



ORIENT-CHIP

General Description

The OCH1609 Unipolar 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 Smart phone and PAD). The total power consumption in normal operation is typically 2.5μW with a 1.8V power source. South or North poles of sufficient strength will turn the output on. The output will be turned off under no magnetic field.

The OCH1609 is available in DFN1216-4L-EP Package. Operating temperature range of the OCH1609 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

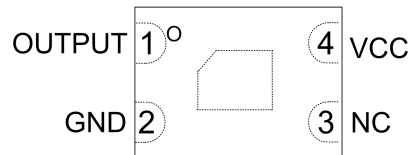
- 2uA Micro power consumption ideal for battery-powered applications
- It is low state during the S pole magnetic field Input
- VoltageRange:1.65V to 5.5V
- Very High Sensitivity Hall Sensor
- Chopper stabilized amplifier stage
- Good RF noise immunity
- CMOS Output
- DFN1216-4L-EP package

Applications

- Bluetooth headset
- Smart phones
- Cover switch in clam-shell cellular phones
- Contact-less switch in consumer products
- Solid State Switch
- Handheld Wireless Handset Awake Switch
- Lid close sensor for battery-powered devise

Pin Configuration

(Top View)



DFN1216-4L-EP

Name	PIN No.	Description
OUTPUT	1,	Output, It is low state during the S magnetic field
GND	2	IC Ground
NC	3	Not Connected
Vcc	4	IC Power Supply

Application Circuit

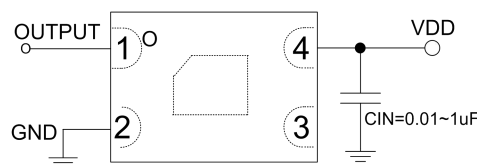


Figure 1, application circuit

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

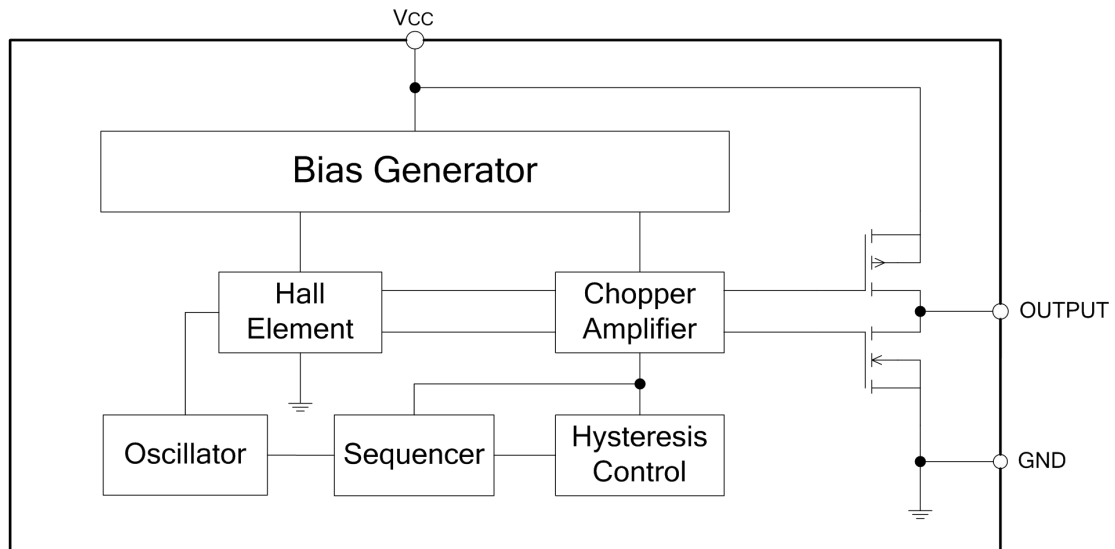


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■ **Ordering Information**

Part Number	Package Type	Packing Qty	B _{OPS} (Gauss)	B _{RPS} (Gauss)	Temperature	Eco Plan	Lead
OCH1609SEV4AD	DFN1216-4L-EP	7-in reel 3000pcs/reel	+75	+55	-40~85°C	Green	Cu
OCh1609NEV4AD	DFN1216-4L-EP	7-in reel 3000pcs/reel	-75	-55	-40~85°C	Green	Cu

■ **Block Diagram**



■ **Absolute Maximum Ratings** ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Rating	Unit
VDD to GND	V_{DD}	-0.3 to 6	V
Magnetic Flux Density	B	Unlimited	
Storage Temperature Range	T_S	-55 to +150	°C
Operating Junction Temperature Range	T_J	-40 to 150	°C
Package Power Dissipation	P_D	500	mW

■ **Recommended Operating Conditions** ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Rating	Unit
Supply Voltage	V_{DD}	Operating	1.65 ~ 5.5	V
Operating Temperature Range	T_A	Operating	-40 ~ +85	°C