HEX401

Hall Effect Unipolar IC For High Temperature

Order Information

Part number	HEX401	Operate temperature	-40～150℃	Package	TO-92S	1000pcs/bag

General Description

HEX401includes 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 Bop, the OUT pin turns on (low). When B < Brp, the OUT pin go into " off " state.

Features

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

Applications

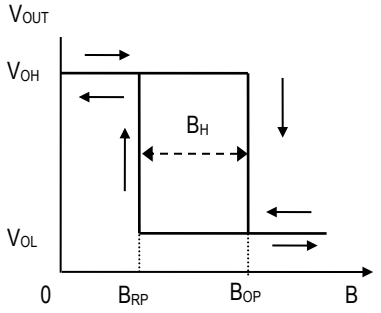
- Speed measurement
- Home appliances
- Position detection
- Flow measurement

Absolute Maximum Ratings （T_A=25℃）

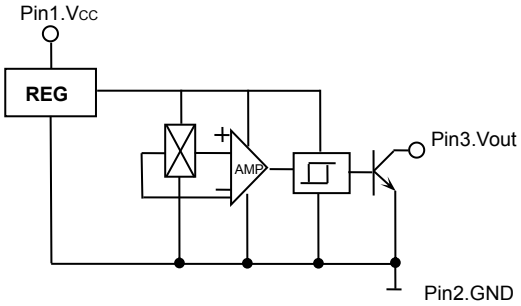
Supply Voltage V_{CC}.....4-30V Operating Temperature Range T_A .....-40 ～ 150℃

Output Current I_O.....50mA Storage Temperature RangeT_S .....-55～150℃

Magnetic-electrical Transfer Characteristics



Functional Block Diagram：



Electrical Characteristics (Ta= 25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Supply Voltage	V_{CC}		4	-	30	V
Output Saturation Voltage	V_{OL}	Vcc=4.5V, Iout=20mA，B≥B_{OP}	-	200	400	mV
Output Leakage Current	I_{OH}	Vout=24V，B≤B_{RP}	-	1.0	10	μA
Supply Current	I_{CC}	V_{CC}=Vccmax OC output	-	5	-	mA
Output Rise Time	t_r	Vcc=12V, R_L=820Ω, C_L=20pF	-	0.2	2.0	μS
Output Falling Time	t_f		-	0.18	2.0	μS

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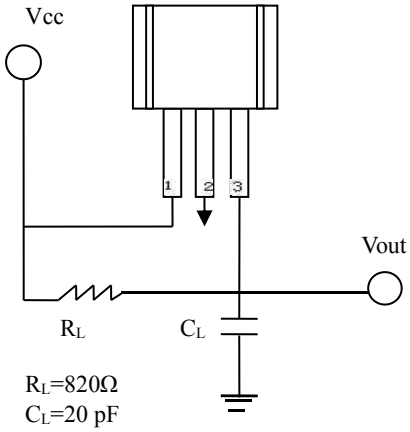
Magnetic Characteristics (V_{CC}=4～30V Ta= 25°C) (1mT = 10 Gauss)

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	B_{OP}	-	-	20	mT
Release Point	B_{RP}	2	-	-	mT
Hysteresis	B_H	-	3	-	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 ℃, 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)