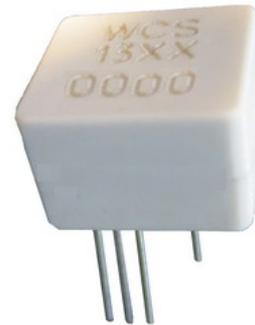


Hall Effect Base Current Switch

Features:

- 8.3 mΩ internal conductor resistance
- Output “Low” when $I_P \geq I_{op}$
- Output “High” when $I_P < I_{rp}$
- Wide operating voltage range 2.6~18 V.
- Low operating current 2.0mA
- 10K Hz bandwidth
- Customized Spec. upon request

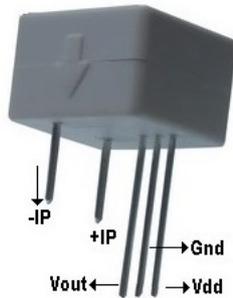


Functional Description :

Winson's WCS1301,1302,1303 and 1304 provides cheap and convenient solution for current detection in industrial and commercial electronic systems. Typical applications include short circuit detection, load detection and over-current fault detection etc...

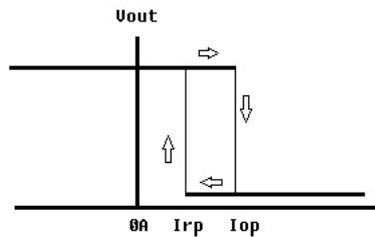
The WCS1301~4 consists of a precise, low-temperature drift hall switch IC with temperature compensation circuit and a current path with typical 8.3 mΩ internal conductor resistance. This extremely low resistance can effectively reduce power loss, operating temperature and increase the reliability greatly. Measured current I_P flowing through this conduction path generates a magnetic field which is sensed by the integrated Hall switch IC and output “Low” when $I_P \geq I_{op}$ and output “High” when $I_P < I_{rp}$.

The terminals of the conductive path are electrically isolated from the sensor leads. This allow the WCS1301~4 current switch 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.

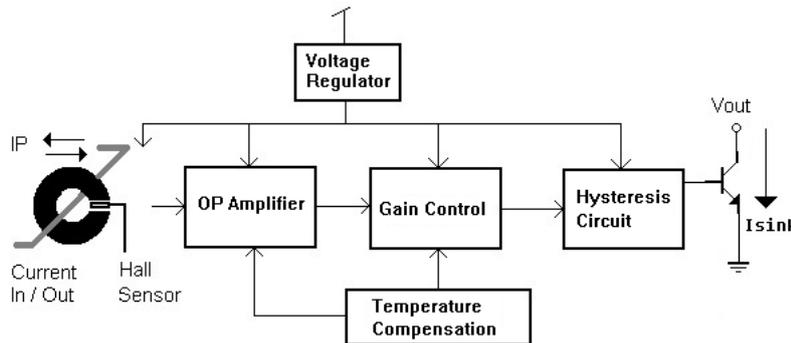


ABSOLUTE MAXIMUM RATING

Vout Breakdown Voltage	28V
Pass Current IP	8A
Pass Current (10 ms pulse)	20A
Output Current Sink	25mA
Conductor Isolation Voltage	1000V
Operating Temperature Range	
Ta	-20 to +100 °C
Storage Temperature Range	
Ts	-65 to +150 °C
Power Dissipation Pd	1W



Function Block:



Electrical Characteristics:

(T=+25°C, Vdd=5.0V)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Supply Voltage	Vdd	—	2.6	—	18	V
Supply Current	Isupply	IP = 0 A	—	2.0	5.0	mA
Vout Saturation Voltage	Vsat	IP > Iop, Isink = 10 mA	—	0.2	0.6	V
Output Leakage Current	Ileakage	Vdd = 5V, IP < Irp	—	<0.1	10	uA
Primary Conductor Resistance	Rprimary	IP = ± 5 A	—	8.3	—	mΩ
Bandwidth	BW		—	10	—	kHz
Output Rise Time	Tr	IP < Irp, RL = 2KΩ CL = 20pf	—	1.0	10	us
Output Falling Time	Tf	IP > Iop, RL = 2KΩ CL = 20pf	—	0.3	1.5	us

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

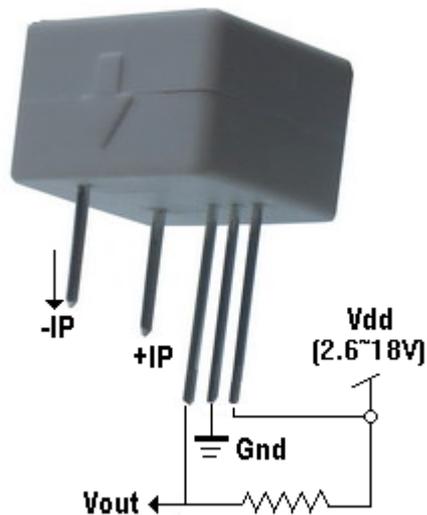
Winson reserves the right to make changes to improve reliability or manufacturability.

Current Characteristics:

($T=+25^{\circ}\text{C}$, $V_{\text{dd}}=5.0\text{V}$)

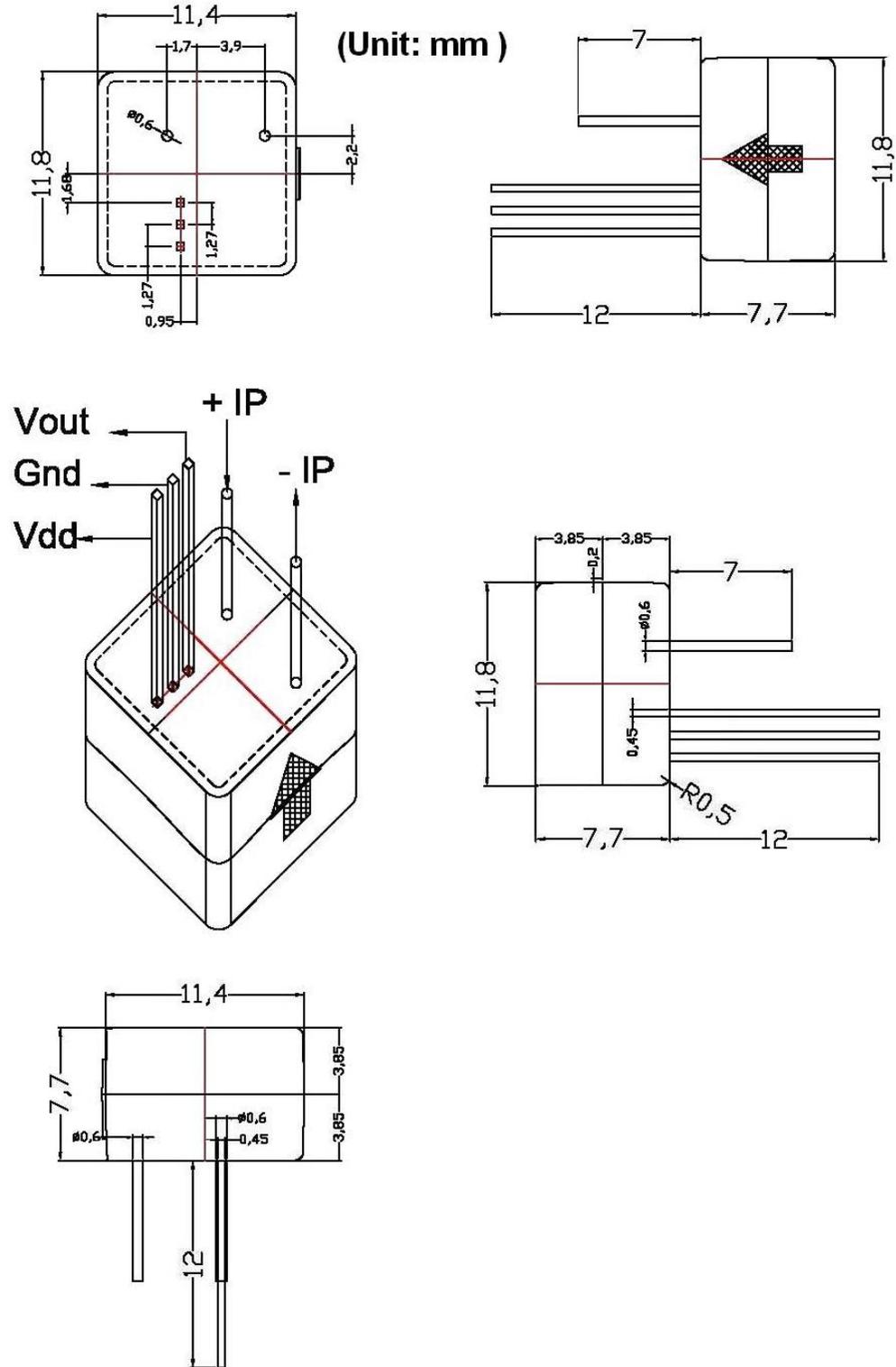
Characteristic	Symbol	Part No	Min.	Typ.	Max.	Unit
Operating Point	Iop	WCS1301	0.6	0.8	1.0	A
		WCS1302	1.0	1.5	2.0	
		WCS1303	2.0	2.5	3.0	
		WCS1304	3.0	3.5	4.0	
Release Point	Irp	WCS1301	0.2			A
		WCS1302	0.5			
		WCS1303	1.5			
		WCS1304	2.2			
Hysteresis Current	Ihys			0.2	0.8	A

Application Circuit:



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

Package Information:



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