

OH34 / OH34N / OH44 Unipolar Hall IC

1. General Description

OH34 Series Hall switches IC are small digital unipolar Hall-effect sensor ICs, which are designed to response S pole or N pole from a permanent magnet or an electromagnet. They internally consist of a reverse voltage protection device, voltage regulator, Hall voltage generator, a differential amplifier, Schmitt trigger, and the open collector output level, which can change the magnetic field signal into a digital voltage output.

With the typical feature of small size, stable performance, OH34 series are widely used in all kinds of position control, speed detection, flow detection occasion as a non-contact switch.

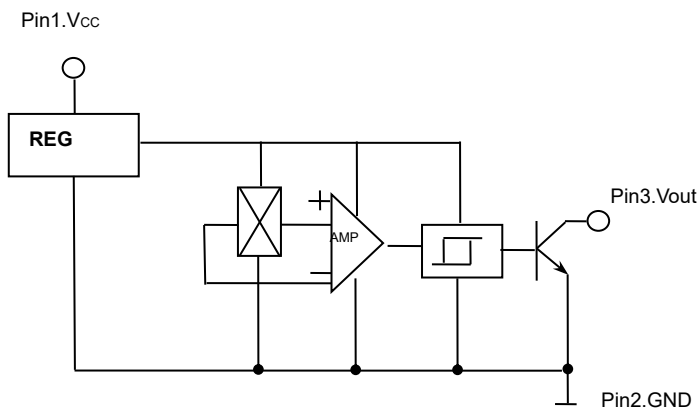
2. Features

- 4V to 24V DC operation voltage
- Open-Collector pre-driver
- 25mA maximum sinking output current.
- Reverse Polarity Protection
- Respond to a single-pole (North or South).

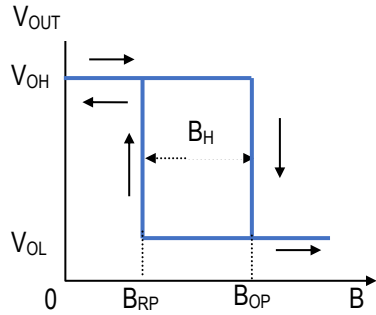
3. Applications

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

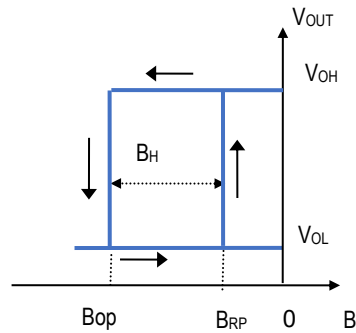
4. Functional Block Diagram



5. Magnetic-electrical Transfer Characteristics



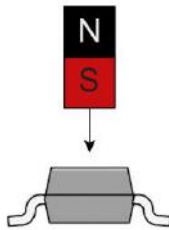
OH34, OH44



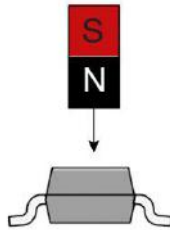
OH34N

6. Typical Working Mode

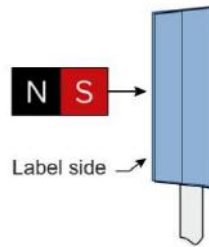
OH34


 South pole toward IC:
 Output = Low

OH34N


 North pole toward IC:
 Output = Low

OH44


 South pole toward IC:
 Output = Low

7. Order information

Part number	Package Type	Response pole	Quantity/package
OH34	SOT23	S	3000 pcs/ reel
OH34N	SOT23	N	3000 pcs/ reel
OH44	TO-92S	S	bulk 1000 pcs/ bag



8. Absolute Maximum Ratings (T_A=25°C)

Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	3.5 to 30	V
Output current	I _{out}	25	mA
Operating temperature range	T _A	-40 to 125	°C
Storage temperature range	T _{stg}	-55 to 150	°C

9. Electrical Characteristics (T_A=25°C)

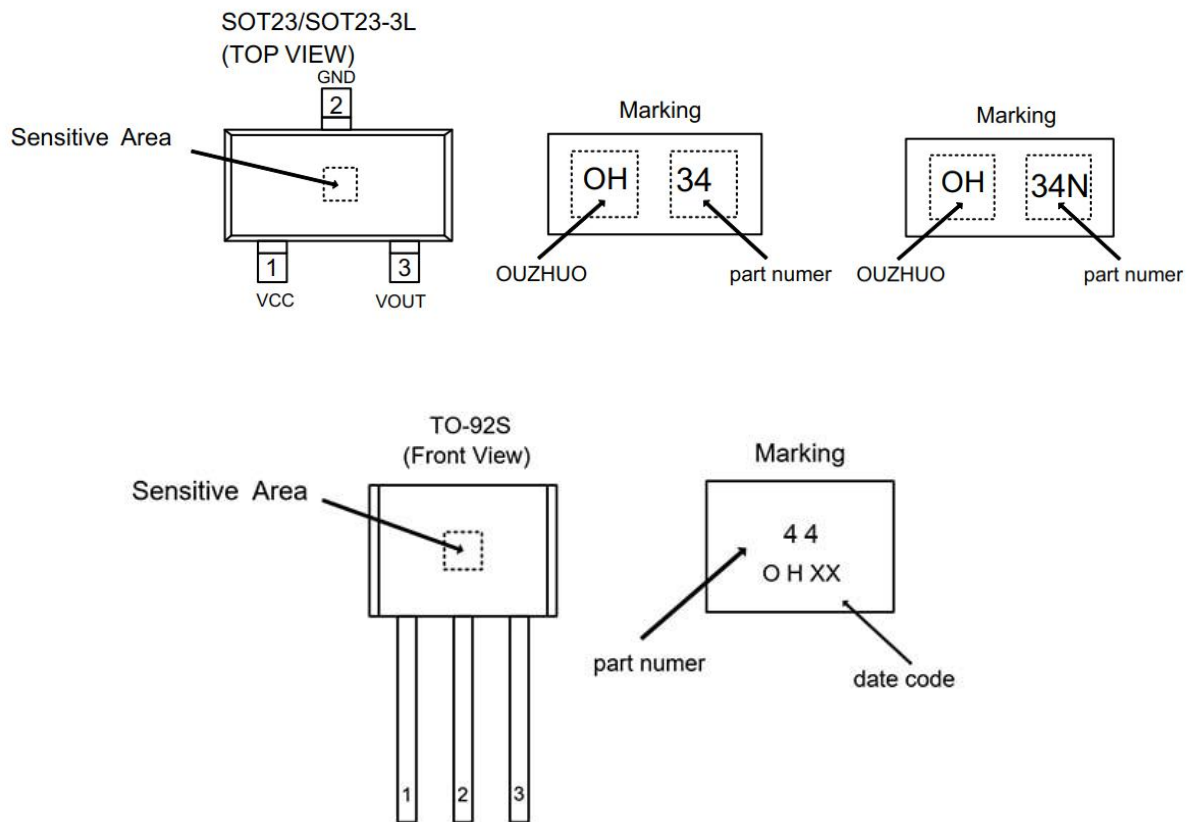
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V _{CC}		4	-	24	V
Output Saturation Voltage	V _{OL}	V _{CC} =5V, R _L =1kΩ, B≥B _{OP}	-	200	400	mV
Output Leakage Current	I _{OH}	V _{out} =V _{CCmax} , B≤B _{RP}	-	1.0	10	μA
Supply Current	I _{CC}	V _{CC} =V _{CCmax} OC output	-	6	-	mA
Output Rise Time	t _r	V _{CC} =5V, R _L =1kΩ, C _L =20pF	-	0.1	-	μS
Output Falling Time	t _f		-	0.1	-	μS

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

Parameter	symbol	Part Number	Value			Unit
			Min	Typ	Max	
Operate Point	B _{OP}	OH34	-	-	16	mT
		OH44	-	-	16	mT
		OH34N	-16	-	-	
Release Point	B _{RP}	OH34	2	-	-	mT
		OH44				
		OH34N	-	-	-2	
Hysteresis	B _H		-	5	-	mT

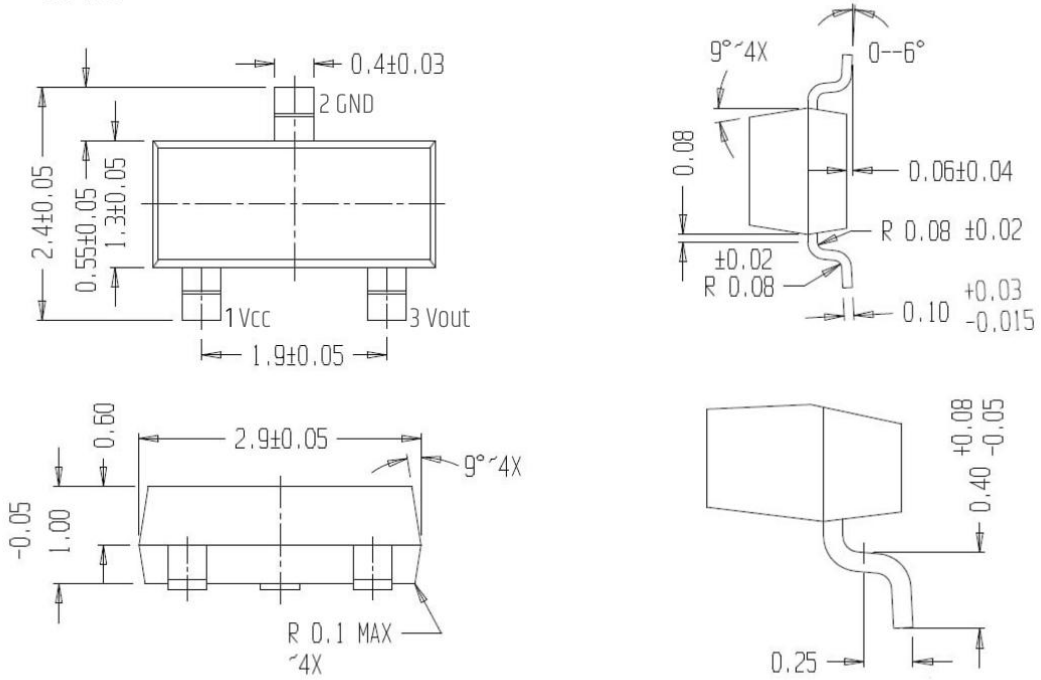
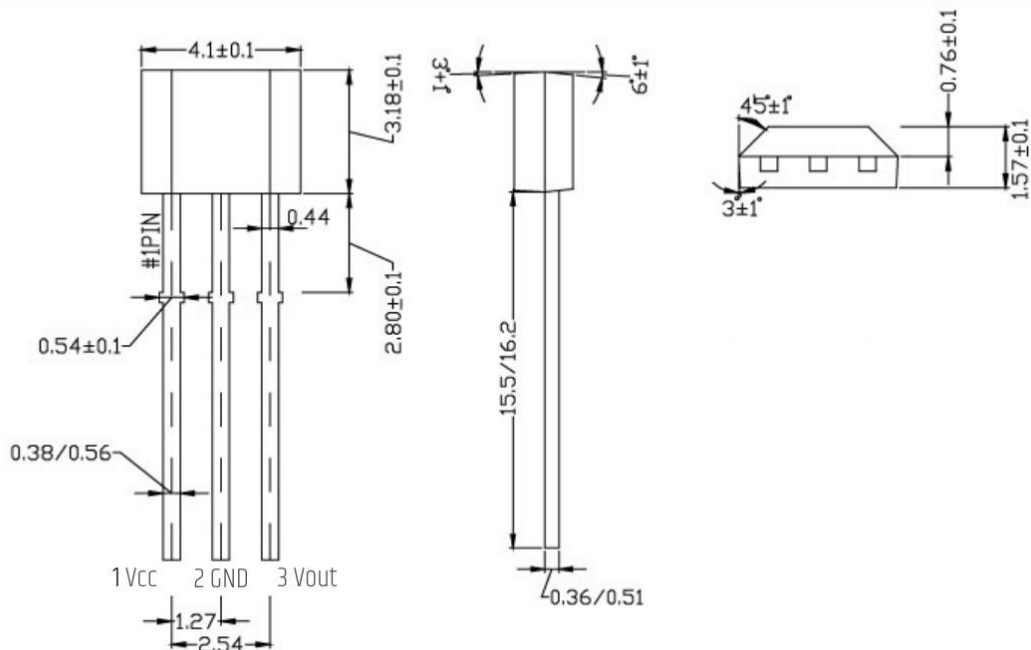


11. Pin configuration



Pin Name	PIN	Function description
	SOT23/TO92S	
Vcc	1	Supply Voltage
GND	2	Ground
Vout	3	Output



12. Dimension (unit: mm)
SOT23

T0-92S

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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.

