

Linear Hall Effect Sensor IC

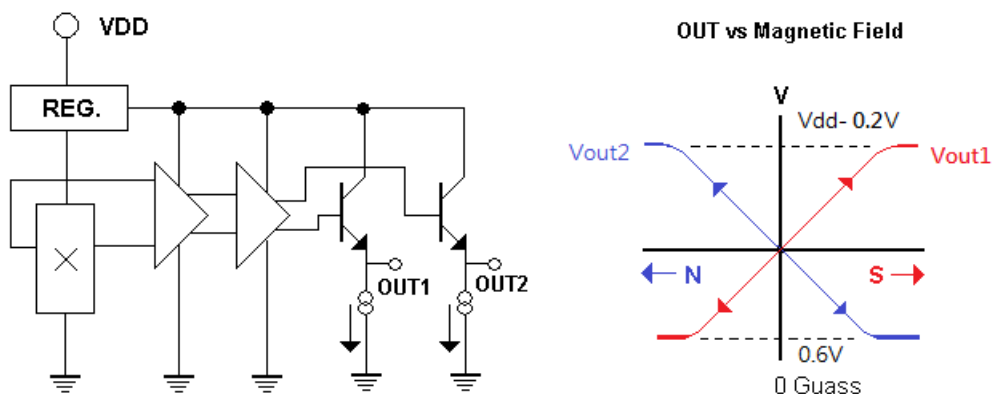
Features:

- Wide operating range 3.0~12V, -40°C~125°C
- Flat Response to 23k Hz
- Low operating current 3mA
- Wide sensible magnetic field range: ± 600 Gauss on 5V supplied voltage
- Sensitivity: 6mV/Gauss (Differential output) on 5V
- Two package styles TO-94/SOT-25 available

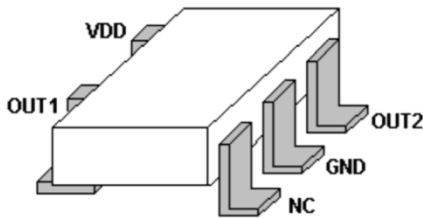
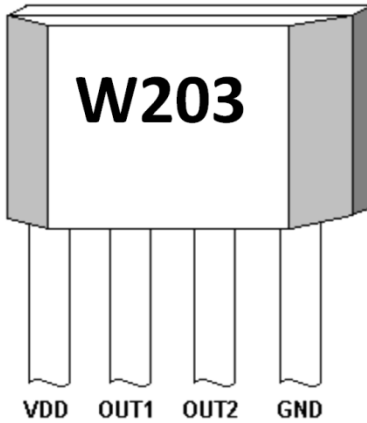
Functional Description :

The W203 integrates Hall sensing element, linear amplifier, 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.

W203 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.



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



Absolute Maximum Range

Supply Voltage, Vdd	14V
Magnetic Flux Density, B	Unlimited
Output Driving Current, Iout	2mA
Operating Temperature Range, Ta	-40°C to +125°C
Storage Temperature Range, Ts	-65°C to +150°C
Power Dissipation, Pd	
TO-94	500mW
SOT-25	400mW

Order Information

WSH203-XPAN (TO-94)
WSH203-XPDN (SOT-25)
Halogen Free

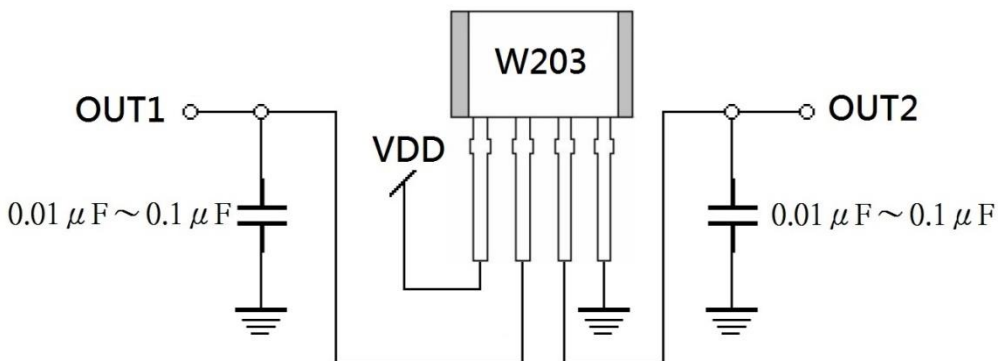
★TO-94 – 1,000/bag , SOT-25 – 3,000/reel

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	—	3.3	5.0	mA
Quiescent Vout	Vout 1/2	B=0 Gauss	2.35	2.5	2.65	V
Differential Δ Vout	Δ Vout 1-2	B=0 G, Vout1-Vout2	-0.3		+0.3	V
Sensitivity (Single Ended)	Δ Vout1/2	B= 0 to \pm 150 G	2.7	3.0	3.3	mV/G
Sensitivity (Differential)	Δ Vout12	B= 0 to \pm 150 G	5.4	6.0	6.6	mV/G
Bandwidth	BW	—	—	23	—	kHz
Measurable Range	MR	Vdd=5V	—	\pm 600	—	Gauss
Temperature Drift	Δ Vout0	B=0 Gauss	—	\pm 0.4	—	mV/°C
Output Noise	V _{Np-p}	—	—	5	—	mV

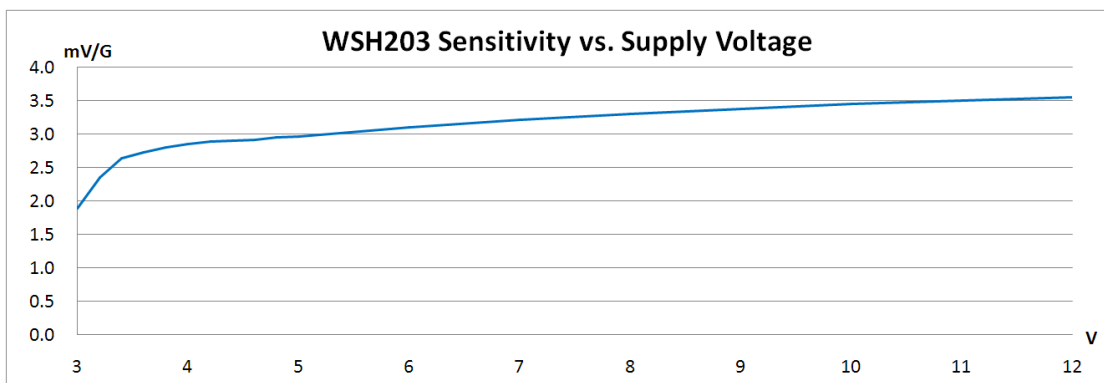
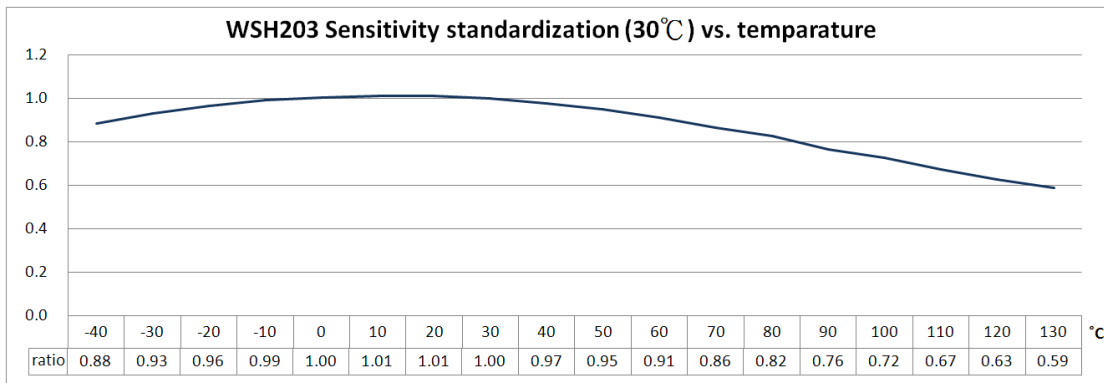
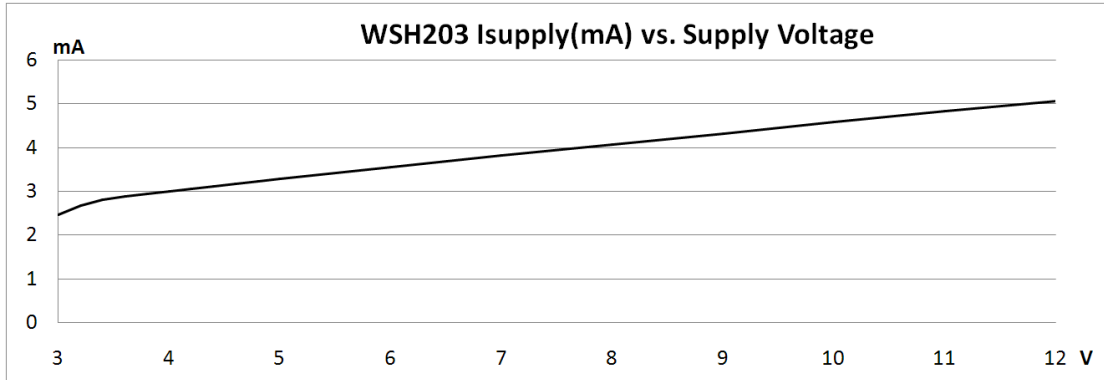
1. All output-voltage measurements are made with a voltmeter having an input impedance of at least 100k Ω
2. Do not apply any 'resistor load' on output pin, it will degrade IC performance.

Application circuit:

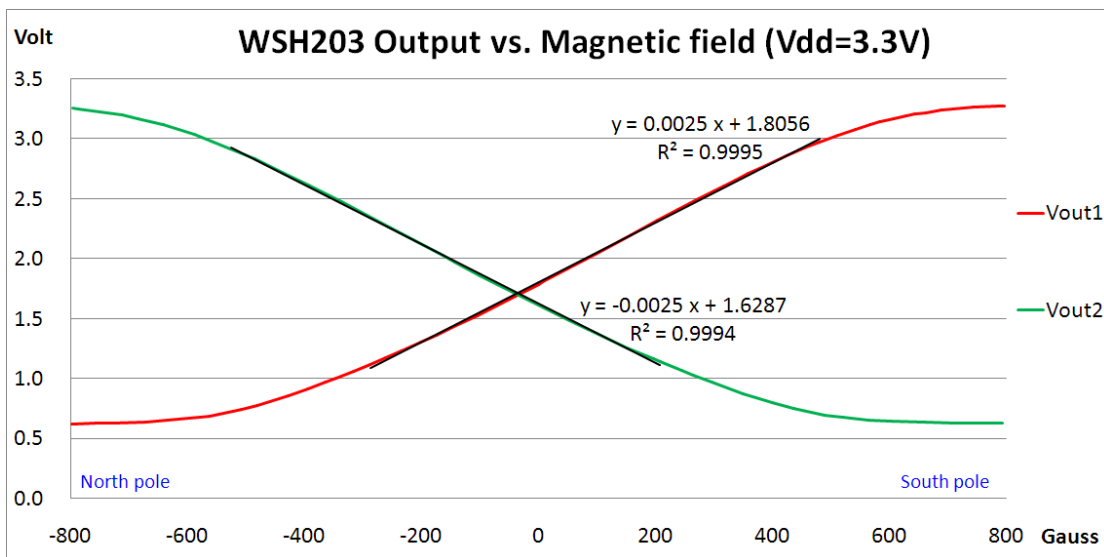
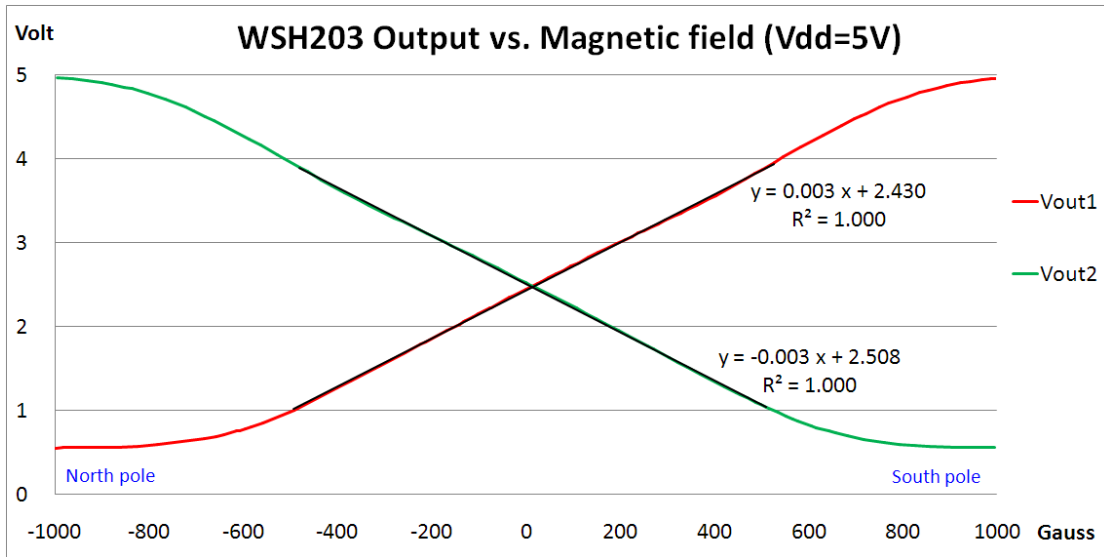


Winson reserves the right to make changes to improve reliability or manufacturability.

Electrical Diagram:



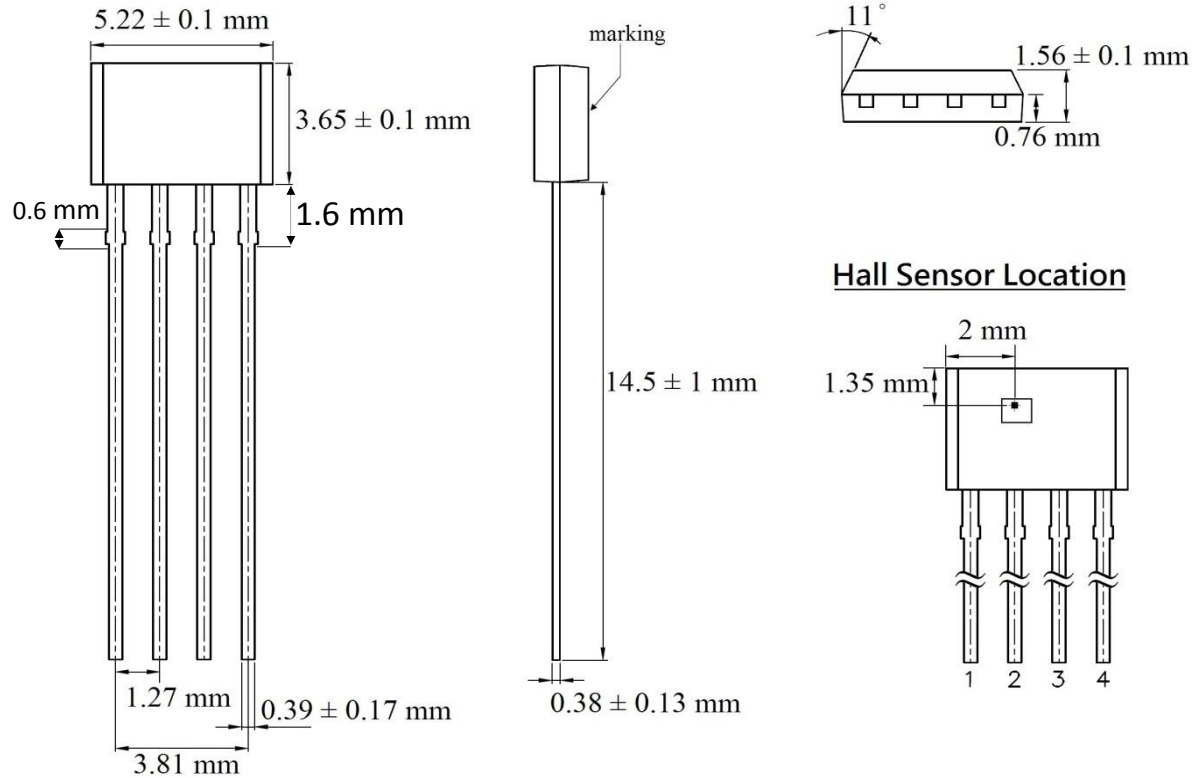
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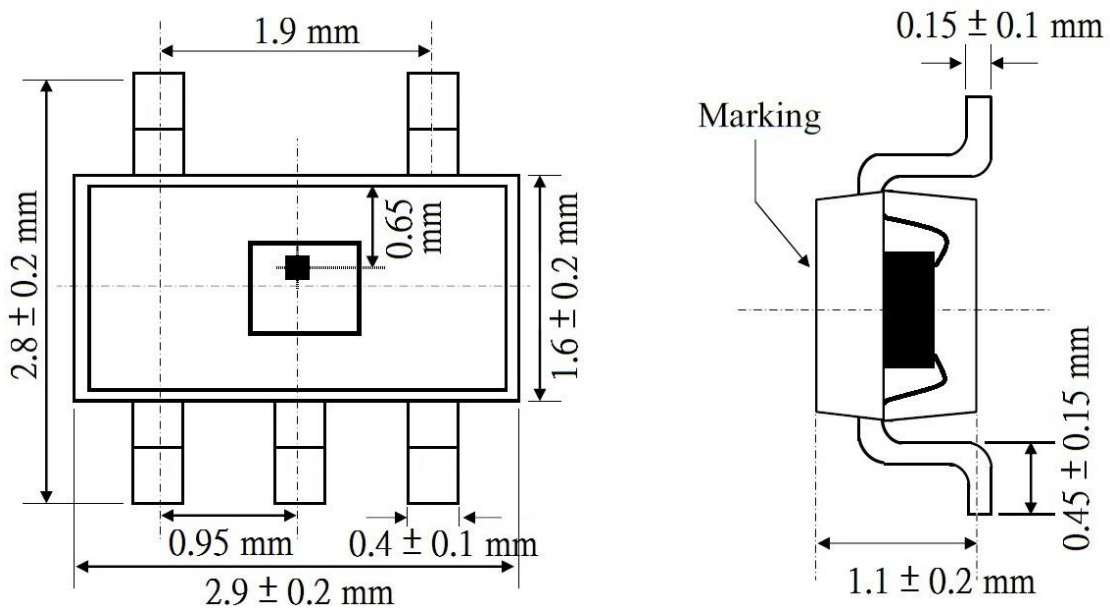
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Package Information

《TO-94》



《SOT-25》

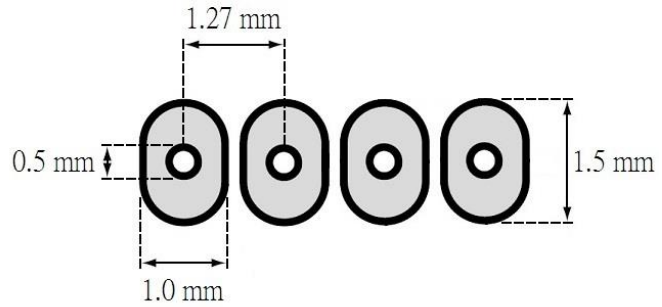
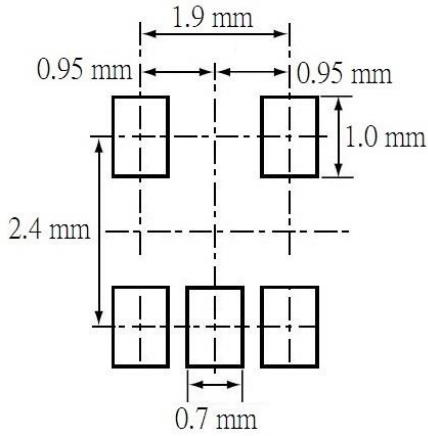


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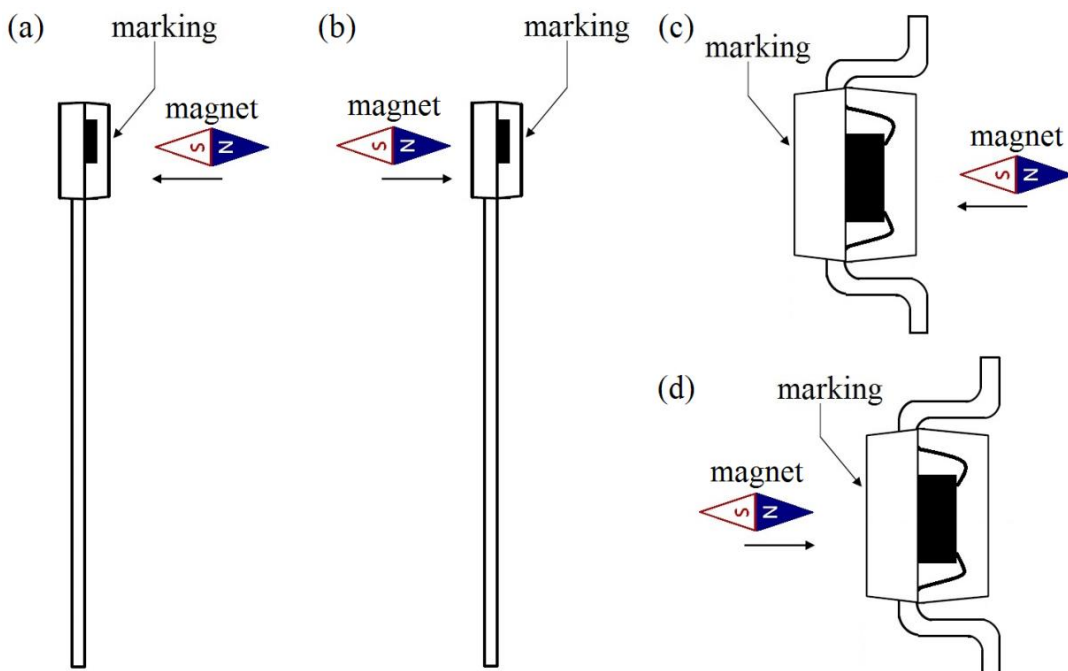
PCB Layout Reference View

SOT-25

TO-94



Hall Device Sensing Direction



Precautions for the use of Hall Sensor IC: please refer to Winson Website->

Products->Application Note ->Hall Sensor IC Application Note:

<http://www.winson.com.tw/Product/83>

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