General Description

The OCH166A 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, 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 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 OCH166A is available in SOT23-3L, DFN1616-6L-EP, DFN1216-4L, DFN1616-6L and SOT553 package. Operating temperature range of the OCH166A 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

Features

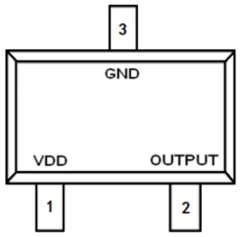
- Micro power consumption ideal for battery-powered applications
- Omnipolar (operation with magnetic field of either north or south pole), easy to use as output
- Input Voltage Range: 1.65V to 3.6V
- Very High Sensitivity Hall Sensor
- Chopper stabilized amplifier stage
- Good RF noise immunity
- DFN1216-4L, SOT23-3L,DFN1616-6L-EP, DFN1616-6L & SOT553 package
- No need the push-high resistance

Applications

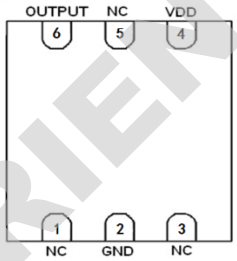
- Cover switch in clam-shell cellular phones
- Cover switch in Notebook PC/PAD
- Contact-less switch in consumer products
- Solid State Switch
- Handheld Wireless Handset Awake Switch
- Lid close sensor for battery-powered devise
- Magnet proximity sensor for reed switch replacement

Pin Configuration

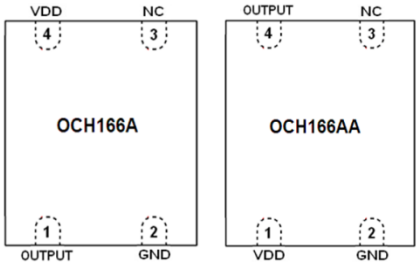
(1)SOT23-3L (Top View)



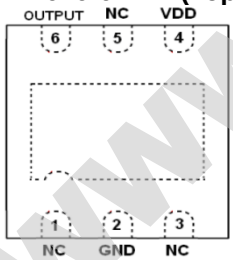
(2) DFN1616-6L (Top View)



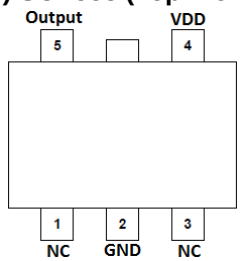
(3) DFN1216-4L (Top View)



(4) DFN1616-6L-EP (Top View)



(4) SOT553 (Top View)

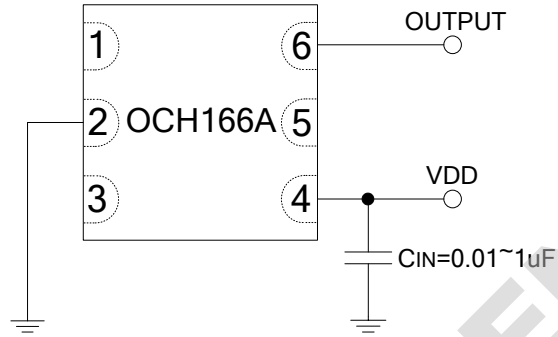


Pin Name	Pin No.					Pin Function
	SOT23-3L		DFN1616-6L DFN1616-6L-EP	DFN1216-4L		
				OCH166A	OCH166AA	
VDD	1		4	4	1	Power Supply Input
GND	3		2	2	2	Ground
OUTPUT	2		6	1	4	Output Pin
NC	-		1，3，5	3	3	Not connected

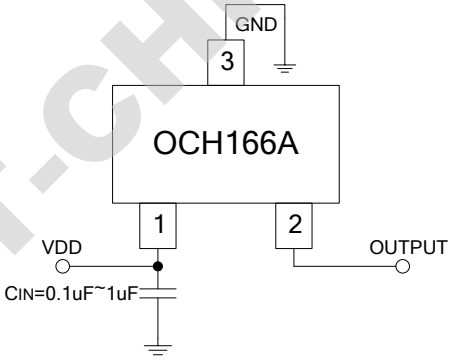
■ Ordering Information

Part Number	Package Type	Packing Qty	B_{OPS} (Gauss)	B_{RPS} (Gauss)	Temperature	Eco Plan	Lead
OCH166AWAD	SOT23-3L	7-in reel 3000pcs/reel	±20 ~±60	±10 ~±40	-40～85℃	Green	Cu
OCH166AV4AD	DFN1216-4L	7-in reel 3000pcs/reel	±20 ~±60	±10 ~±40	-40～85℃	Green	Cu
OCH166AAV4AD	DFN1216-4L	7-in reel 3000pcs/reel	±20 ~±60	±10 ~±40	-40～85℃	Green	Cu
OCH166AV6AD	DFN1616-6L	7-in reel 3000pcs/reel	±20 ~±60	±10 ~±40	-40～85℃	Green	Cu
OCH166AEV6AD	DFN1616-6L-EP	7-in reel 3000pcs/reel	±20 ~±60	±10 ~±40	-40～85℃	Green	Cu
OCH166ASTAD	SOT553	7-in reel 3000pcs/reel	±20 ~±60	±10 ~±40	-40～85℃	Green	Cu

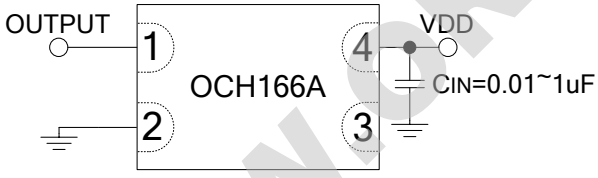
■ Application Circuit



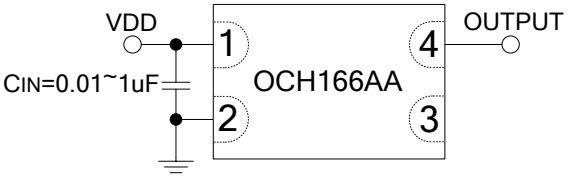
DFN1616-6L/DFN1616-6L-EP



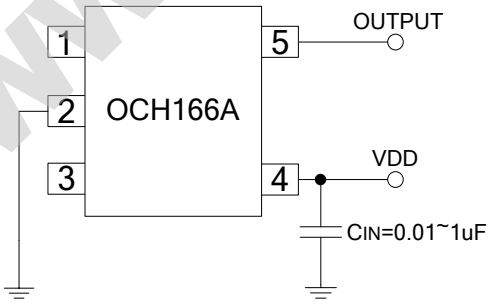
SOT23-3L



DFN1216-6L



DFN1216-6L



SOT553

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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