

# OH137

## Unipolar Hall Effect Switch IC

### Order Information

PN	OH137	Operate temperature	-40~85°C	Package	1000pcs/bag
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**General Description:** OH137 is a switched Hall-Effect IC which is for contactless switching applications. The device includes an on-chip Hall voltage generator for magnetic sensing, an amplifier that amplifies the Hall voltage, a schmitt trigger to provide switching hysteresis for noise rejection, and an open-collector output.



### Features

- 4.5V to 24V DC operation voltage
- Open-Collector pre-driver
- 25mA maximum sinking output current.
- Reverse Polarity Protection

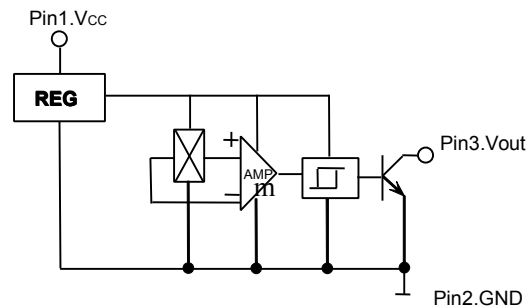
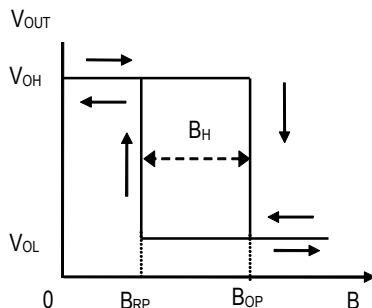
### Applications

- Speed measurement
- Home appliances
- Position detection
- Flow measurement

### Absolute Maximum Ratings (T<sub>A</sub>=25°C)

Supply Voltage V <sub>CC</sub> .....	4.5-24V	Operating Temperature Range T <sub>A</sub> .....	-40~85°C
Output Current I <sub>O</sub> .....	25mA	Storage Temperature Range T <sub>S</sub> .....	-55~150°C

### Magnetic-electrical Transfer Characteristics Functional Block Diagram:



### Electrical Characteristics (T<sub>a</sub>= 25°C )

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V <sub>CC</sub>		4.5	-	24	V
Output Saturation Voltage	V <sub>OL</sub>	V <sub>CC</sub> =4.5V, R <sub>L</sub> =2KΩ, B≥B <sub>OP</sub>	-	200	400	mV
Output Leakage Current	I <sub>OH</sub>	V <sub>out</sub> =V <sub>CC</sub> max, B≤B <sub>RP</sub>	-	1.0	10	μA
Supply Current	I <sub>CC</sub>	V <sub>CC</sub> =V <sub>CC</sub> max OC output	-	3	5	mA
Output Rise Time	t <sub>r</sub>	V <sub>CC</sub> =12V, R <sub>L</sub> =820Ω, C <sub>L</sub> =20pF	-	0.12	1.20	μS
Output Falling Time	t <sub>f</sub>		-	0.14	1.40	μS

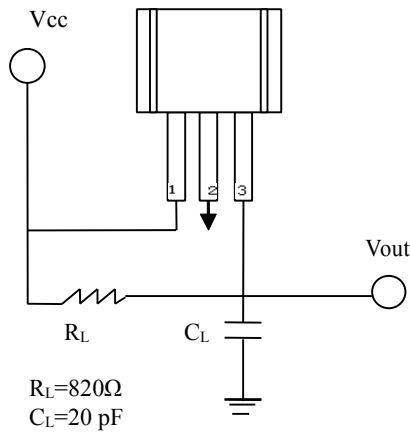
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## Unipolar Hall Effect Switch IC

**Magnetic Characteristics** ( $T_a = 25^\circ\text{C}$ ) (1mT = 10 Gauss)

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	$B_{OP}$	-	-	18	mT
Release Point	$B_{RP}$	2	-	-	mT
Hysteresis	$B_H$	6	-	8	mT

**Test Circuit for Reference:**



**Pin Descriptions:** 1.Vcc 2. GND 3.Vout

Caution:

- 1) when installing, please minimize mechanical stress on the IC shell and leads.
- 2) Welding temperature should be lower than  $260^\circ\text{C}$ , less than 3 seconds.
- 3) IC is OC output, so a pull-up resistor connected pin 1 (power) and pin 3 (output) is necessary.

**Dimension:**

