



## General Description

The OCH1608 Omnipolar Hall effect sensor IC is fabricated from mixed signal CMOS technology. It is comprised of two Hall plates and a CMOS output driver, mainly designed for battery-operation. The total power consumption in normal operation is typically 2.4μW 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 OCH1608 is available in many flexible packaging options, such as SOT23-3L/SIP-3L. Operating temperature range of the OCH1608 is from -40°C to 85°C.

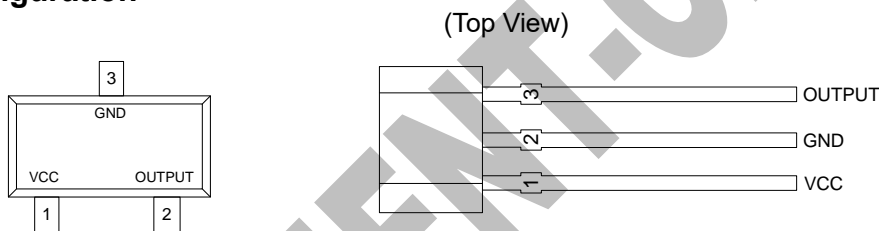
## Features

- **0.8uA** Micro power design
- Operation with North or South pole(omnipolar)
- CMOS Output
- 2.4V to 5.5V battery 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
- SOT23-3L/SIP-3L(TO92S) package

## Applications

- Smart meter
- toys
- Cover switch in Notebook PC/PDA
- 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

## Pin Configuration



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

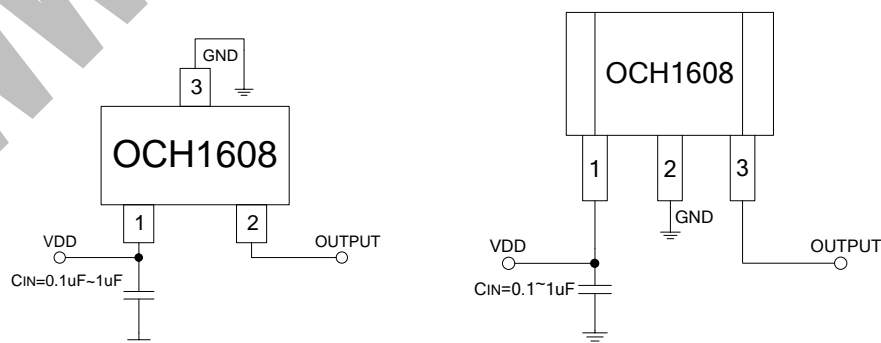


Figure 1, application circuit

Note:  $C_{IN}$  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
OCH1608WAD	SOT23-3L	3000pcs/Reel	±35(Typ.)	±23(Typ.)	-40~ +85℃	ROHS	Cu
OCH1608MD	SIP-3L	1000pcs/Bag	±35(Typ.)	±23(Typ.)	-40~ +85℃	ROHS	Cu

## ■ Block Diagram

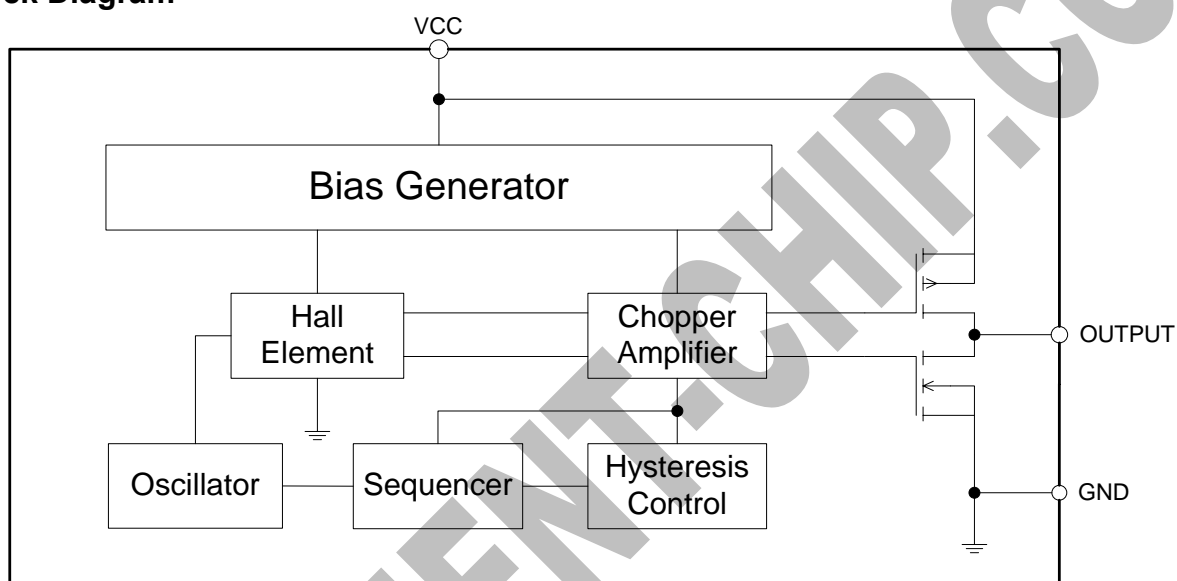


Figure 2, Block Diagram Of OCH1608

## ■ Absolute Maximum Ratings<sup>1</sup> (T<sub>A</sub>=25℃ unless otherwise noted)

Parameter	Symbol	Rating	Unit
VDD to GND	V <sub>CC</sub>	-0.3 to 6	V
Magnetic Flux Density	B	Unlimited	
Storage Temperature Range	T <sub>S</sub>	-65 to +150	℃
Operating Junction Temperature Range	T <sub>J</sub>	-40 to 150	℃
Maximum Power Dissipation	P <sub>D</sub>	230	mW
	SOT23-3L		
	SIP-3L	300	mW
Maximum Soldering Temperature (at leads, 10 sec)	T <sub>LEAD</sub>	260	℃

## ■ Recommended Operating Conditions (T<sub>A</sub>=25℃ 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	℃