

# OH920 High Sensitivity Hall Latch IC

## 1. General Description

**OH920** is a Hall-effect latch designed in mixed-signal CMOS technology. It is quite suitable for use in automotive, industrial and consumer applications. Superior high-temperature performance is made possible through dynamic offset cancellation, which reduces the residual offset voltage frequently caused by device over-molding, temperature dependencies, and thermal stress. The device integrates a voltage regulator, Hall voltage generator, small-signal amplifier, chopper stabilization, a Schmitt trigger, an open-drain output. An on-board regulator permits operation with supply voltage from 3.5V to 20V.

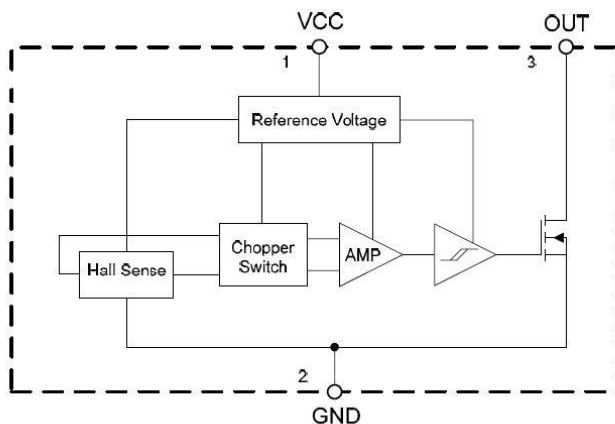
## 2. Features

- Wide Operating Voltage Range from 3.5 to 20V
- Symmetrical Switch Points
- Chopper-stabilized Amplifier Stage
- Superior Temperature Stability
- Open-drain Output
- Compact Size
- ESD Rating: 6000V (Human Body Model)

## 3. Applications

- Brushless DC Motor Commutation
- Brushless DC Fan
- Solid-state Switch
- Revolution Counting
- Speed Detection
- High Sensitivity and Unconnected Switch

## 4. Functional Block Diagram



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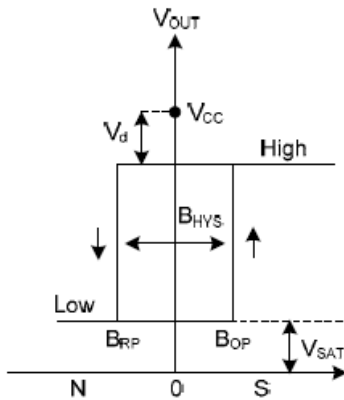
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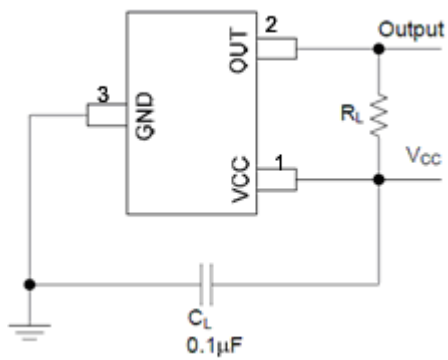
## 5. Magnetic-electrical Transfer Characteristics



## 6. Order information

Part number	Package type	Quantity/Package
OH920	SOT23	3000 PCS/ Reel

## 7. Typical Application



**8. Absolute Maximum Ratings (T<sub>A</sub>=25°C)**

Parameter	Symbol	Value	Unit
Supply Voltage	V <sub>CC</sub>	3.5 to 20	V
Output current	I <sub>out</sub>	25	mA
Operating temperature range	T <sub>A</sub>	-50 to 150	°C
Storage temperature range	T <sub>stg</sub>	-65 to 150	°C

**9. Electrical Characteristics V<sub>CC</sub> =12V, T<sub>A</sub>=25°C, unless otherwise specified**

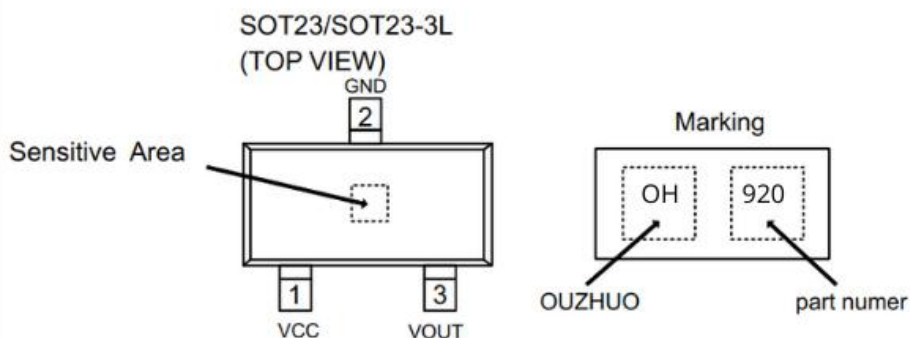
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V <sub>CC</sub>		3.5	-	20	V
Output Saturation Voltage	V <sub>OL</sub>	I <sub>out</sub> =20mA, B>B <sub>OP</sub>	-	185	500	mV
Output Leakage Current	I <sub>OH</sub>	V <sub>OUT</sub> =20V, B<B <sub>RP</sub>	-	0.1	10	μA
Supply Current	I <sub>CC</sub>	V <sub>CC</sub> =12V	-	3	5	mA
Output Rise Time	t <sub>r</sub>	R <sub>L</sub> =1kΩ, C <sub>L</sub> =20pF	-	0.4	2	μS
Output Falling Time	t <sub>f</sub>		-	0.4	2	μS

**10. Magnetic Characteristics V<sub>CC</sub> =12V, T<sub>A</sub> =25°C, (1mT = 10 Gauss)**

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	B <sub>OP</sub>	0.5	2.2	4	mT
Release Point	B <sub>RP</sub>	-4	-2.2	-0.5	mT
Hysteresis	B <sub>H</sub>	-	4.5	-	mT

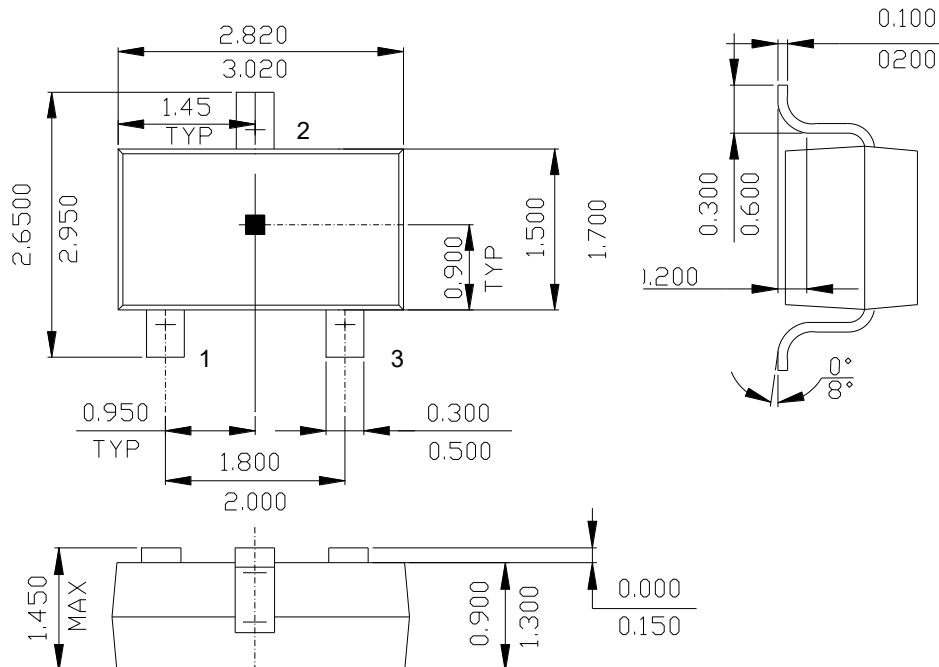


## 11. Pin configuration



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

## 12. Dimension unit: mm



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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.

