

Installation Instructions for the SS40F Enhanced Low Cost Bipolar Hall-Effect Position Sensor

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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.

NOTICE

Bipolar Hall-effect sensors 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 μ s for output voltage to stabilize after supply voltage has reached 5 V.

SOLDERING/ASSEMBLY

Support leads during all forming or shearing operations to ensure they are not stressed inside the plastic case. Wave solder at 250 °C to 260 °C (482 °F to 500 °F) for a maximum of 5 s.

CLEANING

CAUTION

IMPROPER CLEANING

Do not use pressure wash. High-pressure stream could force contaminants into the package.

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

Use agitated rinse to clean the sensor.



TABLE 1. SPECIFICATIONS (At Vs = 4.5 V to 24 V with 20 mA load with Ta = 25 °C [77 °F] unless otherwise noted.

Characteristic	Condition	Minimum	Typical	Maximum	Unit
Supply voltage	–	4.5	–	24.0	V
Supply current	–	–	6.8	10.0	mA
Output current	–	–	–	20.0	mA
Vsat at 15 mA	gauss >170	–	–	0.4	V
Output leakage	gauss <-170	–	–	1.0	μ A
Rise time	Vs = 4.5 V	–	0.5	1.5	μ s
Fall time	Vs = 4.5 V	–	0.2	1.5	μ s
Operate (Bop)	–	–	4.5 (45)	11 (110)	mT (gauss)
Release (Brp)	–	-11 (-110)	-4.5 (-45)	–	mT (gauss)
Differential	–	5.0 (50)	–	–	mT (gauss)
Operating temperature	-40 °C to 125 °C [-40 °F to 257 °F]				
Storage temperature	-65 °C to 160 °C [-85 °F to 329 °F]				

TABLE 2. ABSOLUTE MAXIMUM RATINGS*

Characteristic	Minimum	Typical	Maximum	Unit
Supply voltage	-28	–	28	V
Applied output voltage	-0.5	–	28	V
Output current	–	–	20	mA
Magnetic flux	–	–	no limit	gauss

***Note:**

Absolute maximum ratings are the extreme limits the device is designed to 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.

FIGURE 1. WIRING DIAGRAMS

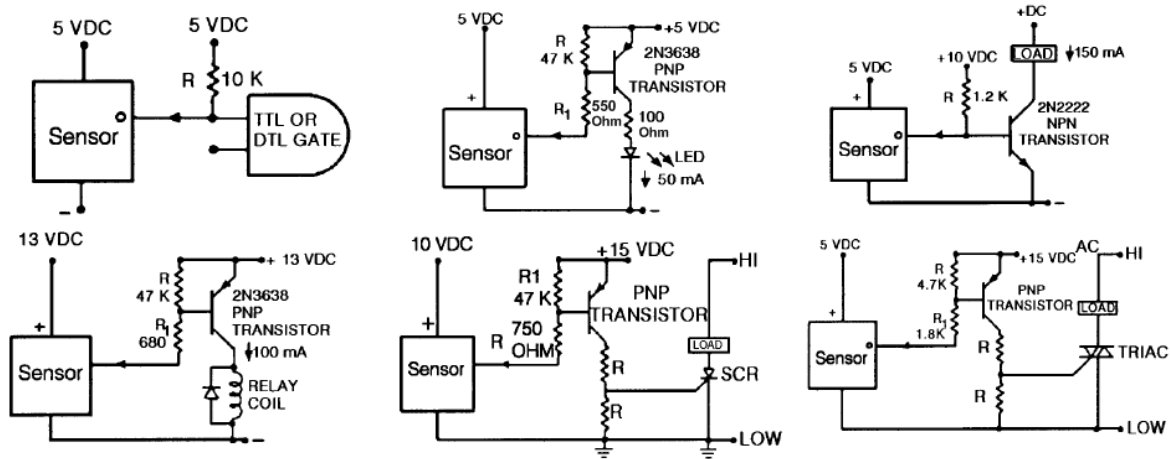


FIGURE 2: OPERATE AND RELEASE POINTS

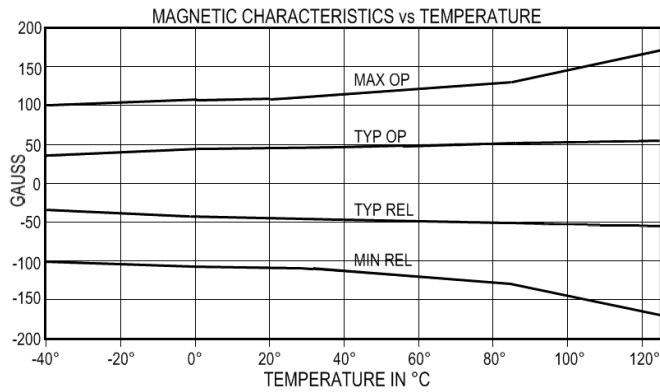


FIGURE 3. CURRENT SINKING OUTPUT DIAGRAM

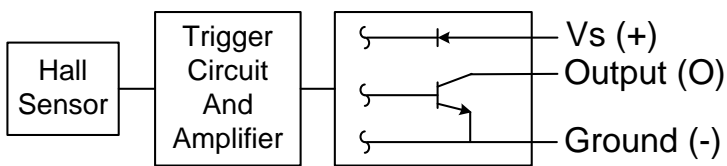


FIGURE 4. MOUNTING DIMENSIONS (For reference only. mm/[in])

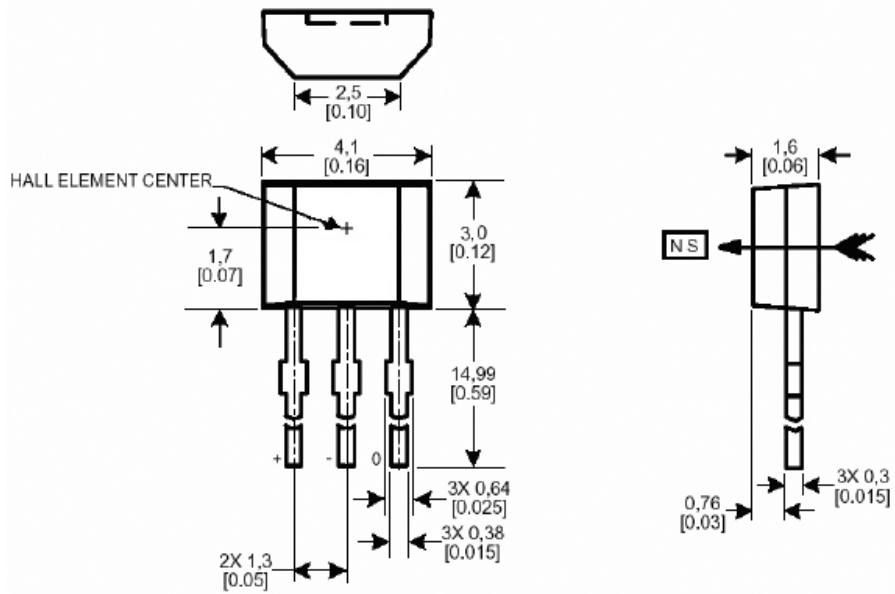


FIGURE 5. R1 OPTION MOUNTING DIMENSIONS (For reference only. mm/[in])

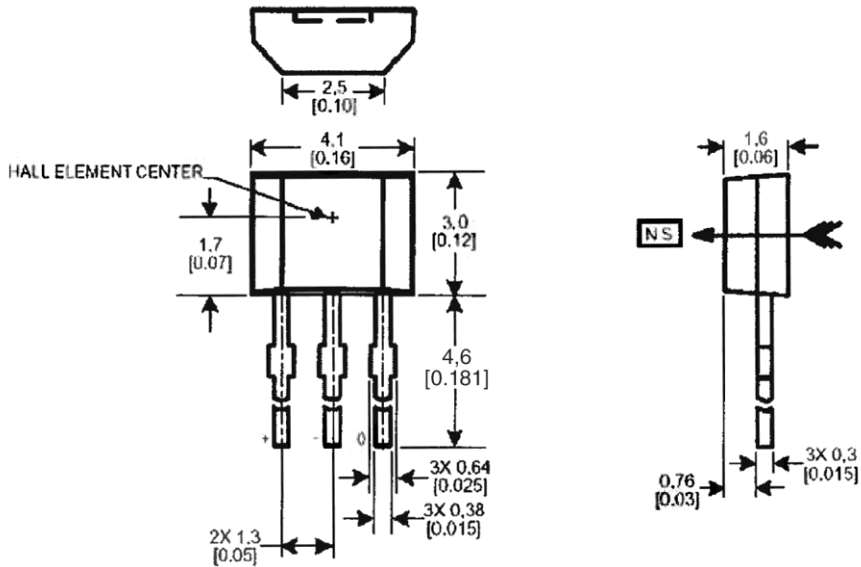
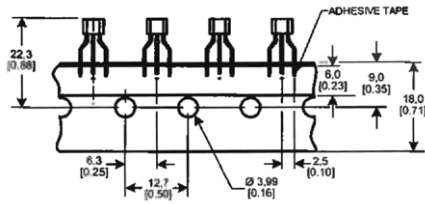
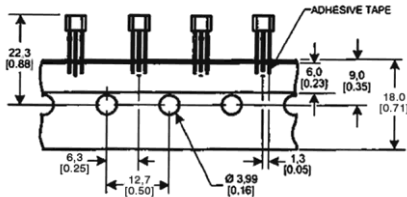


FIGURE 6. TAPE DIMENSIONS FOR STYLE T2 (For reference only. mm/[in])



NOTE: SS40F-F and SS40G-F have the same lead forming as the style T2 option, however, the SS40F-F and SS40G-F are supplied in bulk.

FIGURE 7. TAPE DIMENSIONS FOR STYLE T3 (For reference only. mm/[in])



WARRANTY/REMEDY

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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