



### General Description

The OCH1670 Omnipolar Hall effect sensor IC is fabricated from mixed signal CMOS technology. It is comprised of one Hall plates and a CMOS output driver. The total power consumption in normal operation is typically 9μW with a 3V power source. Either north or south poles of sufficient strength will turn the output on. The output will be turned off under no magnetic field. While the magnetic flux density (B) is larger than operating point (|Bop|), the output will be turned on (low), the output is held until B is lower than release point (|Brp|), and then turned off.

The OCH1670 is available in many flexible packaging options, such as SIP-3L、SOT23-3L. Operating temperature range of the OCH1670 is from -40°C to 85°C.

### Features

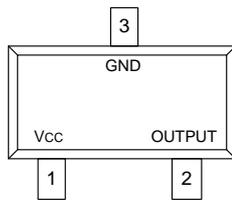
- Micro power design
- Operation with North or South pole(omnipolar)
- 2.4V to 5.5V operation
- High sensitivity and high stability of the magnetic switching points
- High resistance to mechanical stress
- Digital output signal
- Good RF noise immunity
- -40°C to 85°C operating temperature
- CMOS output
- Package: SIP-3L、SOT23-3L

### Applications

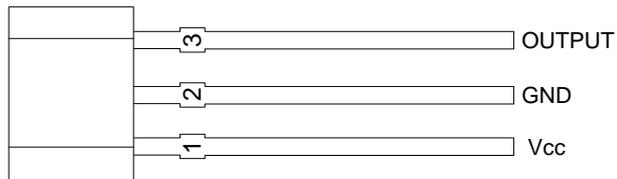
- Toys
- Smart meter
- Lid close sensor
- Contact-less switch
- Solid State Switch

### Pin Configuration

(Top View)



SOT23-3L



SIP-3L(TO92S)

Pin Name	Pin		Description
	SOT23-3L	SIP-3L	
VCC	1	1	IC Power Supply
OUTPUT	2	3	It is low state during the S/N magnetic field
GND	3	2	IC Ground

### Application Circuit

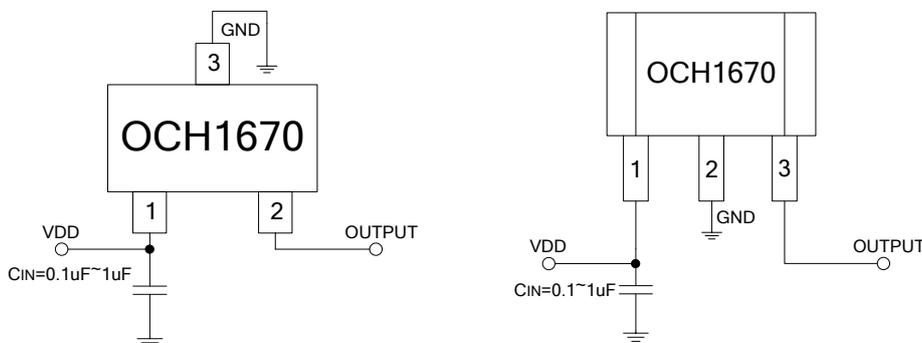


Figure 1, application circuit

Note: C<sub>IN</sub> is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 0.1~1uF.

■ **Ordering Information**

Part Number	Package Type	Packing Qty	B <sub>OP</sub> (Gauss)	B <sub>RP</sub> (Gauss)	Temperature	Eco Plan	Lead
OCH1670WAD	SOT23-3L	3000pcs	±17(Typ.)	±12(Typ.)	-40 ~ +85°C	ROHS	Cu
OCH1670MD	SIP-3L	1000pcs	±17(Typ.)	±12(Typ.)	-40 ~ +85°C	ROHS	Cu

■ **Block Diagram**

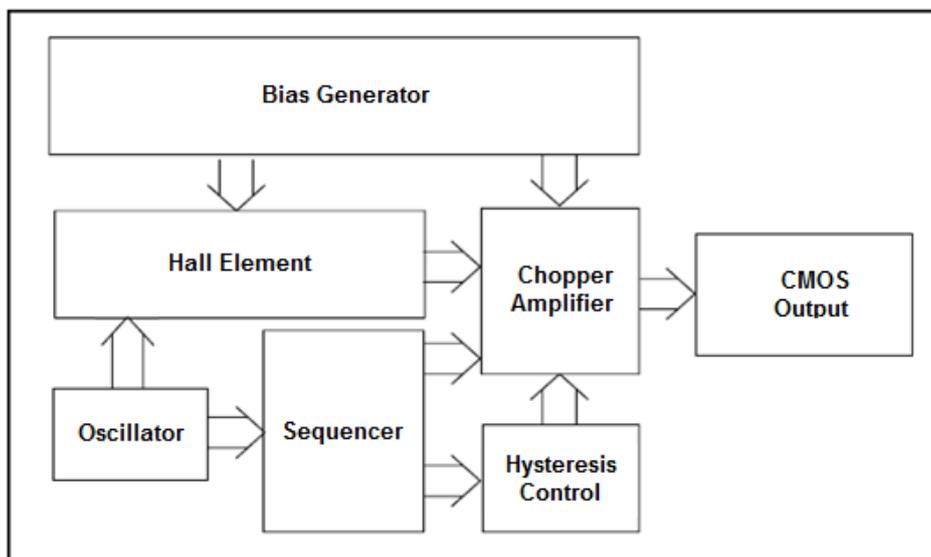


Figure 2, Block Diagram Of OCH1670

■ **Absolute Maximum Ratings** (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
VDD to GND	V <sub>DD</sub>	-0.3 to 5.5	V
Magnetic Flux Density	B	Unlimited	
Storage Temperature Range	T <sub>S</sub>	-65 to +150	°C
Operating Junction Temperature Range	T <sub>J</sub>	-40 to 150	°C
Package Power Dissipation	SOT23-3L	230	mW
	SIP-3L	300	

■ **Recommended Operating Conditions** (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Rating	Unit
Supply Voltage	V <sub>DD</sub>	Operating	2.4 ~ 5.5	V
Operating Temperature Range	T <sub>A</sub>	Operating	-40 ~ +85	°C