



ORIENT-CHIP

General Description

The OCH1691 Omnipolar Hall effect sensor IC is fabricated from mixed signal CMOS technology. It is comprised of one Hall plate and a CMOS 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 4μW with a 1.8V 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 OCH1691 is available in many flexible packaging options, such as TSOT23-3L, SOT23-3L and SIP3L; Operating temperature range of the OCH1691 is from -40°C to 85°C.

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

Features

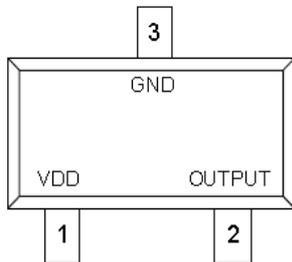
- Micro power consumption ideal for battery-powered applications
- Omnipolar (operation with magnetic field of either north or south pole), easy to use as output switches with both North and South pole
- Input Voltage Range: 1.6V to 5.5V
- Very High Sensitivity Hall Sensor
- Chopper stabilized amplifier stage
- Good RF noise immunity
- TSOT23-3L, SOT23-3L, SIP3L package
- ESD (HBM): >6KV
- Not need the push-high resistance

Applications

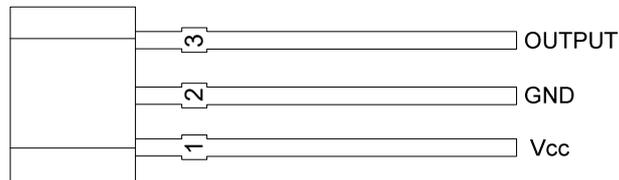
- Cover switch in clam-shell cellular phones
- Cover switch in Notebook PC/PDA
- Contact-less switch in consumer products
- Solid State Switch
- Handheld Wireless Handset Awake Switch
- Lid close sensor for battery-powered device
- Magnet proximity sensor for reed switch replacement in low duty cycle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

Pin Configuration

(1) TSOT23-3L /SOT23-3L (Top View)

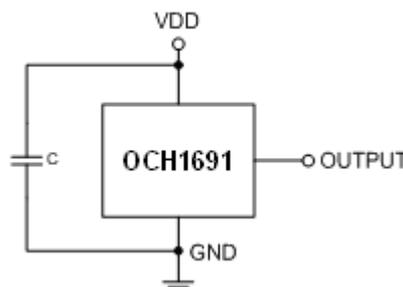


(2) SIP3L (Top View)



Pin Name	Pin No.			Pin Function
	TSOT23-3L	SOT23-3L	SIP3L	
VDD	1	1	1	Power Supply Input
GND	3	3	2	Ground
OUTPUT	2	2	3	Output Pin

Typical Application Circuit



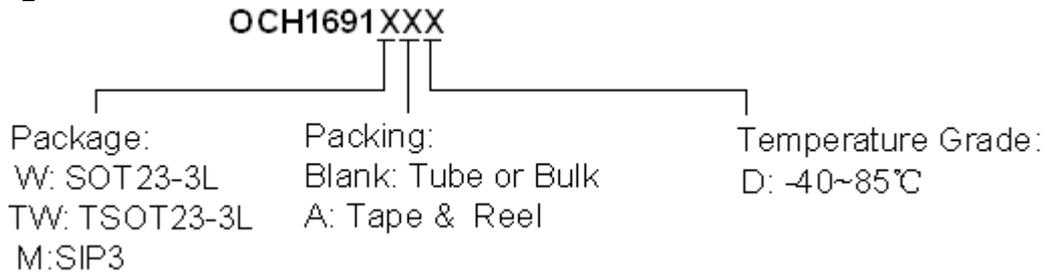
Note: C is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 10nF~100nF.





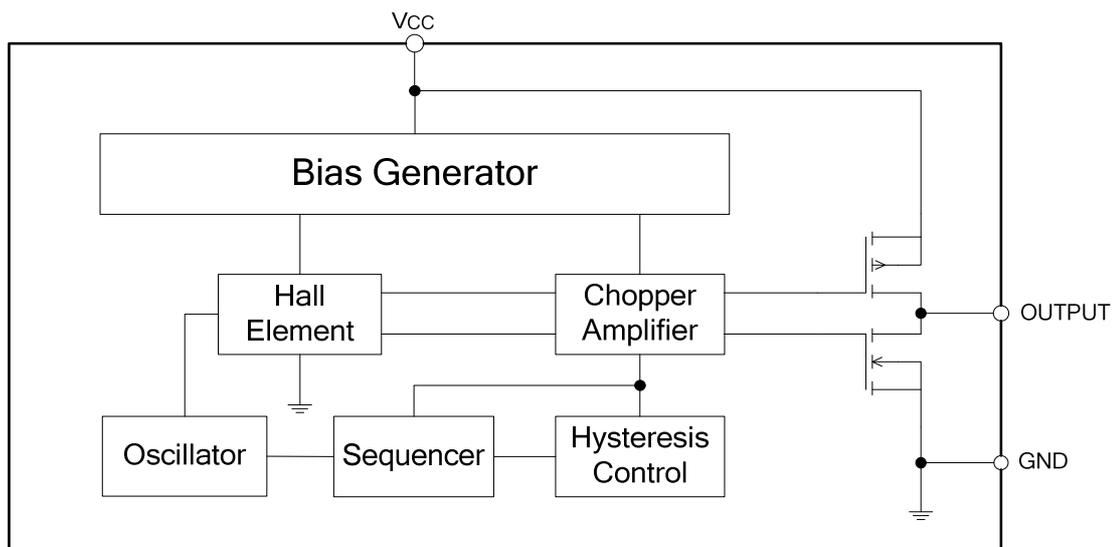
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■ **Ordering Information**



Part Number	Package Type	Package Qty	Brp (Gauss)	Bop (Gauss)	Temperature	Eco Plan	Lead
OCH1691WAD	SOT23-3L	7-in reel 3000pcs/reel	±6~±42	±17~±45	-40~85°C	Green	Cu
OCH1691TWAD	TSOT23-3L	7-in reel 3000pcs/reel	±6~±42	±17~±45	-40~85°C	Green	Cu
OCH1691MD	SIP-3L	1000pcs/Bulk	±6~±42	±17~±45	-40~85°C	ROHS	Cu

■ **Block Diagram**



■ **Absolute Maximum Ratings<sup>1</sup>** (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
VDD to GND	V <sub>DD</sub>	-0.3 to 6	V
Magnetic Flux Density	B	Unlimited	
Storage Temperature Range	T <sub>S</sub>	-55 to +125	°C
Operating Junction Temperature Range	T <sub>J</sub>	-40 to 85	°C
Package Power Dissipation	SIP-3L	550	mW
	TSOT23-3L	370	
	SOT23-3L	436	
ESD (Human Body Model)	ESD	6000	V