Features

- Ultra high sensitivity with typically Bop 30 Gs
- Low temperature drift of operating points in the temp range of -30℃~125℃
- Wide operating voltage range of 2.3V~ 33 V
- Built-in Pull-up Resistor

Description

The PIH1000 High sensitivity Latching digital Hall-Effect Sensor IC are small and versatile devices that are operated by the magnetic field from a permanent magnet or an electromagnet . The device are designed to respond to alternating North and South poles. The PIH1000 is turned on by a South pole.

The PIH1000 offer reliable switching points with a high magnetic sensitivity of 30 Gs typical . We do not use chopper stabilization on the Hall element, providing a clean output signal and a faster latch response time when compared to competitive high sensitivity Hall-effect latching sensor ICs which do use chopper stabilization.

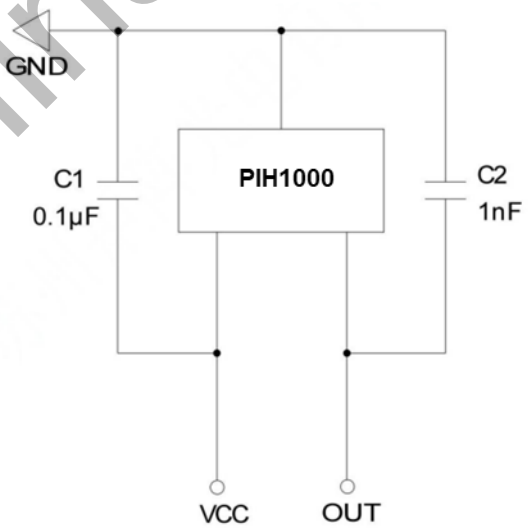
For BLDC manufacturers who need latching sensors with reliable, consistent performance. The PIH1000 can accept any DC supply voltage from 2.3Vdc to 33Vdc. Benefit from the high sensitivity of InSb Hall, The PIH1000 has excellent switching point symmetry and consistent repeatability while delivering faster response times to a change in magnetic field for better motor efficiency.

SIP-3L Package

Applications

- Flow-rate sensing
- Position sensing of rotor in BLDC motor
- Angle and Speed sensing

Application Circuits



Typical Application Circuit Diagram

Absolute Maximum Rating

Parameter	Symbol	Limit	Unit
Power Supply Voltage	V_{CC}	-0.3~33	V
Operating Temperature	Topr	-40~150	℃
Storage Temperature	Tstg	-55~160	℃

Electrical Characteristics

V_{CC}=12V,Topr=25℃,unless otherwise specified.1mT=10Gs

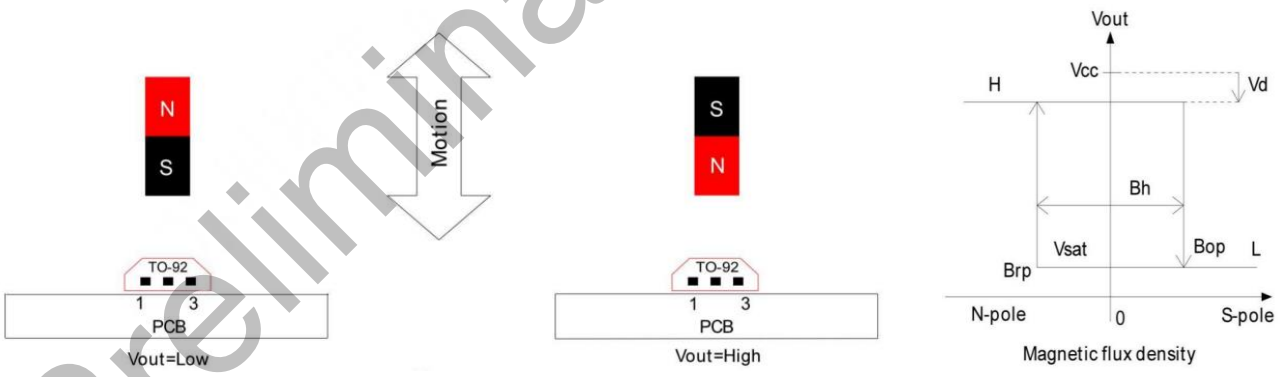
Parameter	Symbol	Unit	Test Conditions	Min.	Typ.	Max.
Power Supply Voltage	V_{CC}	V	Operating	2.3	12	33
Supply Current	I_{CC}	mA	VCC=12V, Output=High	-	4	8
Output Leakage Current	$I_{LEAKAGE}$	uA	/	-	0.1	10
Output Saturation Voltage	V_{SAT}	V	VCC=12V, Output=Low	-	-	0.4
Bulit-in Pull-Up Resistance	RL	KΩ	/	6	-	14

Magnetic Characteristics

VCC=12V,Topr=25℃,unless otherwise specified.1mT=10Gs

Parameter	Symbol	Min.	Typ.	Max.	Unit
B Operating Point	Bop	10	30	60	Gs
B Releasing Point	Brp	-60	-30	-10	Gs
Hysteresis	Bhys	-	60	-	Gs

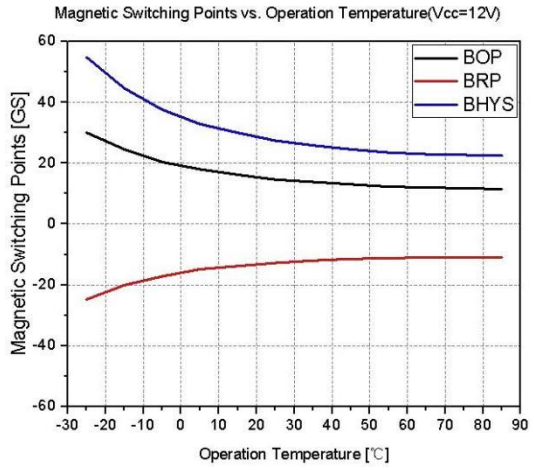
Latch-Type Operating Characteristics

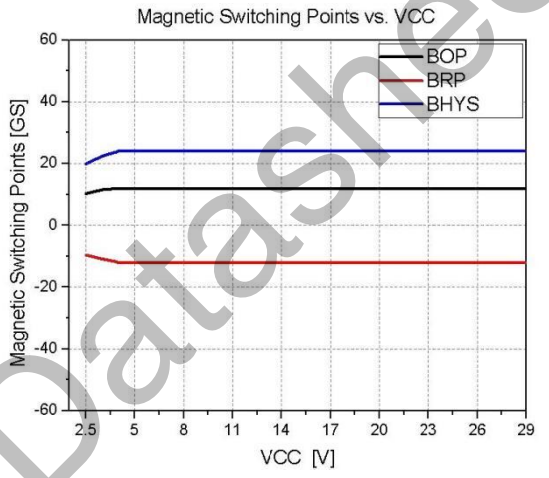


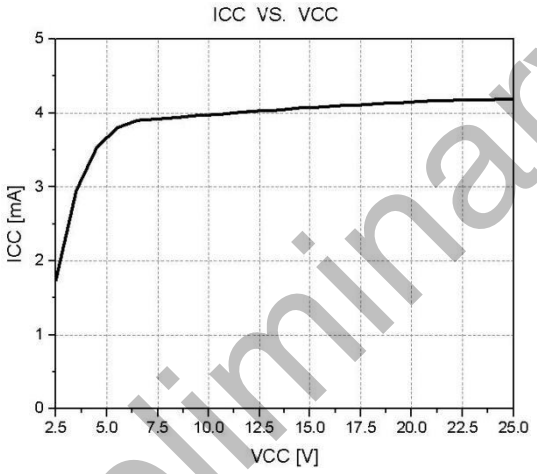
Recommended Operating Parameters

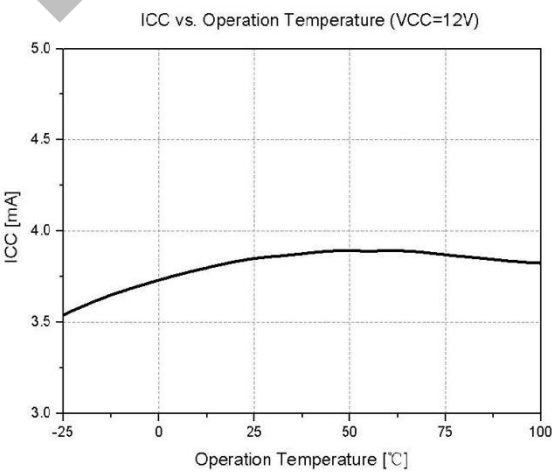
Parameter	Symbol	Min.	Max.	Unit
Power Supply Voltage	V_{CC}	2.3	30	V
Operating Temperature	Topr	-30	125	℃

Precautions for Safety

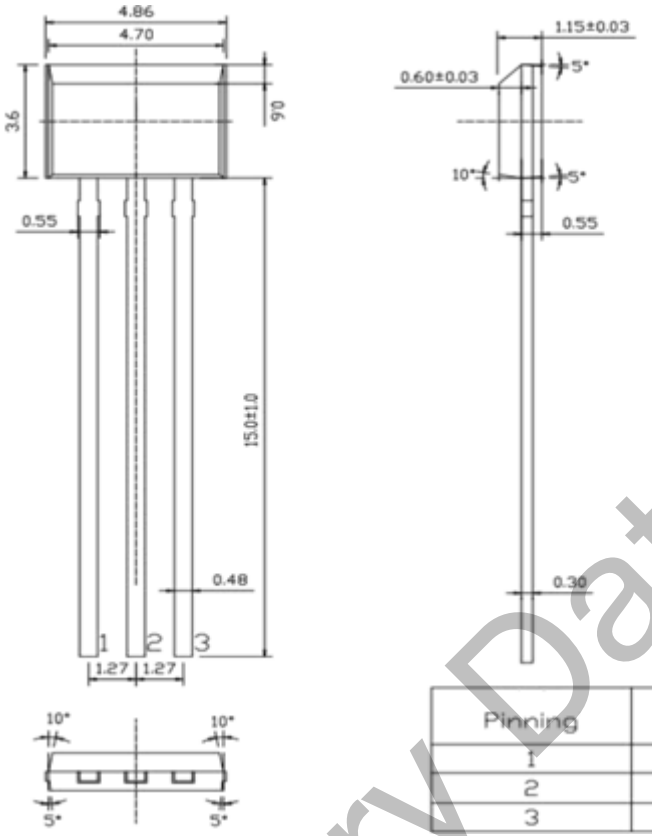








SIP-3L PACKAGE INFORMATION



Pinning	Pinning Define
1	VCC
2	GND
3	OUT