



ORIENT-CHIP

General Description

The OCH168 Omnipolar Hall effect sensor IC is fabricated from mixed signal CMOS technology. It is comprised of one Hall plates and a OD output driver, mainly designed for battery-operation, hand-held equipment (such as Cellular and Cordless Phone, PDA). The total power consumption in normal operation is typically 6.3uA 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 OCH168 is available in many flexible packaging options, such as SIP-3L, TSOT23-3L. Operating temperature range of the OCH168 is from -40°C to 85°C.

To minimize the BOM cost, capacitors of the MLCC type are supported, and only one external component are needed to complete the application circuit.

Features

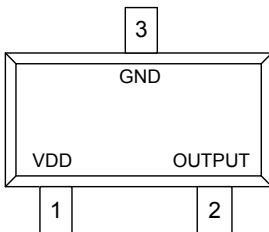
- Micro power consumption ideal for battery-powered applications
- Omnipolar (operation with magnetic field of either north or south pole), easy to use as outputswitches with both North and South pole
- Input Voltage Range: 2.4V to 5.5V
- Very High Sensitivity Hall Sensor
- Chopper stabilized amplifier stage
- Good RF noise immunity
- Open Drain output
- SIP-3L、TSOT23-3L package
- ESD (HBM) > 6KV
- Not need the push-high resistance

Applications

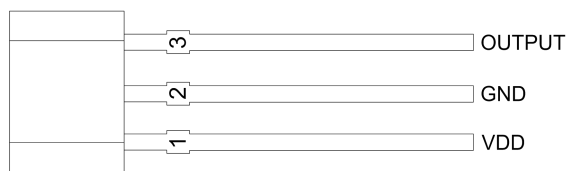
- Electric energy meter
- Water meter
- Gas meter
- Cover switch in clam-shell cellular phones
- Cover switch in Notebook PC/PDA
- Contact-less switch in consumer products
- Solid State Switch
- Handheld Wireless Handset Awake Switch
- Lid close sensor for battery-powered devise
- Magnet proximity sensor for reed switch replacement in low duty cycle applications

Pin Configuration

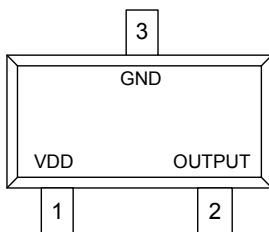
(1) TSOT23-3L (Top View)



(2) SIP-3L (Top View)



(2) SOT23-3L (Top View)



Pin Name	Pin No.		Pin Function
	SIP-3L	TSOT23-3L	
V _{DD}	1	1	Power Supply Input
GND	2	3	Ground
OUTPUT	3	2	Output Pin



■ **Typical Application Circuit**

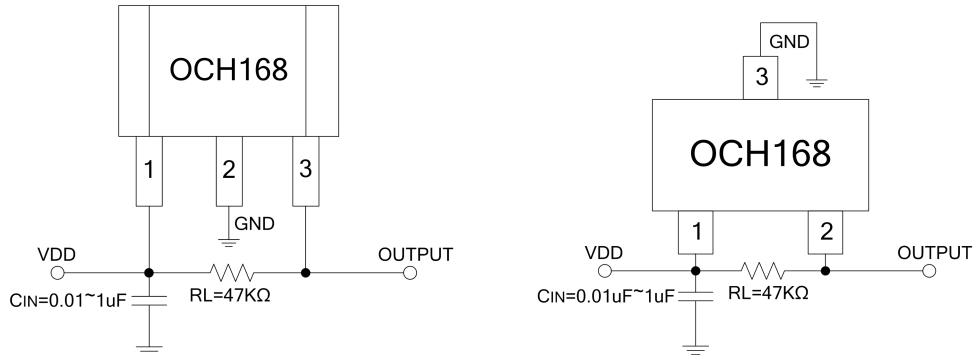


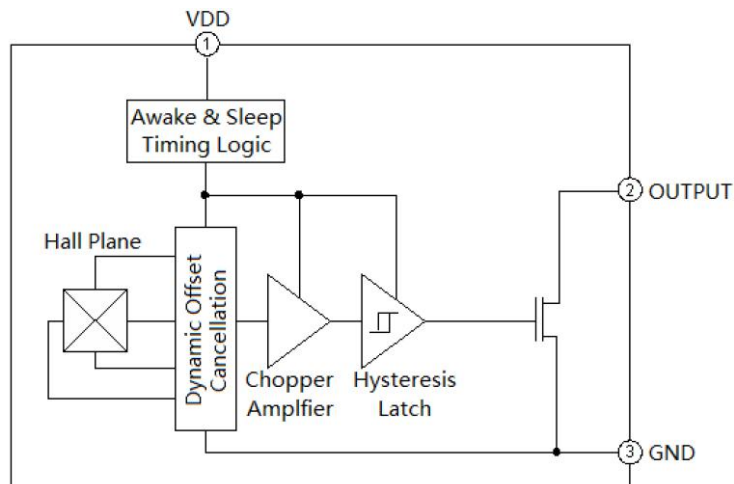
Figure 1, application circuit

- Note: C_{IN} is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 0.01~1uF.

■ **Ordering Information**

Part Number	Package Type	Packing Qty	B _{OP} (Gauss)	B _{RP} (Gauss)	Temperature	Eco Plan	Lead
OCH168TWAD	TSOT23-3L	3000pcs	±35	±25	-40 ~ +85°C	ROHS	Cu
OCH168WAD	SOT23-3L	3000pcs	±35	±25	-40 ~ +85°C	ROHS	Cu
OCH168AMD	SIP-3L	1000pcs	±35	±25	-40 ~ +85°C	ROHS	Cu

■ **Block Diagram**



■ **Absolute Maximum Ratings¹** (T_A=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
V _{DD} to GND	V _{DD}	-0.3 to 6	V
Magnetic Flux Density	B	Unlimited	
Storage Temperature Range	T _S	-65 to +150	°C
Operating Junction Temperature Range	T _J	-40 to 150	°C
Package Power Dissipation	SIP-3L	550	mW
	TSOT23-3L/SOT23-3L	230	mW