■ General Description

The OCH177 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, hand-held equipment (such as Cellular and Cordless Phone, PDA). The total power consumption in normal operation is typically 24μW 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 OCH177 is available in many flexible packaging options, such as DFN1216-4L. Operating temperature range of the OCH177 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

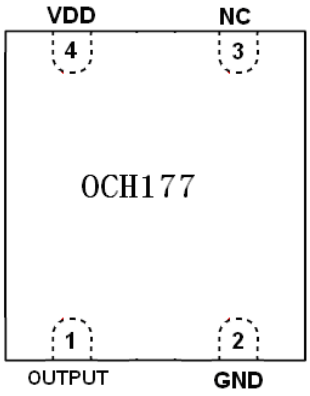
- Micro power consumption ideal for battery-powered applications
- Omnipolar (operation with magnetic field of either north or south pole), easy to use as output switches with both North and South pole
- Input Voltage Range: 2.4V to 5.5V
- Very High Sensitivity Hall Sensor
- Chopper stabilized amplifier stage
- Good RF noise immunity
- DFN1216-4L package
- ESD (HBM) ＞ 4KV
- Not need the push-high resistance

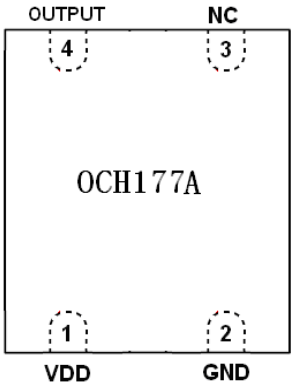
■ Applications

- 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 devise
- Magnet proximity sensor for reed switch replacement in low duty cycle applications

■ Pin Configuration

(1) DFN1216_4L (Top View)

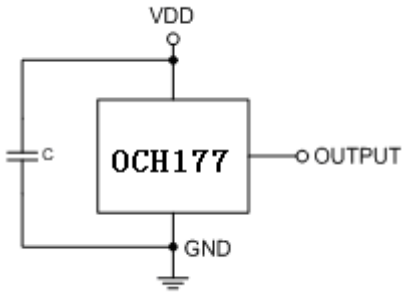




Pin Name	Pin No.		Pin Function
	OCH177	OCH177A	
VDD	4	1	Power Supply Input
GND	2	2	Ground
OUTPUT	1	4	Output Pin
N.C	3	3	Not Connected

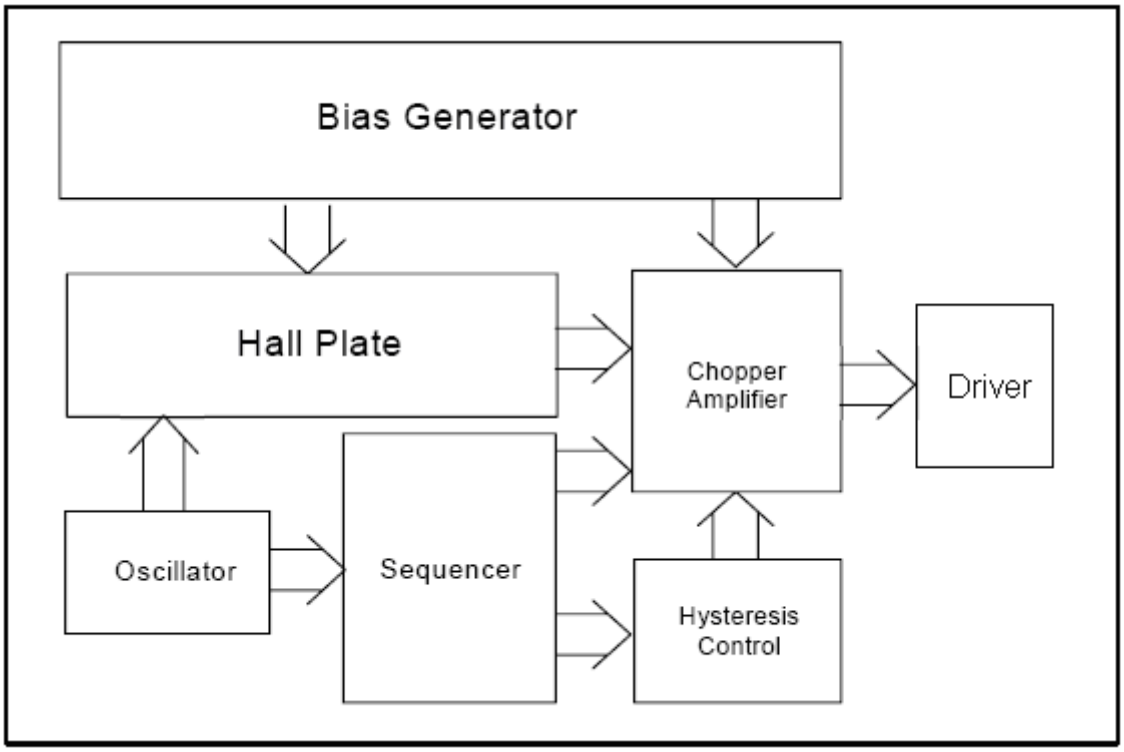
Note: NC is “No Connection” which is recommended to be tied to ground.

■ Typical Application Circuit



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

■ Block Diagram



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

Parameter	Symbol	Rating	Unit
VDD to GND	V_{DD}	-0.3 to 5.5	V
Magnetic Flux Density	B	Unlimited	
Storage Temperature Range	T_S	-65 to +150	℃
Operating Junction Temperature Range	T_J	-40 to 150	℃
Package Power Dissipation	P_D	230	mW