

OH41 / OH41A Hall Latch IC

1. General Description

OH41 OH41A Hall-effect Latching Switch IC is composed of a reverse protector, voltage regulator, Hall voltage generator, differential amplifier, Schmitt trigger, and an open-collector output on a single silicon chip. It can convert the magnetic field signal into a digital voltage output in response to N and S alternating magnetic field.

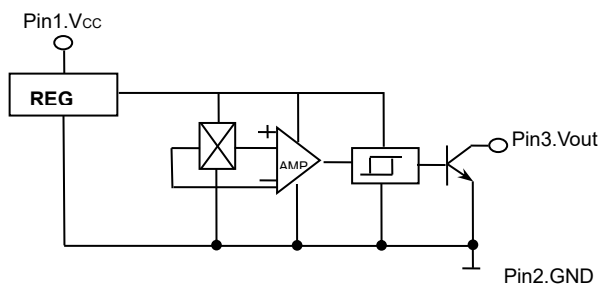
2. Features

- 4.5V to 24V DC operation voltage
- Open-Collector sinking type
- 25mA maximum sinking output current.
- Reverse Polarity Protection
- Good temperature performance

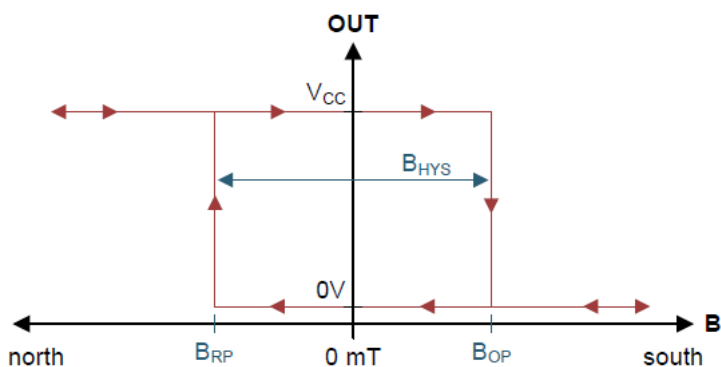
3. Applications

- 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

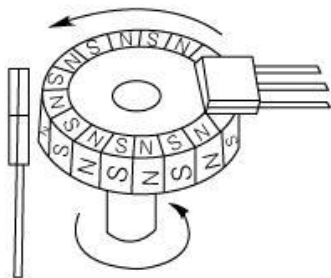
4. Functional Block Diagram



5. Magnetic-electrical Transfer Characteristics



6. Typical Working Mode



7. Order information

Part number	Package type	Quantity/Package
OH41	TO-92S	Bulk, 1000 pcs/bag
OH41A (High sensitivity)	TO-92S	Bulk, 1000 pcs/bag



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

Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	4.5 to 24	V
Output current	I _{out}	25	mA
Operating temperature range	T _A	-40 to 150	°C
Storage temperature range	T _{stg}	-55 to 150	°C

9. Electrical Characteristics (T_A=25°C)

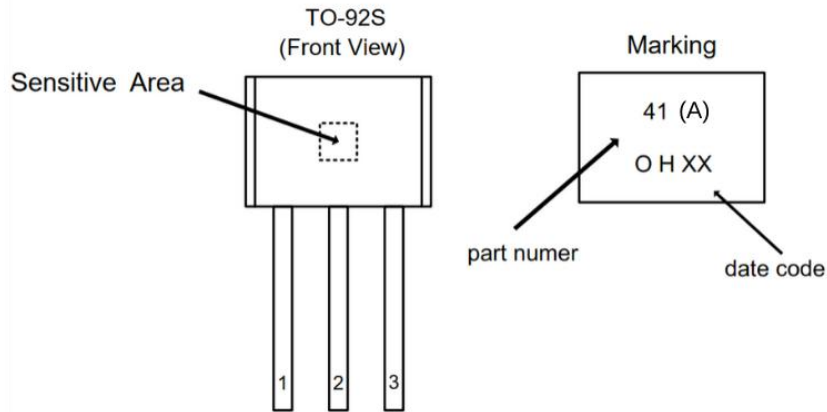
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V _{CC}		4.5	-	24	V
Output Saturation Voltage	V _{OL}	V _{CC} =5V, R _L =1KΩ, B≥B _{OP}	-	200	400	mV
Output Leakage Current	I _{OH}	V _O =V _{CCmax} , B≤B _{RP}	-	0.1	10	μA
Supply Current	I _{CC}	V _O =V _{CCmax} , B≤B _{RP}	-	4	-	mA
Output Rise Time	t _r	V _{CC} =5V, R _L =1KΩ, C _L =20pF	-	0.3	-	μS
Output Falling Time	t _f		-	0.3	-	μS

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

Parameter	symbol	Part number	Value			Unit
			Min	Typ	Max	
Operate Point	B _{OP}	OH41	-	-	6	mT
		OH41A	-	-	3	
Release Point	B _{RP}	OH41	-6	-	-	mT
		OH41A	-3	-	-	
Hysteresis	B _H		-	7	-	mT



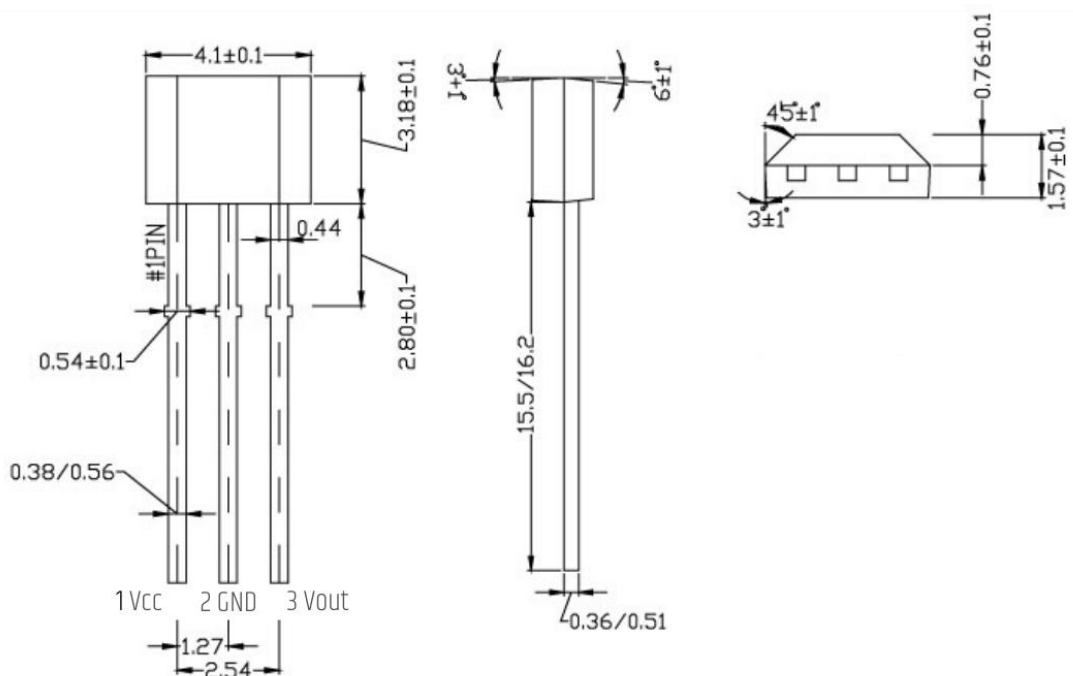
11. Pin configuration



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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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.

