

# OH3144 Unipolar Hall IC

## 1. General Description

**OH3144** Hall switches IC internally consists of reverse voltage protection device, voltage regulator, Hall voltage generator, a differential amplifier, Schmitt trigger, and the open collector output level, which can change magnetic field signals into a digital voltage output. With the typical feature of small size and stable performance, OH3144 is widely used in all kinds of position control, speed detection, flow detection occasions as a non-contact switch.

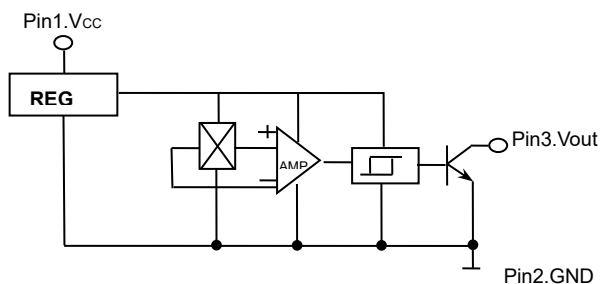
## 2. Features

- 4V to 24V DC operation voltage
- Open-Collector pre-driver
- 25mA maximum sinking output current.
- Reverse Polarity Protection

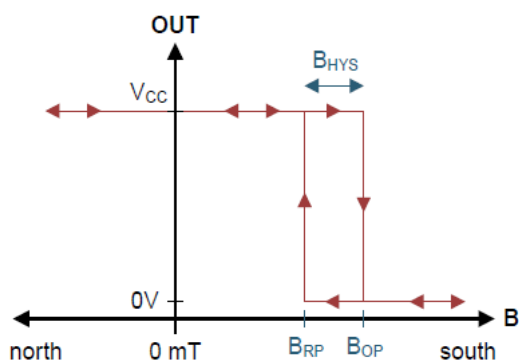
## 3. Applications

- The brushless DC motor internal reversing
- The motor speed and direction detection
- The motor of the electric bicycle, power-assisted device
- Speed sensor, counter
- The flow sensor, flow meter
- The automotive odometer, speed sensor

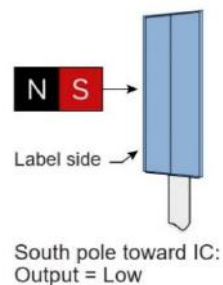
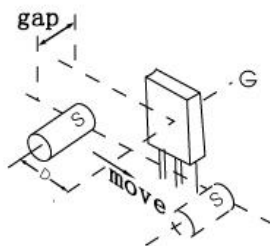
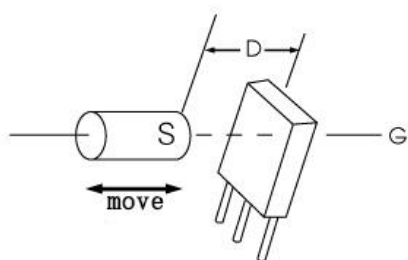
## 4. Functional Block Diagram



## 5. Magnetic-electrical Transfer Characteristics



## 6. Typical Working Mode



## 7. Order information

Part number	Response pole	Operate temperature	Package Type	Quantity/package
OH3144	S	-40 ~ 125°C	TO-92S	Bulk, 1000pcs/bag



**8. Absolute Maximum Ratings (TA=25°C)**

Parameter	Symbol	Value	Unit
Supply Voltage	V <sub>cc</sub>	3.5 to 30	V
Output current	I <sub>out</sub>	25	mA
Operating temperature range	T <sub>A</sub>	-40 to 125	°C
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C

**9. Electrical Characteristics (Ta= 25°C )**

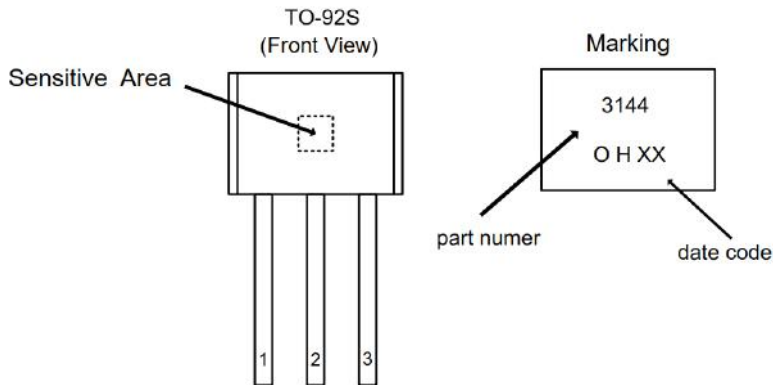
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V <sub>CC</sub>		4	-	24	V
Output Saturation Voltage	V <sub>OL</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1KΩ, B≥B <sub>OP</sub>	-	200	400	mV
Output Leakage Current	I <sub>OH</sub>	V <sub>out</sub> =V <sub>CCmax</sub> , B≤B <sub>RP</sub>	-	1.0	10	μA
Supply Current	I <sub>CC</sub>	V <sub>CC</sub> =V <sub>CCmax</sub> OC output	-	6	-	mA
Output Rise Time	t <sub>r</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1kΩ, C <sub>L</sub> =20pF	-	0.1	-	μS
Output Falling Time	t <sub>f</sub>		-	0.1	-	μS

**10. Magnetic Characteristics (Ta= 25°C ) (1mT = 10 Gauss)**

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	B <sub>OP</sub>	-	-	16	mT
Release Point	B <sub>RP</sub>	2	-	-	mT
Hysteresis	B <sub>H</sub>	-	5	-	mT



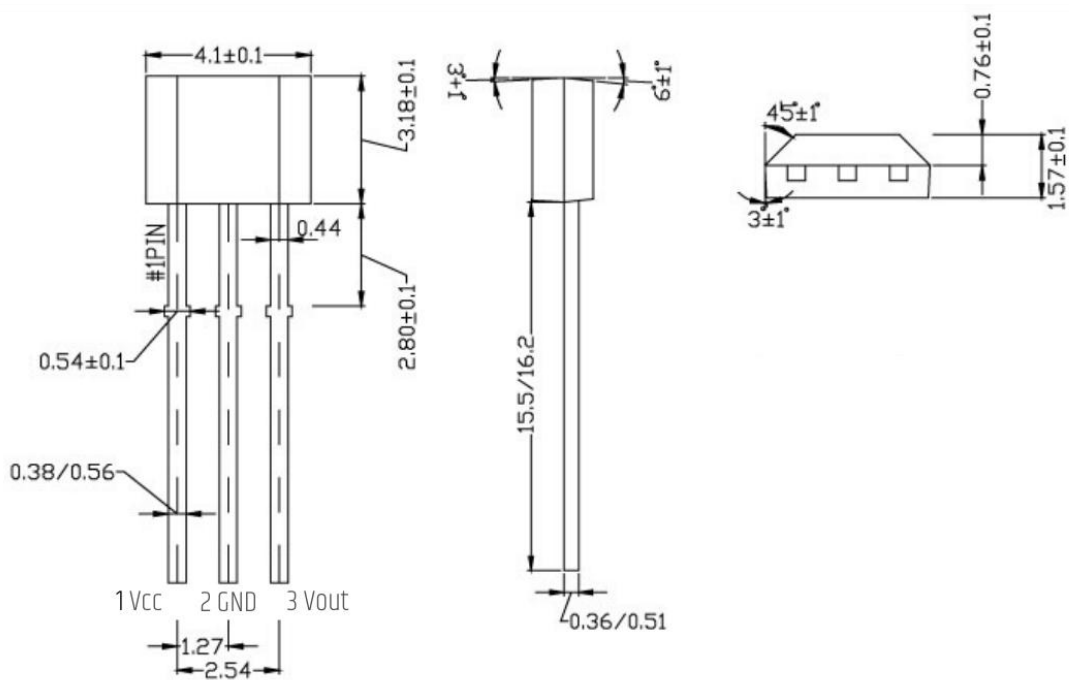
## 11. Pin configuration



Pin Name	PIN	Function description
Vcc	1	Supply Voltage
GND	2	Ground
Vout	3	Output

## 12. Dimension Unit: mm

### TO-92S



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For more information:

Ouzhuo Technology service you through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing, or the nearest Authorized Distributor, you could reach us the way you are convenient, thank you for your support!

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**NOTICE:**

The information presented in this datasheet is for reference only. Specifications may change without notice.

