/SSOT23-3L:



Pin Name	Pin No. SOT23-3L/SSOT23-3L	I/O	Pin Function
VDD	1	P	Input Power Supply
GND	3	P	Ground
OUTPUT	2	O	Output Pin

SIP-3L:



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

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
OUTPUT	1	O	Output Pin

■ **Typical Application Circuit**

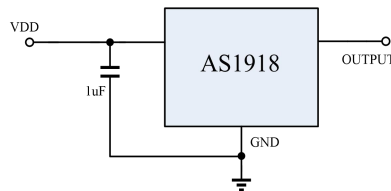


Figure 1, Typical Application Circuit of AS1918

■ **Block Diagram**

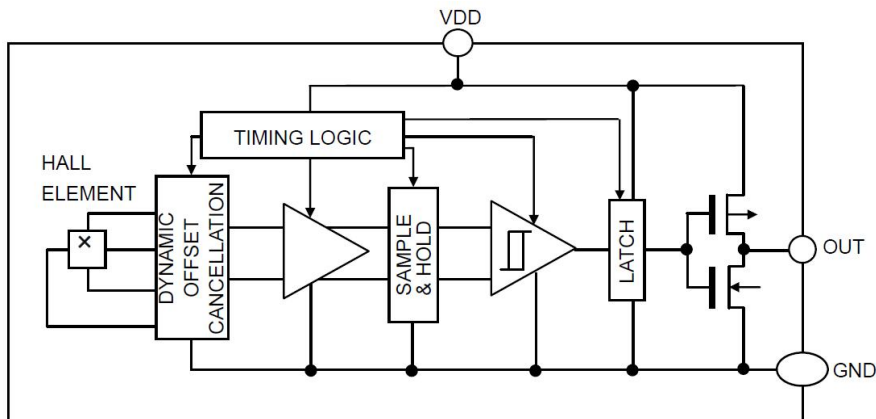
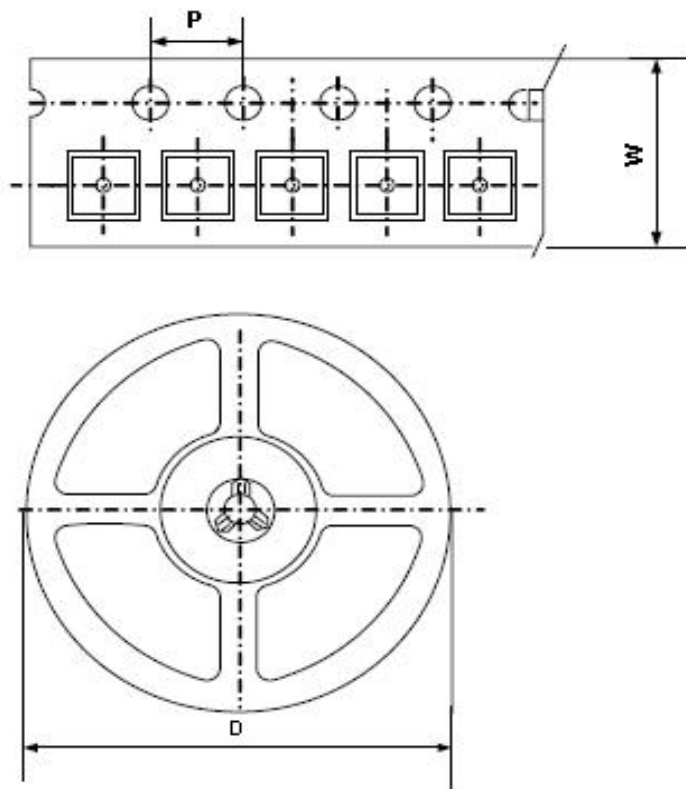


Figure 3, Block Diagram of AS1918

■ Packing Information



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum
SOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
SOT553	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
SSOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
DFN101-4L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	10000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum

■ Packing Information

SIP-3L:

- 1, Packing type: Bulk
- 2, Packing minimum: 1000pcs