

WS331 Latch-type Hall-Effect IC

● General description

WS331 is an InSb sensor + Si ASIC hybrid Latch-type Hall IC with ultra high sensitivity and low temperature drift in wide operating voltage range.

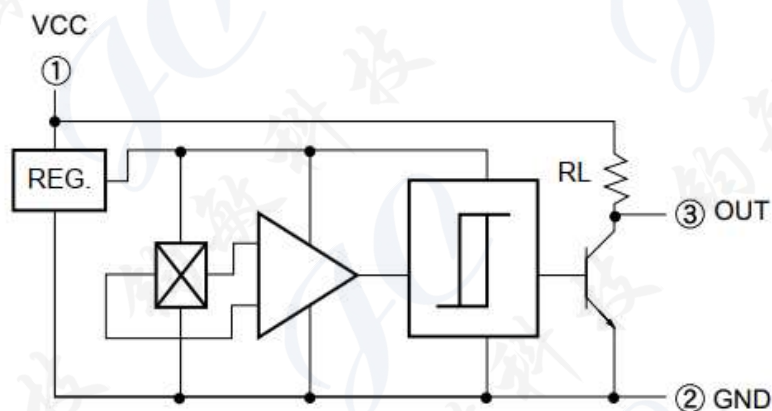
● Features

- Ultra high sensitivity with typically Bop 15Gs
- Low temperature drift of operating points in the temp. range of $-25^{\circ}\text{C} \sim 120^{\circ}\text{C}$
- Wide operating voltage range of 2.5V ~ 30V
- Built-in Pull-up Resistor

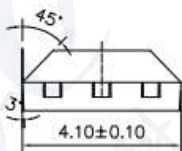
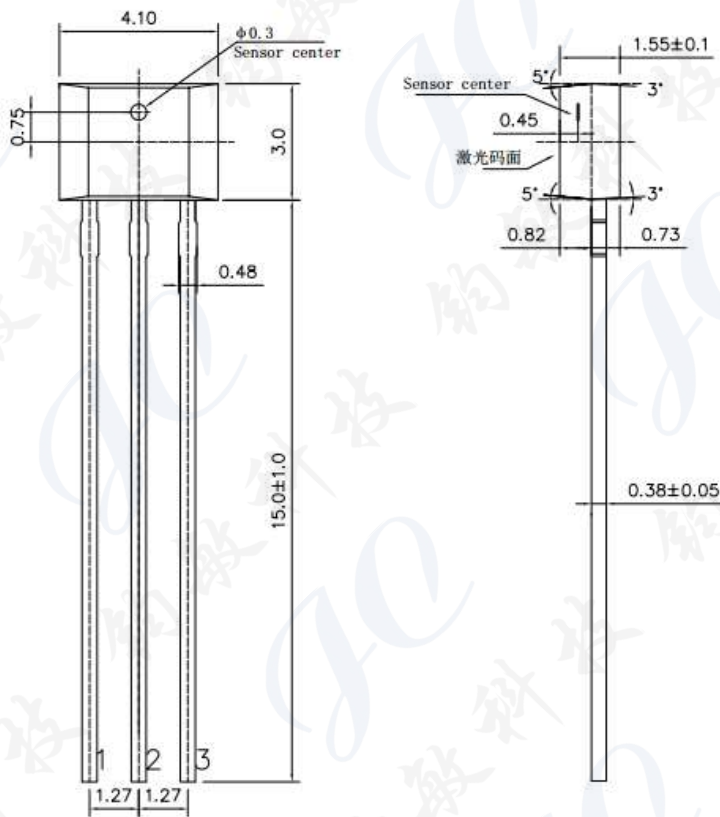
● Applications

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

● Functional Block Diagram



● Dimensional Drawing and Pin Configuration (Unit MM)



引脚编号 (Pinning)	引脚名称 (Pining Define)
1	VCC
2	GND
3	OUT

● Absolute Maximum Ratings

Parameter	Symbol	Limit	Unit
Power Supply Voltage	VCC	-0.3~30	V
Operating Temperature	Topr	-30~120	°C
Storage Temperature	Tstg	-40~150	°C

Note : Stresses beyond the limits listed in “Absolute Maximum Ratings” may cause permanent damage to the device.

● Recommended Operating Conditions

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	VCC	2.5	24	V
Operation Temperature	Topr	-25	110	°C

● Electrical Characteristics

VCC=12V, Topr =25°C, unless otherwise specified.

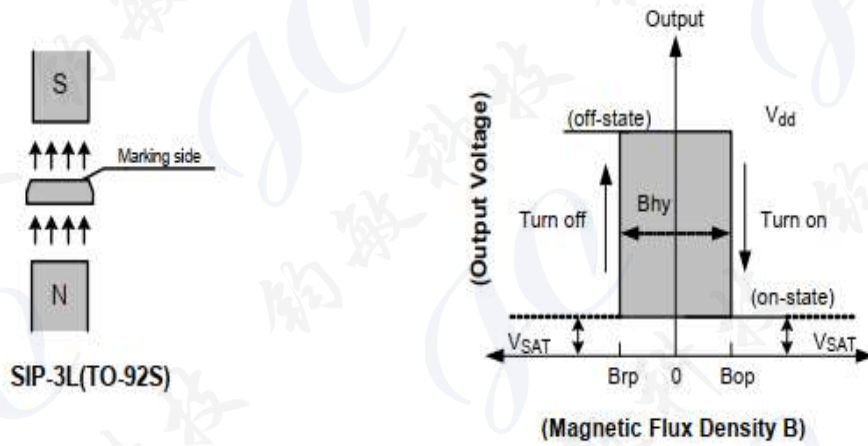
Parameter	Symbol	Conditions	Min	Type	Max	Unit
Power Supply Voltage	VCC	Operating	2.5	12	24	V
Supply Current	ICC	VCC=12V,Output=High	-	4	8	mA
Output Leakage Current	I _{LEAKAGE}		-	0.1	10	μA
Output Saturation	V _{SAT}	VCC=12V,Output=Low			0.4	V
Built-in Pull-Up	R _L		7		13	KΩ

● Magnetic Characteristics

VCC=12V, Topr =25°C, unless otherwise specified.

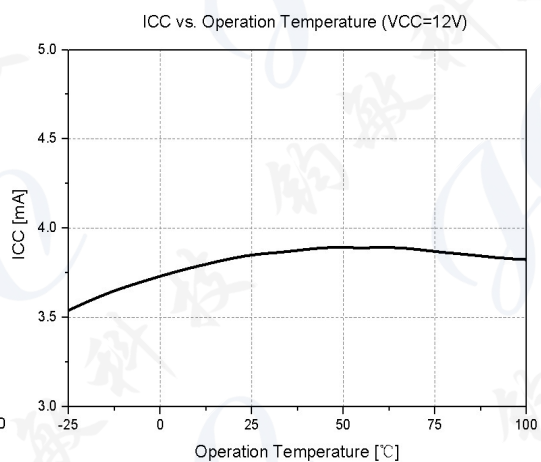
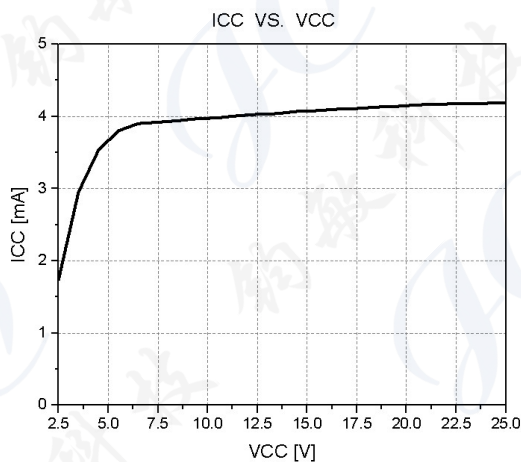
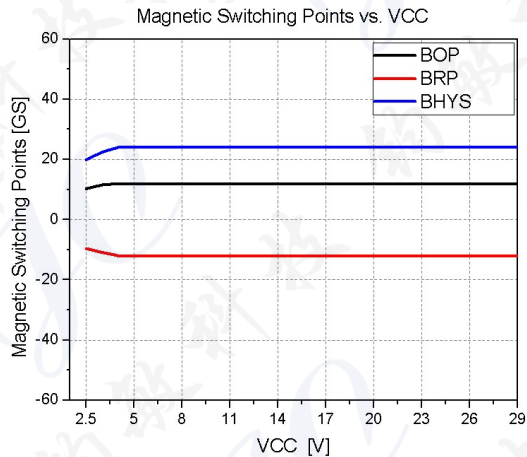
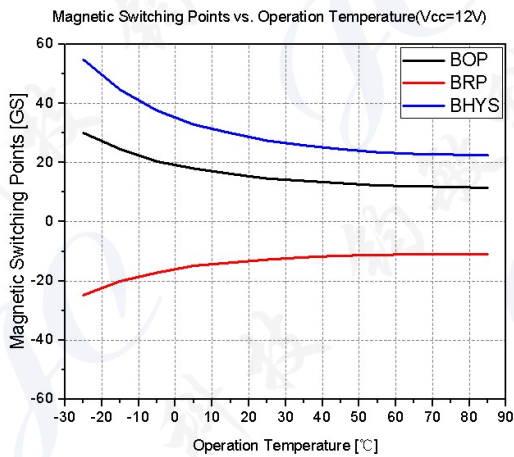
Parameter	Symbol	Min	Type	Max	Unit
Operating Point	BOP	10	-	40	Gs
Releasing Point	BRP	-40	-	-10	Gs
Hysteresis	BHYS	20	-	-	Gs

● Latch-Type Output Characteristics



● Typical Characteristics

V_{CC}=12V, T_{opr} =25°C, unless otherwise specified.



● Ordering Information

Product	Package	Marking ID	Packing Type	Quantity
WS331	SIP-3L	Wafer ID	Pack	500 pcs