

---

## Hall Effect Base Linear Current Sensor

**Features:**

- Diameter 8.7mm conductor through hole
- Output voltage proportional to AC and DC current
- Wide sensing current range 0~70A at 5V voltage supply
- High sensitivity 30mV/A
- Wide operating voltage range 3.0~12 V.
- Low operating current 3mA
- Isolation voltage 4000V
- Ratiometric output from supply voltage
- 23K Hz Bandwidth

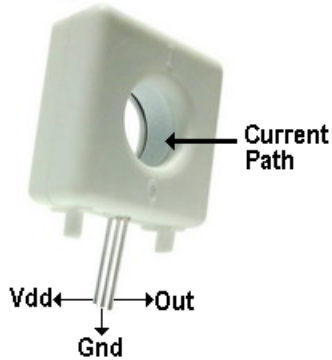
**Functional Description :**

The Winson WCS1700 current sensor provides economical and precise solution for both DC and AC current sensing in industrial, commercial and communications systems. The unique package provide easy implementation without breaking original system and make current sensing possible. Typical applications include motor control, load detection and management, over-current fault detection and any intelligent power management system etc...

The WCS1700 consists of a precise, low-temperature drift linear hall sensor IC with temperature compensation circuit and a diameter 8.7mm through hole. Users can use system's own electric wire by pass it through this hole to measure passing current. This design allow system designers to monitor any current path without breaking or changing original system layout at all. Any current flowing through this hole will generate a magnetic field which is sensed by the integrated Hall IC and converted into a proportional voltage.

The terminals of the conductive path are electrically isolated from the sensor leads. This allow the WCS1700 current sensor to be used in applications requiring electrical isolation without the use of opto-isolators or other costly isolation techniques and make system more competitive in cost.

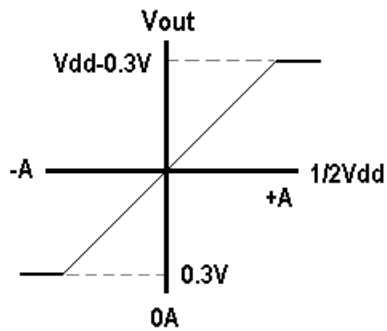
Winson reserves the right to make changes to improve reliability or manufacturability.



### ABSOLUTE MAXIMUM RATING

Supply Voltage, Vdd	14V
Pass Through Wire Diameter	8.7mm
Output Current Sink	0.4mA
Output Current Source	2mA
Basic Isolation Voltage	4000 V
Operating Temperature Range	
Ta	-20°C to +125°C
Storage Temperature Range	
Ts	-65°C to +150°C
Power Dissipation Pd	1 W

### Vout vs. Primary Current

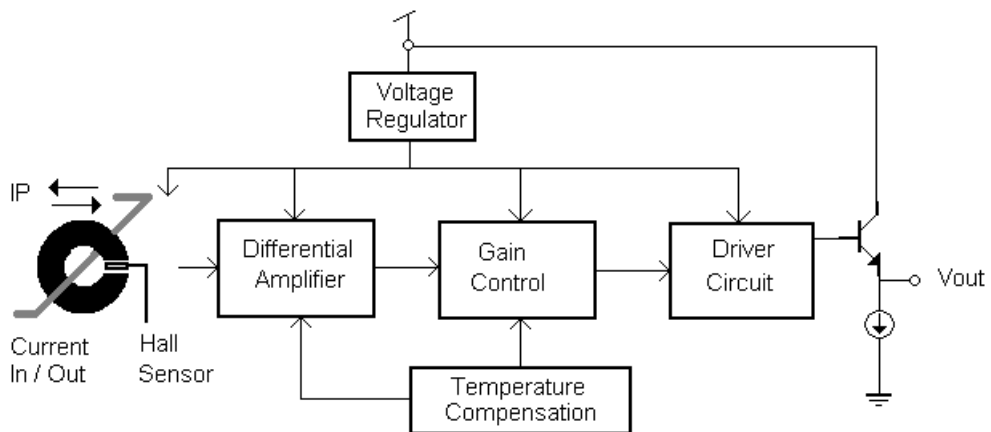


### Order Information

(Vdd=5V)

Part No.	Sensitivity	Current range
WCS1700	30 mV/A	DC: ± 0~70 A
		AC: rms 50 A

### Function Block:



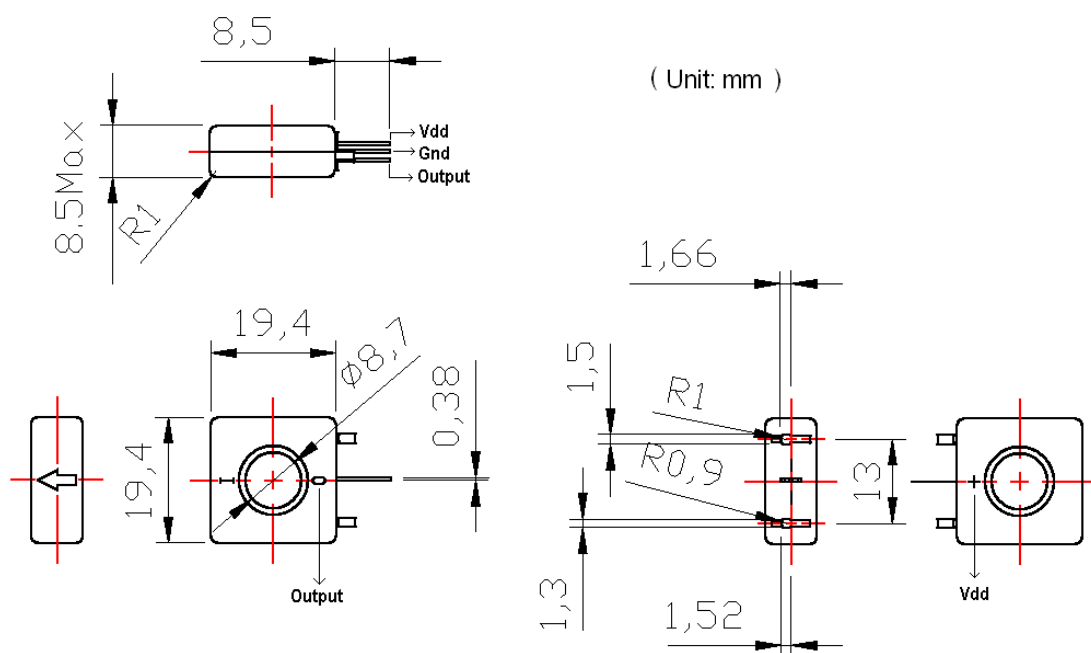
Winson reserves the right to make changes to improve reliability or manufacturability.

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Supply Voltage	Vdd	—	3.0	—	12	V
Supply Current	I <sub>supply</sub>	I <sub>P</sub> = 0 A	—	3.5	6.0	mA
Zero Current V <sub>out</sub>	V <sub>0G</sub>	I <sub>P</sub> = 0 A	2.4	2.5	2.6	V
Conductor Through Hole			—	8.7	—	mm
Sensitivity	<b>WCS1700</b>	I <sub>P</sub> = ±10 A	27	30	33	mV/A
Bandwidth	BW		—	23	—	kHz
Measurable Current Range	<b>WCS1700</b>	Vdd=5V (DC )	—	±70	—	A
		Vdd=5V (AC RMS )	—	50	—	

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

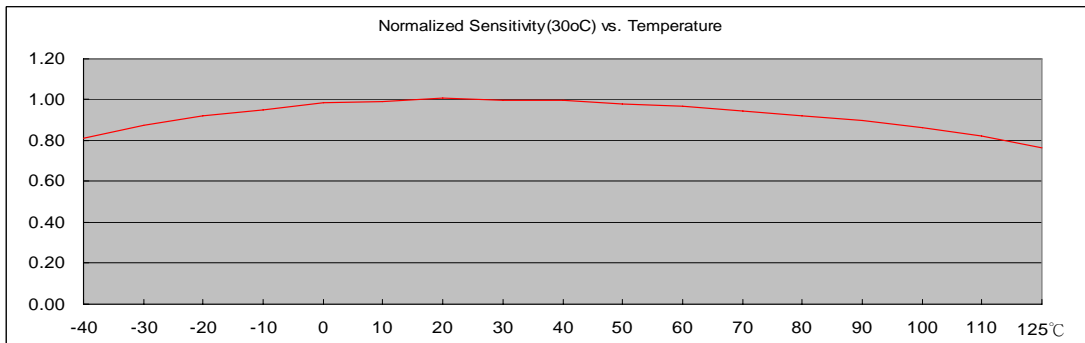
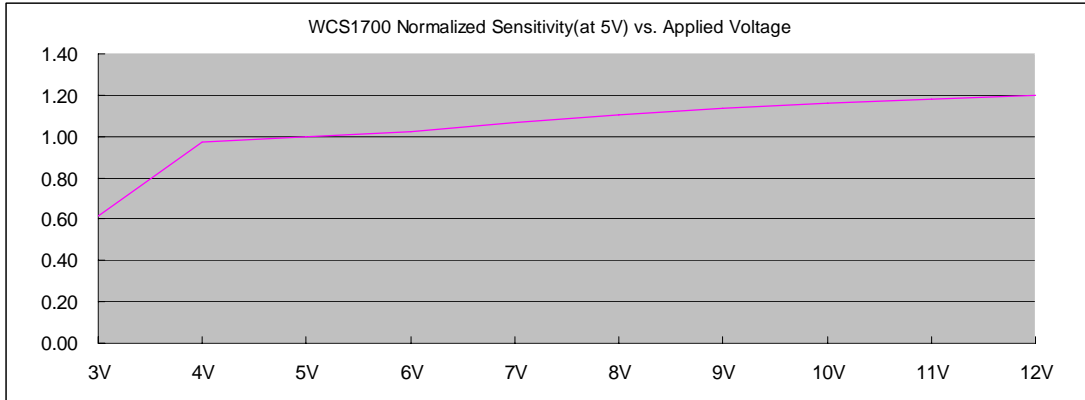
Package Information:



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

## Characteristic Diagrams:

### WCS1700:



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