

Magnetic Sensor ICs

Bipolar Latch Detection High Performance Hall-Effect Sensor IC



AS1690

● General Description

Using low power CMOS process, the AS1690 is designed for low power, high performance latch detection hall-effect application, such as automotive, industrial, electric tools, home appliances, 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 amplifies 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 AS1690 is typically less than 2.0mA at 3.6V power supply. AS1690 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 DFN1014-4L and SOT23-3L Package and is rated over the -40°C to 125°C . The all packages are RoHS and Green compliant.

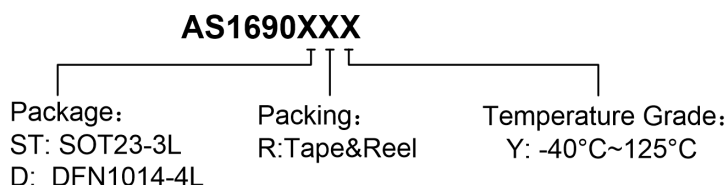
● Features

- Input Voltage Range : 2.2V to 5.5V
- Bipolar Latch Operation, easy to use as output
- Chopper stabilization amplifier stage
- Magnetic Sensitivity (typical)
 $B_{OP} = \pm 18\text{Gauss}$, $B_{RP} = \pm 18\text{Gauss}$
- Good RF noise immunity
- Integrated 10Kohms pull-up resistor
- Small Solution Size
- RoHS Compliant
- DFN1014-4L and SOT23-3L Packages
- -40°C to $+125^{\circ}\text{C}$ Temperature Range

● Applications

- 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

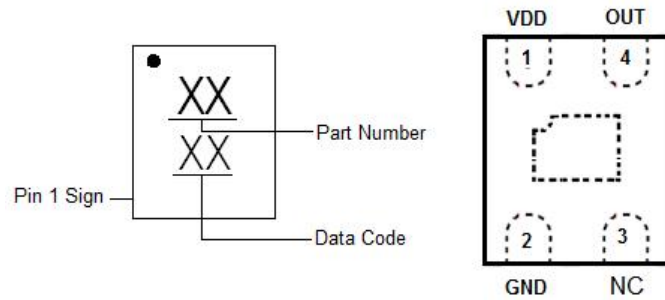
■ Ordering Information



Part Number	B_{OP} (Gauss)	B_{RP} Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1690DRY	-18Gauss	+18Gauss	DFN1014-4L	7-in reel 3000pcs/reel	$-40\sim 125^{\circ}\text{C}$	Green
AS1690STRY	+18Gauss	-18Gauss	SOT23-3L	7-in reel 3000pcs/reel	$-40\sim 125^{\circ}\text{C}$	Green

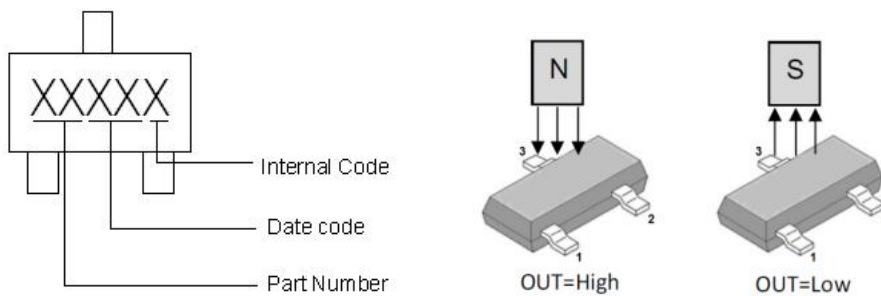
■ **Marking Information**

DFN1014-4L:



Pin Name	Pin No.	I/O	Pin Function
	DFN1014-4L		
VDD	1	P	Input Power Supply.
GND	2	P	Ground.
NC	3	-	Not Connected.
OUT	4	O	Output Pin.

SOT23-3L:



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

■ **Typical Application Circuit**

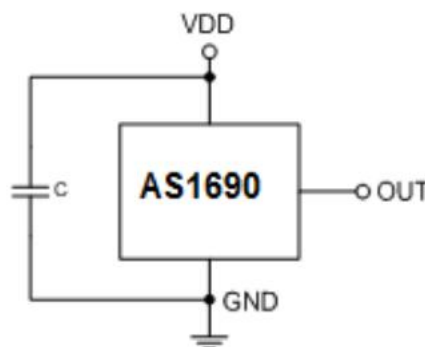
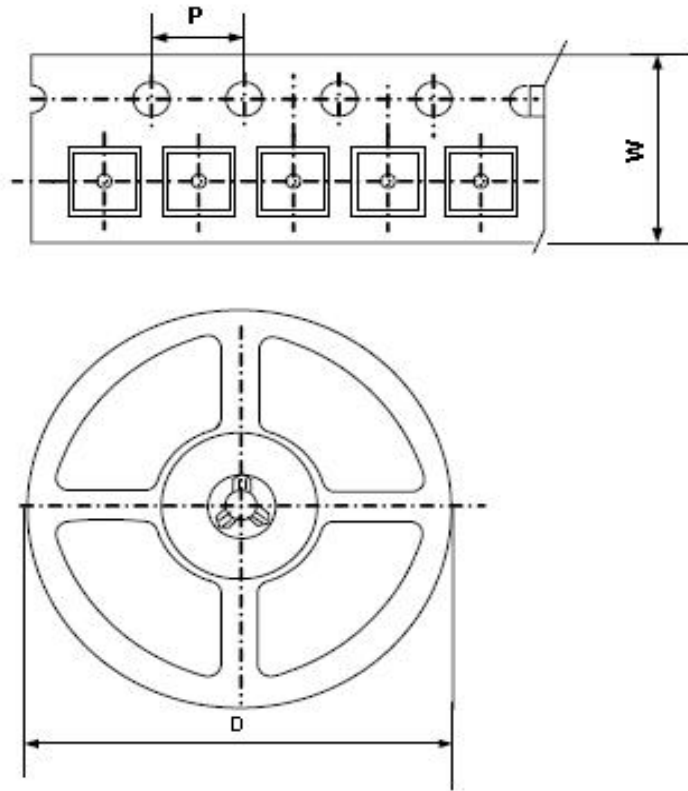


Figure 1, Typical Application Circuit of AS1690

■ 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
DFN1014-4L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum