

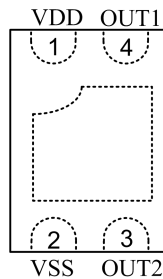
■ **General Description**

The OCH87891 Dual-output 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, PAD). The total power consumption in normal operation is typically 4μW with a 1.8V power source. South poles of sufficient strength will turn the output2 on, and north poles of sufficient strength will turn the output1 on. Both of the outputs will be turned off under no magnetic field. Respectively, 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 OCH87891 is available in DFN1014-4L 、DFN1616-6L-EP package. Operating temperature range of the OCH87891 is from -40°C to 85°C.

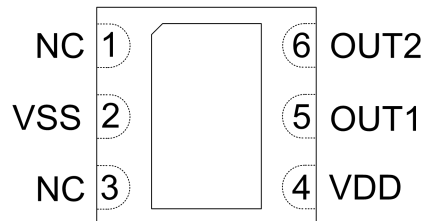
To minimize the BOM cost, capacitors of the MLCC type are supported, and only one external component is needed to complete the application circuit.

■ **Pin Configuration**



DFN1014-4L DFN1616-6L-EP

(Top View)



■ **Features**

- Micro power consumption ideal for battery-powered applications
- Dual output (operation with magnetic field of either north or south pole)
- Input Voltage Range: 1.6V to 5.5V
- High Sensitivity Hall Sensor
- Good RF noise immunity
- DFN1014-4L 、 DFN1616-6L-EP package
- No need the push-high resistance

■ **Applications**

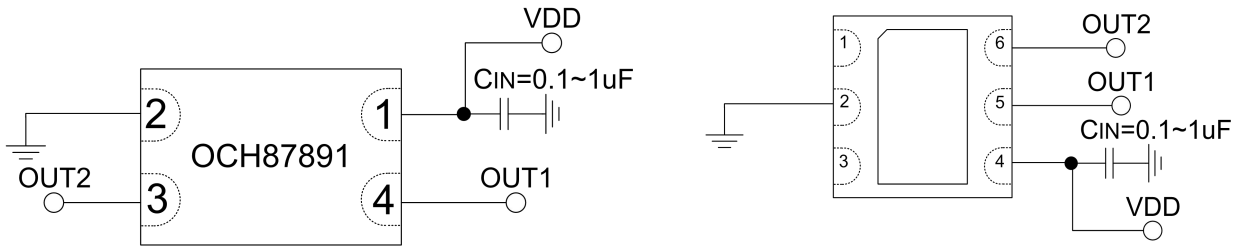
- Cover switch in clam-shell cellular phones
- Cover switch in Notebook PC/PAD
- Contact-less switch in consumer products
- Solid State Switch
- Handheld Wireless Handset Awake Switch
- Lid close sensor for battery-powered device
- Magnet proximity sensor for reed switch replacement in low duty cycle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

Pin Name	Pin No.		Pin Function
	DFN1014-4L	DFN1616-6L-EP	
VDD	1	4	Power Supply
VSS	2	2	Ground
OUT2	3	6	S pole detection output
OUT1	4	5	N pole detection output

■ **Ordering Information**

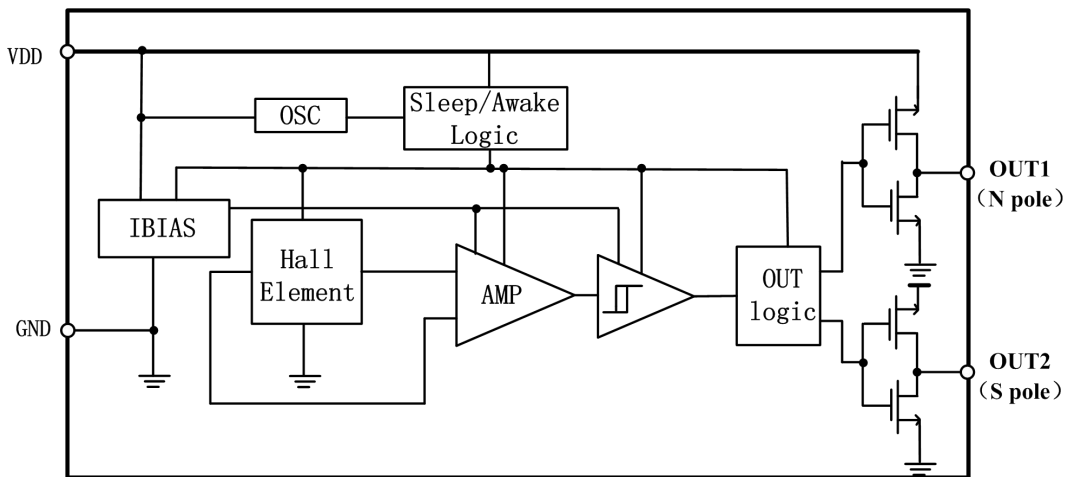
Part Number	Package Type	Packing Qty	B _{OPS} (Gauss)	B _{RPS} (Gauss)	Temperature	Eco Plan	Lead
OCH87891	DFN1014-4L	7-in reel 3000pcs/reel	±17 ~±45	±10 ~±42	-40~85°C	Green	Cu
OCH87891E V6AD	DFN1616-6L- EP	7-in reel 3000pcs/reel	±17 ~±45	±10 ~±42	-40~85°C	Green	Cu

■ **Typical Application Circuit**



Note: C is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 0.1~1uF.

■ **Block Diagram**



■ **Absolute Maximum Ratings¹** ($T_A=25^\circ\text{C}$ 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 +125	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-40 to 85	$^\circ\text{C}$
Package Power Dissipation	DFN1014-4	500	mW
	DFN1616-6L-RP	550	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	$^\circ\text{C}$