

# OH413

## Hall Effect Latch IC For High Temperature

### Order Information

Part number	OH413	Operate temperature	-40~150°C	Package	TO-92S	1000pcs/bag
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### General Description

OH413 includes an on-chip Hall voltage generator for magnetic sensing, an amplifier to amplify Hall voltage, and a comparator to provide switching hysteresis for noise rejection, and an open-collector output pre-driver. While the magnetic flux density (B) is larger than threshold  $B_{OP}$ , the OUT pin turns on (low). When  $B < B_{RP}$ , the OUT pin go into " off " state.



### Features

- High reliability
- High sensitivity
- good temperature performance
- anti-environmental stress

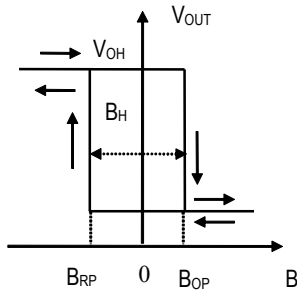
### Applications

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

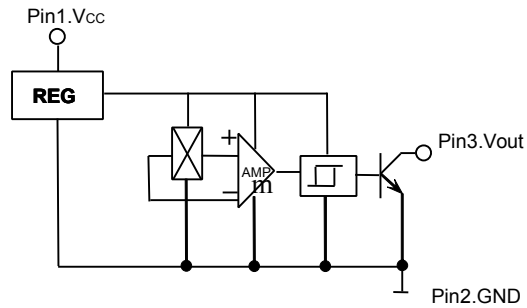
### Absolute Maximum Ratings (T<sub>A</sub>=25°C)

Supply Voltage V<sub>CC</sub>.....4-30V    Operating Temperature Range T<sub>A</sub> .....-40 ~ 150°C  
 Output Current I<sub>O</sub>.....50mA    Storage Temperature Range T<sub>S</sub> .....-55 ~ 150°C

### Magnetic-electrical Transfer Characteristics



### Functional Block Diagram:



Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V <sub>CC</sub>		4	-	30	V
Output Saturation Voltage	V <sub>OL</sub>	V <sub>CC</sub> =4.5V, I <sub>out</sub> =20mA, B≥B <sub>OP</sub>	-	200	400	mV
Output Leakage Current	I <sub>OH</sub>	V <sub>out</sub> =24V, 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	-	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	-	μS
Output Falling Time	t <sub>f</sub>		-	0.18	-	μS

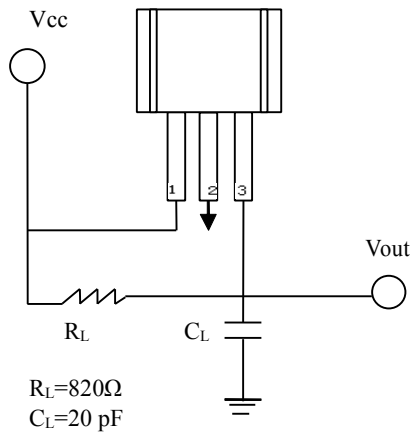
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## Hall Effect Latch IC For High Temperature

**Magnetic Characteristics** ( $V_{CC}=4\sim 30V$   $T_a= 25^\circ C$ ) (1mT = 10 Gauss)

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	$B_{OP}$	-	-	8	mT
Release Point	$B_{RP}$	-8	-	-	mT
Hysteresis	$B_H$	-	10	-	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  $260^\circ C$ , 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 (unit:mm)**

