Linear Hall Effect Sensor IC

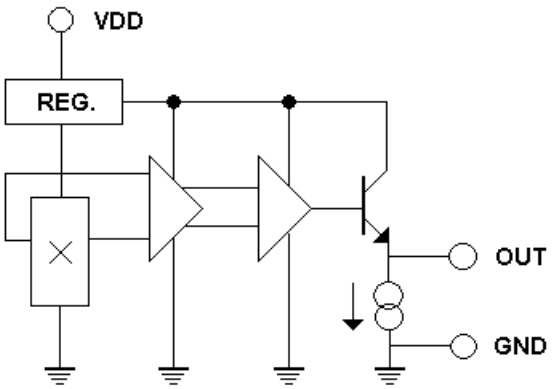
Features:

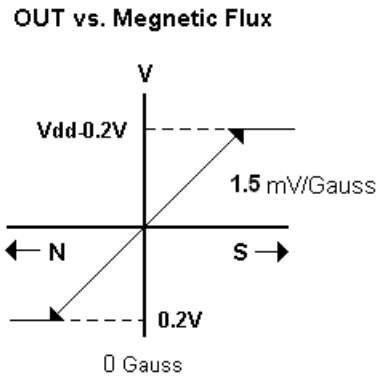
- Wide operating range 3.0~12V, -40℃~125℃
- Flat Response to 23kHz
- High Sensitivity 1.5 mV/Gauss
- Wide output voltage range 0.2~4.8V (at Vdd=5V)
- Low temperature drift ± 0.2 mV/℃
- Wide sensible magnetic field range on different supplied voltage
  ±1,500 Gauss on 5V supplied voltage
  ±3,000 Gauss on 12V supplied voltage. Low operating current 3mA
- Two package styles TO-92S/SOT-23 available.

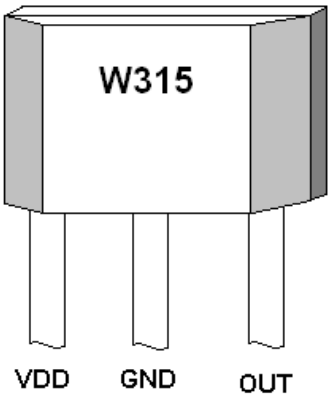
Functional Description :

The WSH315 is a new version of WSH135 with better measuring range and thermal shift. It integrates Hall sensing element, linear amplifer, sensitivity controller and emitter follower output stage.It accurately tracks extremely small change in magnetic flux density –generally too small to operate Hall effect switch.

W315 can be applied as current sensor, tooth sensor, proximity detectors and motion detectors. As sensitive monitor of magnetic flux, it can effectively measure a system's performance with negligible system loading while providing isolation from contaminated and electrically noisy environments.

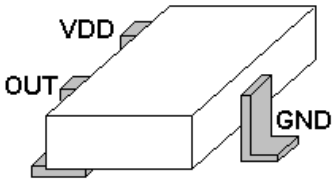






ABSOLUTE MAXIMUM RATING

Supply Voltage, Vdd ---------- **14V**
Magnetic Flux Density, B ----------**Unlimited**
Output Driving Current ---------- **0.4mA**
Operating Temperature Range
Ta ---------- **-40°C to +125°C**
Storage Temperature Range
Ts ---------- **-65°C to +150°C**
Power Dissipation Pd
TO-92S ---------- **450mW**
SOT-23 ---------- **350mW**



ORDER INFORMATION

WSH315-XPAN☐ (TO-92S) WSH315-XPCN☐ (SOT-23) Grade	1: A Grade 2: B Grade

ps: (TO-92S) — 1,000/bag, (SOT-23) — 3,000/reel

Electrical Characteristics: **(T=+25°C, Vdd=5.0V)**

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Supply Voltage	Vcc	—	3.0	—	12	V
Supply Current	Isupply	B=0 Gauss	—	3.0	5.0	mA
Quiescent Vout	V0G	B=0 G (Grade A)	2.45	2.5	2.55	V
		B=0 G (Grade B)	2.35	2.5	2.65	V
Sensitivity	△Vout	B= 0 to ± 500 G	1.2	1.5	1.8	mV/G
Bandwidth	BW		—	23	—	kHz
Measurable Guass Range	MGR	Vdd=5V	—	±1500	—	Guass
		Vdd=12V	—	±3000	—	
Temperature Drift	△Vout	B=0 Gauss	—	±0.2	—	mV/℃

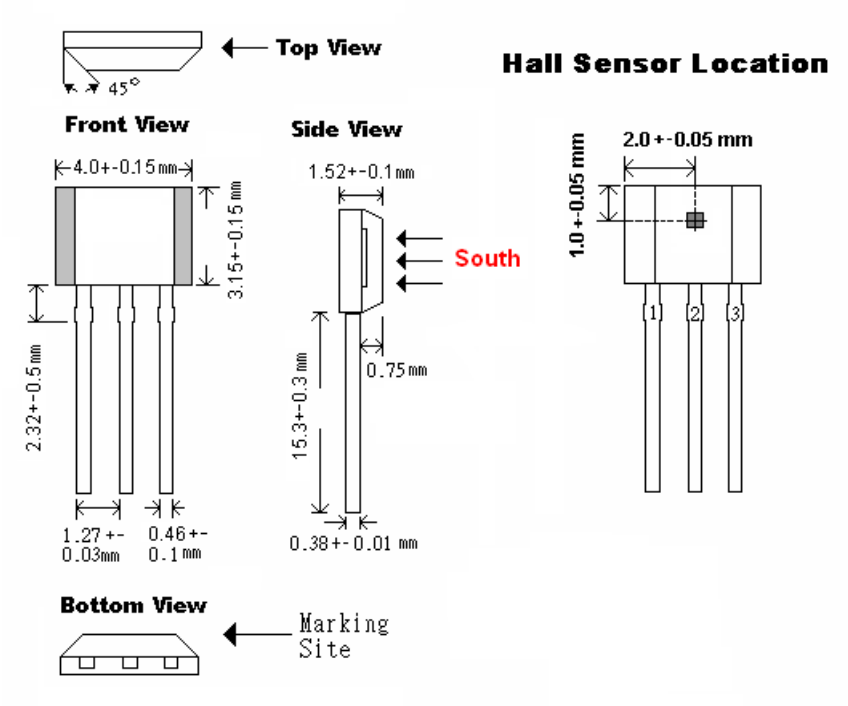
1. All output-voltage measurements are made with a voltmeter having an input impedance of at least 100kΩ

2. Do not apply any load on output pin, it will degrade IC's performance.

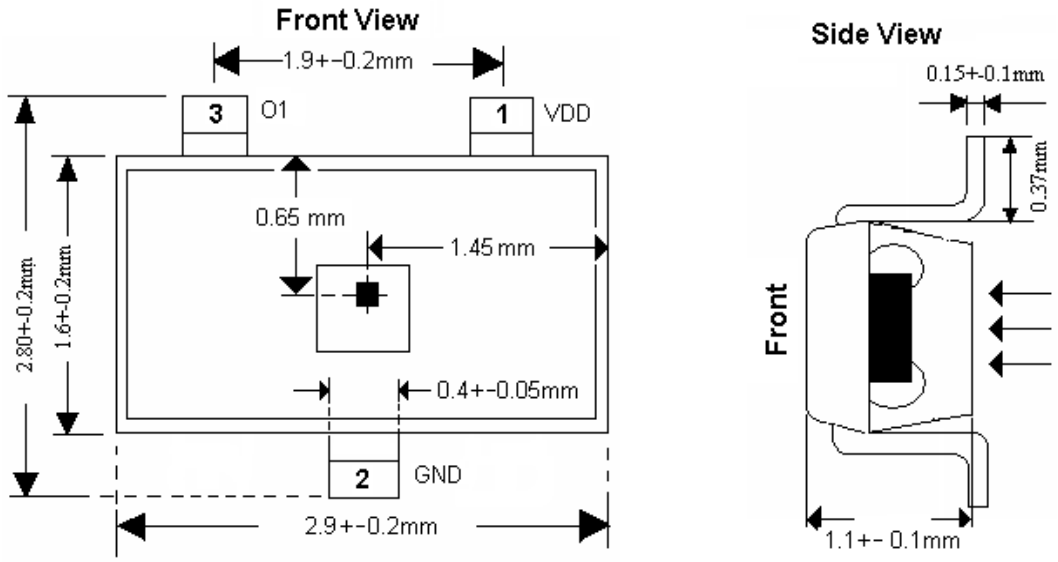
Winson reserves the right to make changes to improve reliability or manufacturability.

Package Information:

TO92S:



SOT23:



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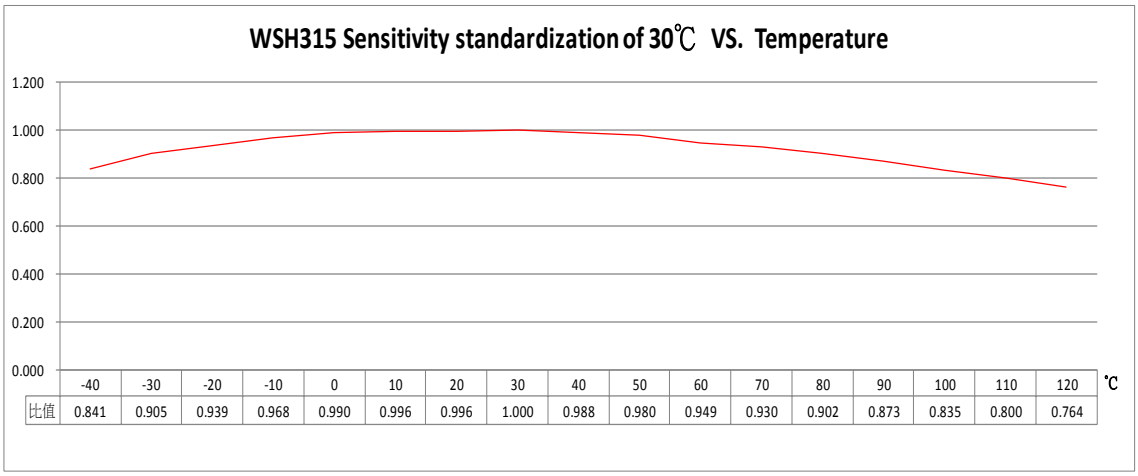
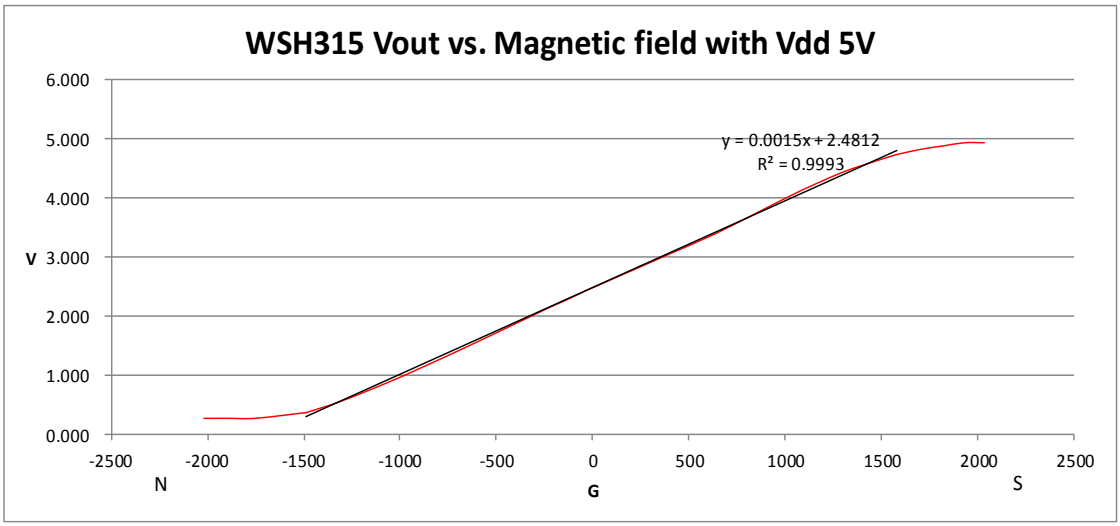
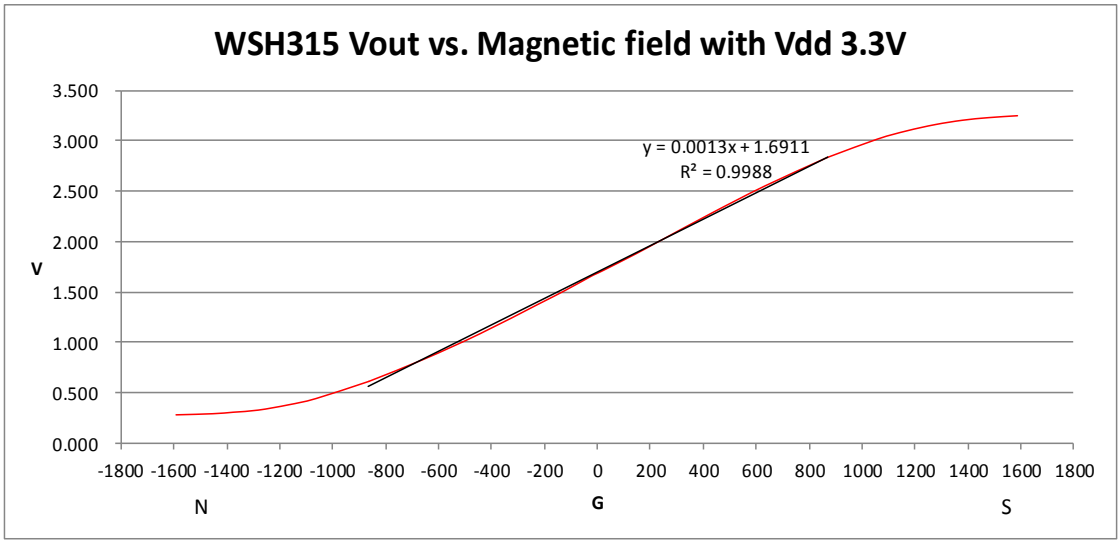
Electrical Characteristic Diagram:



	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100	110	120
比值	0.841	0.905	0.939	0.968	0.990	0.996	0.996	1.000	0.988	0.980	0.949	0.930	0.902	0.873	0.835	0.800	0.764





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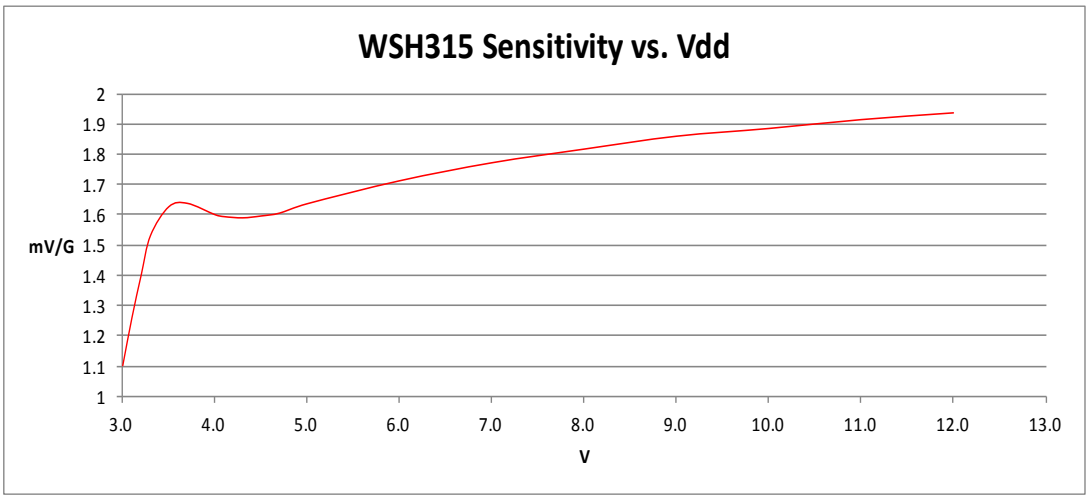

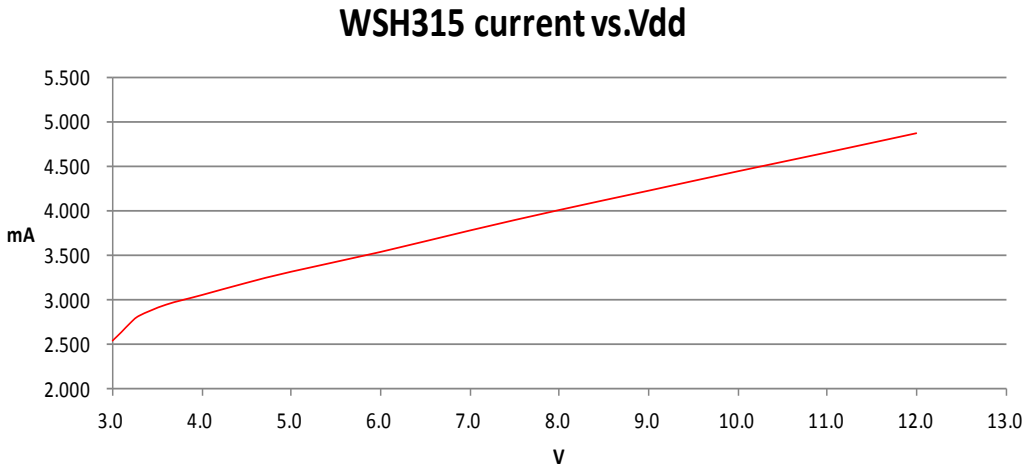

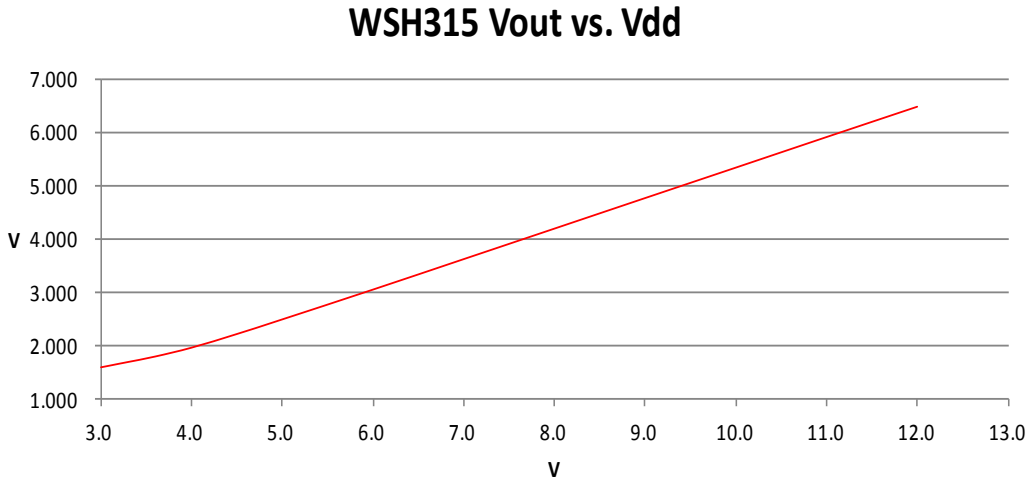

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