



ORIENT-CHIP

General Description

The OCH1661 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 3.6μW with a 1.8V power source and 18.5μW with a 5V power source. Either north or south poles of sufficient strength will turn the output on. The output will be turn off under no magnetic field. While the magnetic flux density (B) is larger than operating point (BOP), the output will be turn on (low), the output is held until B is lower than release point (BRP), and then turned off.

The OCH1661 is available in many flexible packaging options, such as SOT23-3L/SIP-3L. Operating temperature range of the OCH1661 is from -40°C to 85°C.

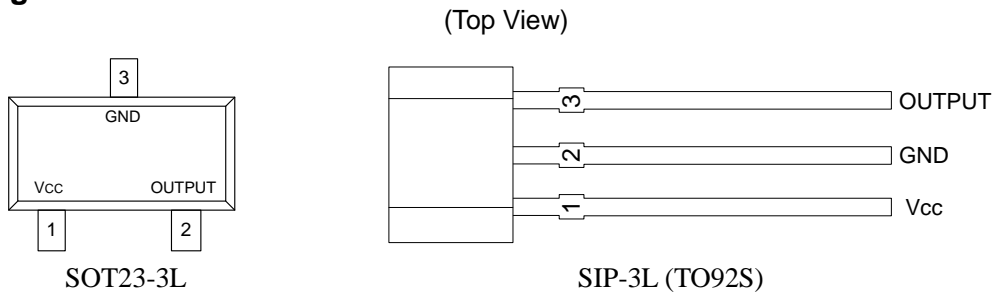
Features

- 2uA Micro power design
- Operation with North or South pole(omnipolar)
- CMOS Output
- 1.65V 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 o 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 devise
- 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

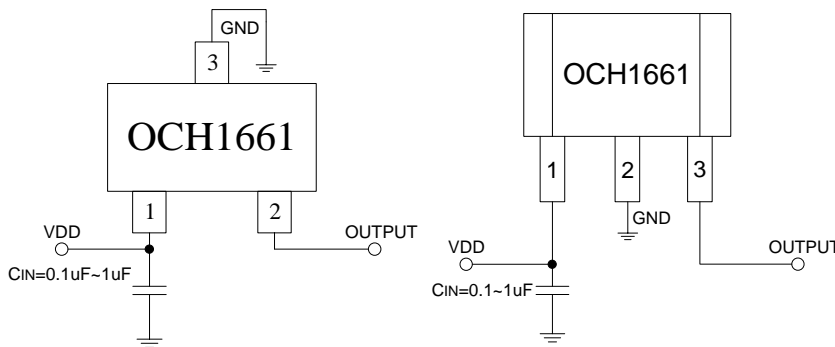


Figure 1, application circuit

Note: C<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
OCH1661WAD	SOT23-3L	3000pcs/Reel	±40(Typ.)	±30(Typ.)	-40~ +85°C	ROHS	Cu
OCH1661MD	SIP-3L	1000pcs/Bag	±40(Typ.)	±30(Typ.)	-40~ +85°C	ROHS	Cu

■ **Block Diagram**

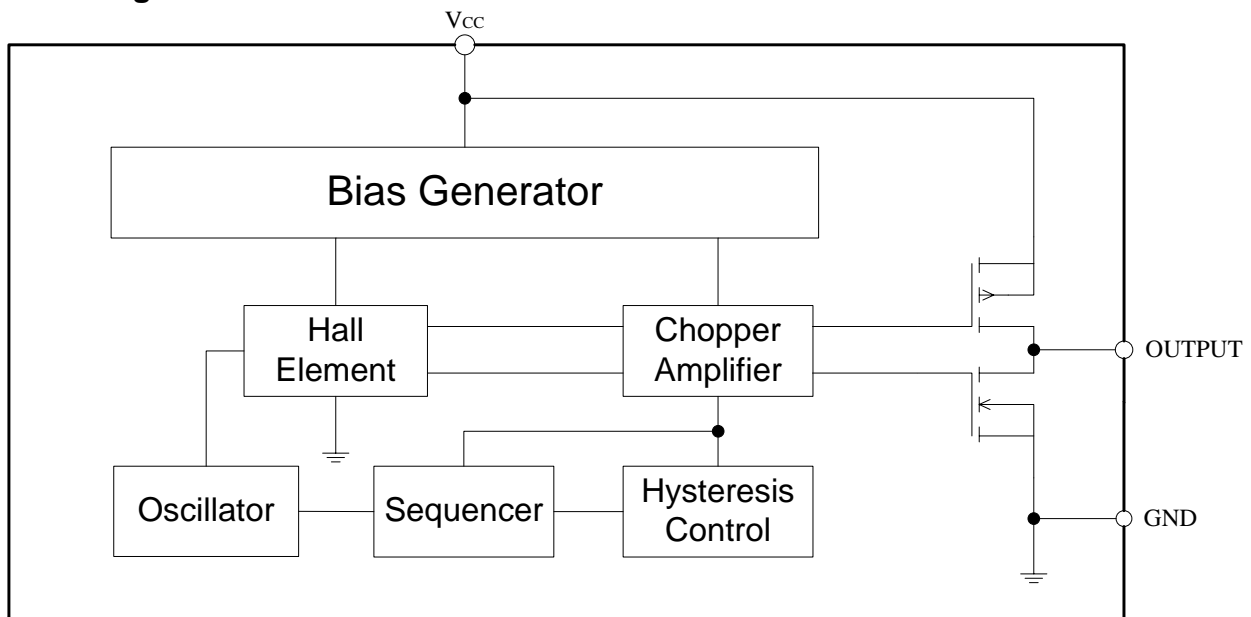


Figure 2, Block Diagram Of OCH1661

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

Parameter	Symbol	Rating	Unit
V <sub>CC</sub> 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	°C
Operating Junction Temperature Range	T <sub>J</sub>	-40 to 150	°C
Maximum Power Dissipation	SOT23-3L	230	mW
	SIP-3L	300	
Maximum Soldering Temperature(at leads, 10 sec)	T <sub>LEAD</sub>	260	°C

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

Parameter	Symbol	Conditions	Rating	Unit
Supply Voltage	V <sub>DD</sub>	Operating	1.65 ~ 5.5	V
Operating Temperature Range	T <sub>A</sub>	Operating	-40 ~ +85	°C