

Installation Instructions for the SS361CT/SS461C High Sensitivity Bipolar Latching, Hall-Effect Digital Sensor ICs

ISSUE 1
50050501

GENERAL INFORMATION

CAUTION

ELECTROSTATIC DISCHARGE DAMAGE

This component is sensitive to electrostatic discharge (ESD). Take normal ESD precautions in handling this product to prevent ESD-induced damage and/or degradation.

Failure to comply with these instructions may result in product damage.



SOLDERING/ASSEMBLY

CAUTION

IMPROPER SOLDERING

- Ensure leads are adequately supported during any forming/shearing operation so that they are not stressed inside the plastic case.
- Limit exposure to high temperatures.
- Do not wave solder the SS361CT.

Failure to comply with these instructions may result in product damage.

SS361CT: Use an infrared reflow process with temperatures of 245 °C [473 °F] peak for 10 s max.

SS461C: PC board wave soldering temperature is 250 °C to 260 °C [482 °F to 500 °F] peak for 3 s max.

Table 1. Absolute Maximum Ratings¹

Characteristic	Min.	Typ.	Max.	Unit
Supply voltage	-26.0	—	28.0	Vdc
Applied output voltage	-0.5	—	28.0	Vdc
Output current	—	—	20.0	mA
Magnetic flux	—	—	no limit	Gauss

Note 1: Absolute maximum ratings are the extreme limits that the device will withstand without damage to the device. However, the electrical and mechanical characteristics are not guaranteed as the maximum limits (above recommended operating conditions) are approached, nor will the device necessarily operate at absolute maximum ratings.

NOTICE

The magnetic field strength (Gauss) required to cause the switch to change state (operate and release) will be as specified in the magnetic characteristics. To test the switch against the specified magnetic characteristics, the switch must be placed in a uniform magnetic field.

NOTICE

Bipolar Hall-Effect sensor ICs may have an initial output in either the ON or OFF state if powered up with an applied magnetic field in the differential zone (applied magnetic field >Brp and <Bop). Honeywell recommends allowing 10 µs for output voltage to stabilize after supply voltage has reached 5 V.

Figure 1. Typical Magnetic Characteristics

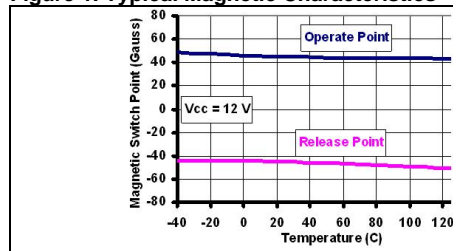


Figure 2. Current Sinking Output Block Diagram

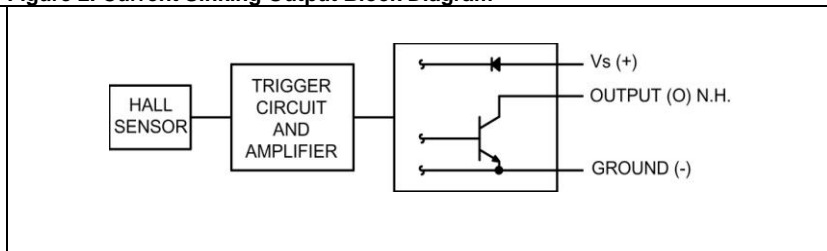


Table 2. SS361CT/SS461C Performance Specifications (At 4 Vdc to 24 Vdc supply, 20 mA load, T_A = -40 °C to 125 °C [-40 °F to 257 °F] unless otherwise specified.)

Characteristic	Condition	Min.	Typ.	Max.	Unit
Supply voltage	-40 °C to 125 °C [-40 °F to 257 °F]	4	—	24	Vdc
Supply current	Vsupply = 5 V at 25 °C [77 °F]	—	4	6	mA
Vsat	Gauss >95	—	—	0.4	V
Output leakage current	Gauss >95	—	—	10	µA
Rise/fall time	Vsupply = 12 V at 25 °C [77 °F]	—	—	1.5	µs
Operate	-40 °C to 85 °C [-40 °F to 185 °F]	5	50	80	Gauss
	-40 °C to 125 °C [-40 °F to 257 °F]	5	50	95	
Release	-40 °C to 85 °C [-40 °F to 185 °F]	-80	-50	-5	Gauss
	-40 °C to 125 °C [-40 °F to 257 °F]	-95	-50	-5	
Differential	-40 °C to 85 °C [-40 °F to 185 °F]	50	100	160	Gauss
	-40 °C to 125 °C [-40 °F to 257 °F]	50	100	190	
Operating temperature	Vsupply = 4 Vdc to 24 Vdc	-40 [-40]	—	125 [257]	°C [°F]
Storage temperature	—	-40 [-40]	—	150 [302]	°C [°F]

Figure 2. Mounting Dimensions (For reference only. mm/[in])

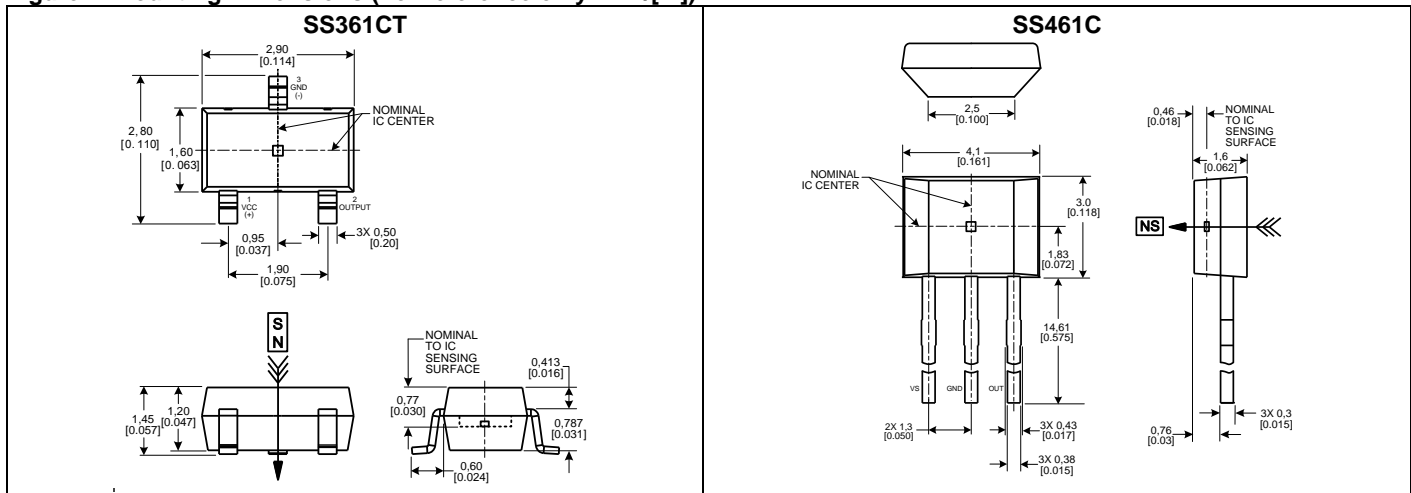
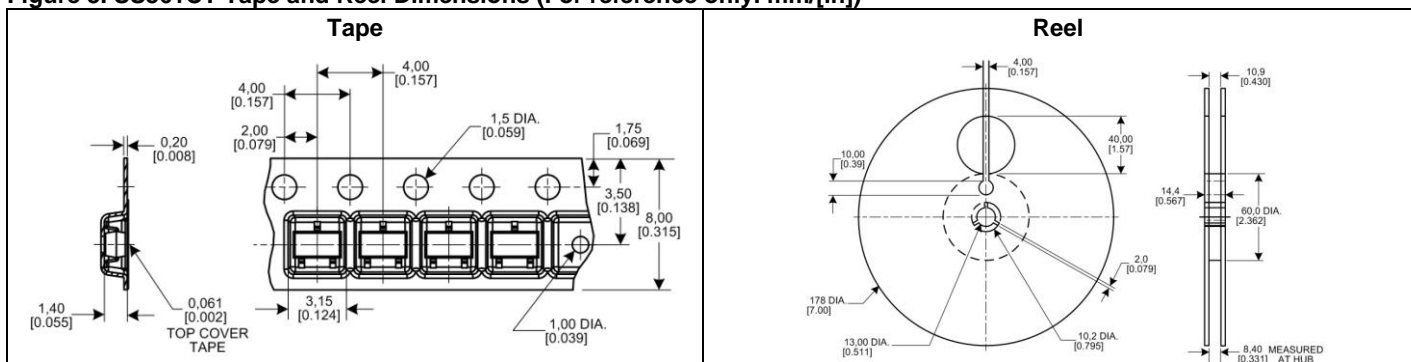


Figure 3. SS361CT Tape and Reel Dimensions (For reference only. mm/[in])



WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. **Failure to comply with these instructions could result in death or serious injury.**

WARRANTY/REMEDY

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50050501-1-EN IL50 GLO Printed in USA

March 2010

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