Honeywell

Installation Instructions for the SS526DT Series Dual Hall-Effect Sensors with Speed and Direction Outputs

ISSUE 2

PK 80149

⚠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.

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.

CAUTION

WAVE SOLDER DAMAGE

DO NOT wave solder this product. Wave soldering may negatively affect the sensor performance and reliability. Subjecting the sensor to wave soldering will void Honeywell's warranty.

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

SOLDERING INSTRUCTIONS

Honeywell recommends an infrared reflow process with peak temperatures not to exceed 245 °C [473 °F] for 10 s maximum.

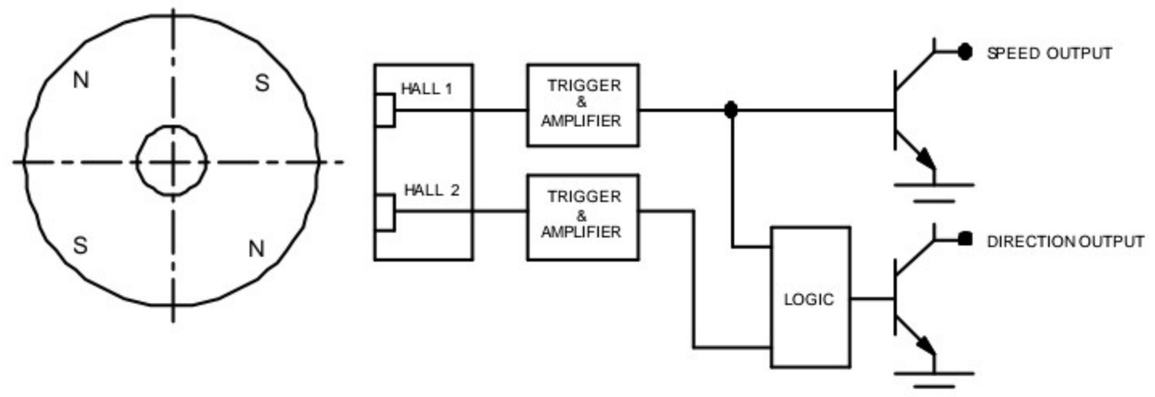
.

ABSOLUTE MAXIMUM RATINGS*

Supply Voltage	-0.5 Vdc to +30 Vdc
Voltage Externally Applied to Output	+30 Vdc max. (OFF only) -0.5 Vdc min. (OFF or ON)
Output ON Current	10 mA
Operating Temperature	-40 °C to +150 °C
Storage Temperature	-65 °C to +160 °C
Magnetic Flux	No limit. Circuit cannot be damaged by magnetic overdrive.

* 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.

BLOCK DIAGRAM



SENSOR FUNCTION DIAGRAM WITH CUSTOMER SUPPLIED RING MAGNET

ELECTRICAL CHARACTERISTICS (over Operating Voltage and Temperature, unless otherwise noted)

Characteristic	Symbol	Test Condition	
Supply Voltage	V_{cc}		3.4 Vdc min., 24 Vdc max.
Supply Current Off	I_{off}	V_{cc} = 24 Vdc, -40 °C < T < 125 °C, V_{out} = 24Vdc, B < MIN REL	12 mA max.
Supply Current On	I_{on}	Vcc = 24 Vdc, -40 °C < T < 125 °C, I_{sink} = 5mA, B > MAX OP	14 mA max.
Load Current	I_{sink}	V_{cc} = 24 Vdc, -40 °C < T < 125 °C, I_{sink} = 5 mA, B > MAX OP	5 mA max.
Output Saturation	V_{sat}	V_{cc} = 24 Vdc, -40 °C < T < 125 °C, I_{sink} = 5 mA, B > MAX OP	0.4 Vdc max.
Leakage Current	I_{leak}	V_{cc} = 24 Vdc, -40 °C < T < 125 °C, V_{out} = 24Vdc, B < MIN REL	10 µA max.
Circuit Speed to Direction Delay	T_d	V_{cc} = 12 Vdc, R_L= 1.6 kO, C_L = 20 pF	5 µs max.
Rise Time	T_r	V_{cc} = 12 Vdc, R_L= 1.6 kO, C_L = 20 pF	1.5 µs max.
Fall Time	T_f	V_{cc} = 12 Vdc, R_L= 1.6 kO, C_L = 20 pF	1.5 µs max.
Frequency	T_{op}	V_{cc} = 12 Vdc, R_L= 1.6 kO, C_L = 20 pF	> 1000 Hz min.

Note: The listed ratings are for testing at 25 °C per IEC 801-2, level 1. When tested per MIL-Std.-883, method 3015.7 the sensor will meet class 3 (3 kV min.).

Note: To prevent damage to the leads, SS500 Series surface mounted sensors are supplied **only** on tape and reel.

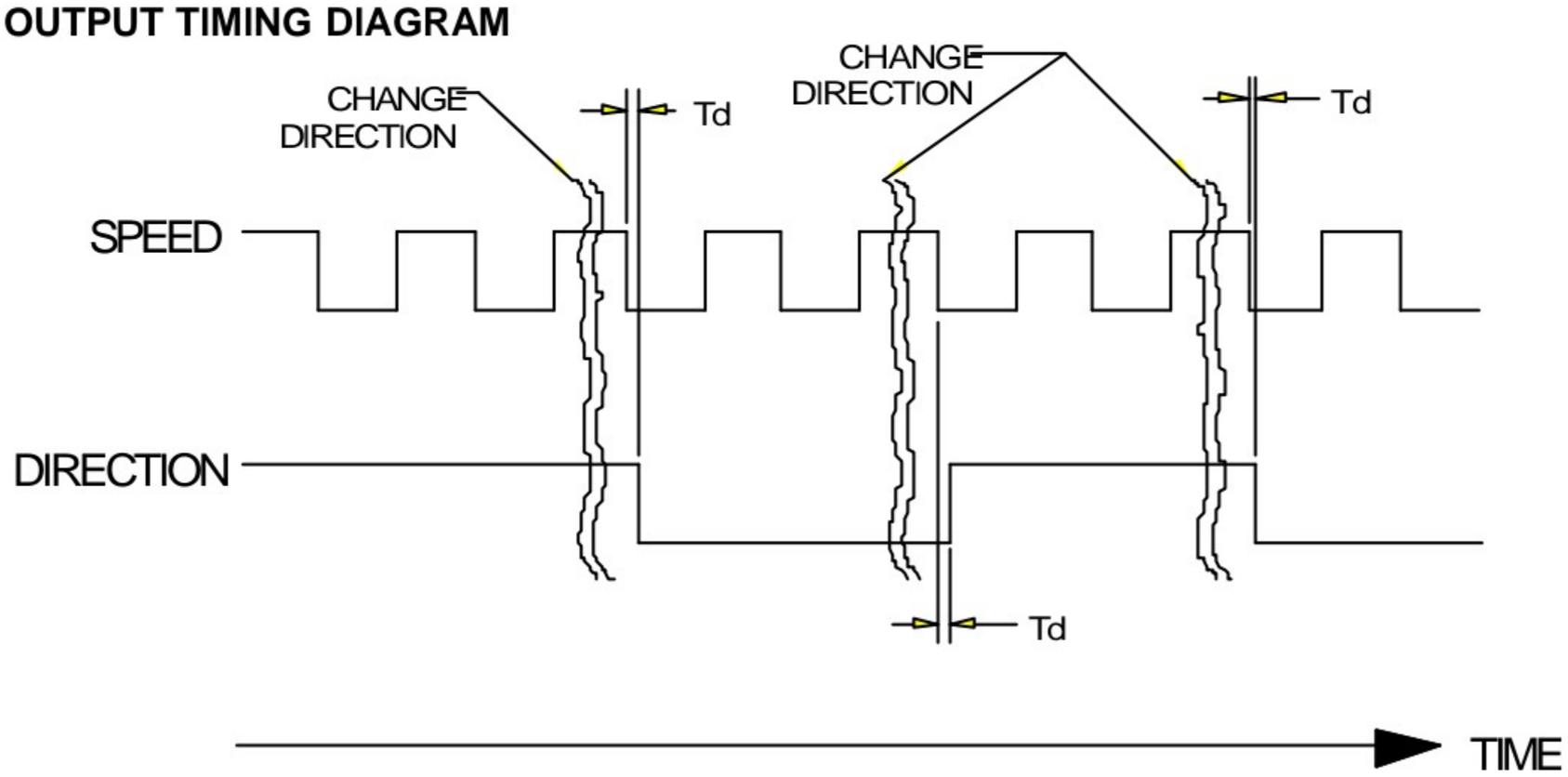
MAGNETIC CHARACTERISTICS

Characteristic	Magnetic Field @ -40 °C	Magnetic Field @ -40 °C to 125 °C	
	Typ.	Min.	Max.
Operate Point (Bop)	130 Gauss	60 Gauss	200 Gauss
Release Point (Brp)	-130 Gauss	-60 Gauss	-200 Gauss
Differential (Operate Point - Release Point)	260 Gauss	200 Gauss	320 Gauss
Symmetry ({Operate Point+Release Point}/2)	0	-65 Gauss	65 Gauss

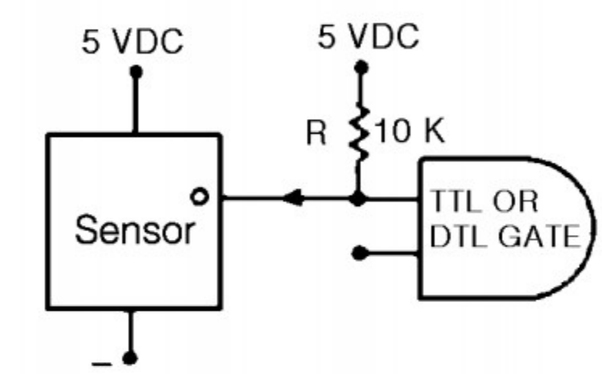
NOTICE

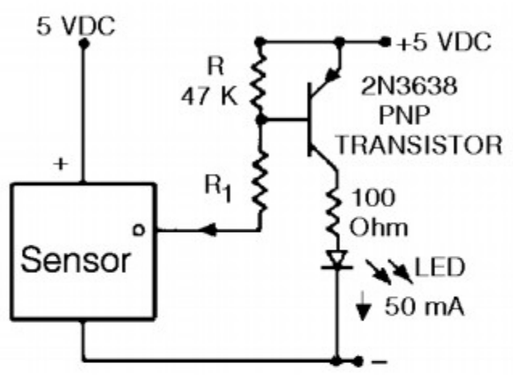
Bipolar Hall effect sensors may have an initial output in either the On or Off state if powered up with an applied magnetic field in the differential zone (B_{rp} < applied magnetic field < B_{op}). Honeywell recommends allowing 10 µs for output voltage to stabilize after supply voltage has reached 5 Vdc.

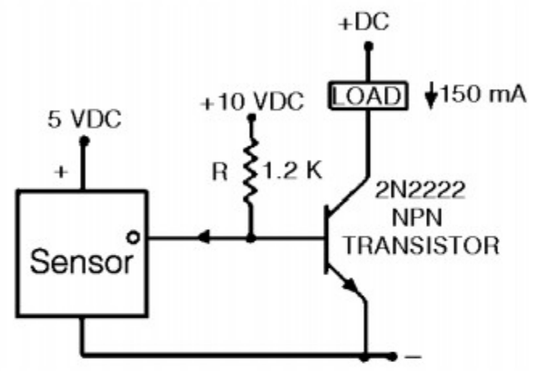
OUTPUT TIMING DIAGRAM

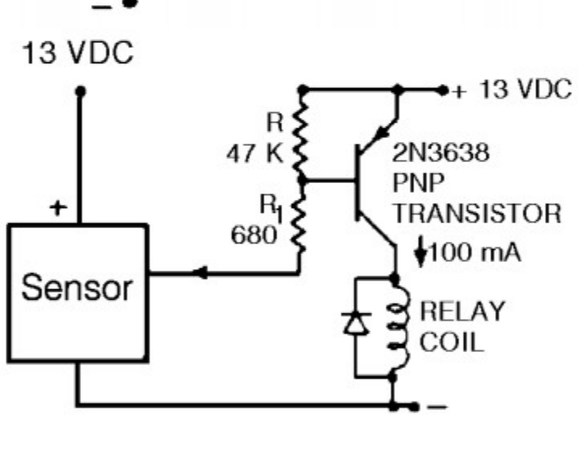


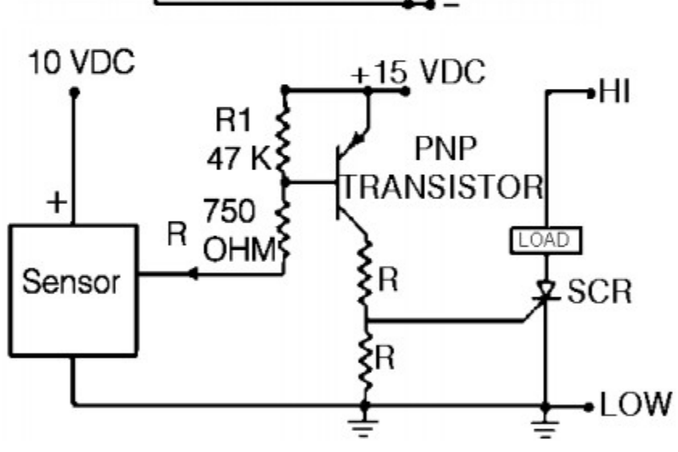
INTERFACE DIAGRAMS

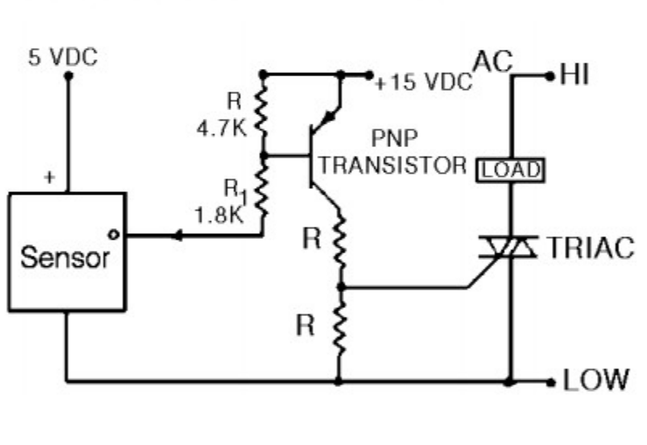


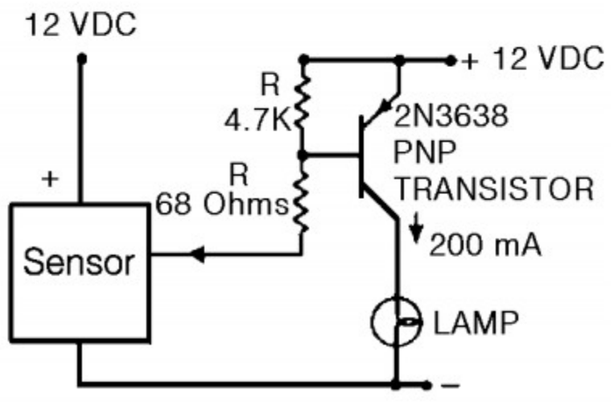




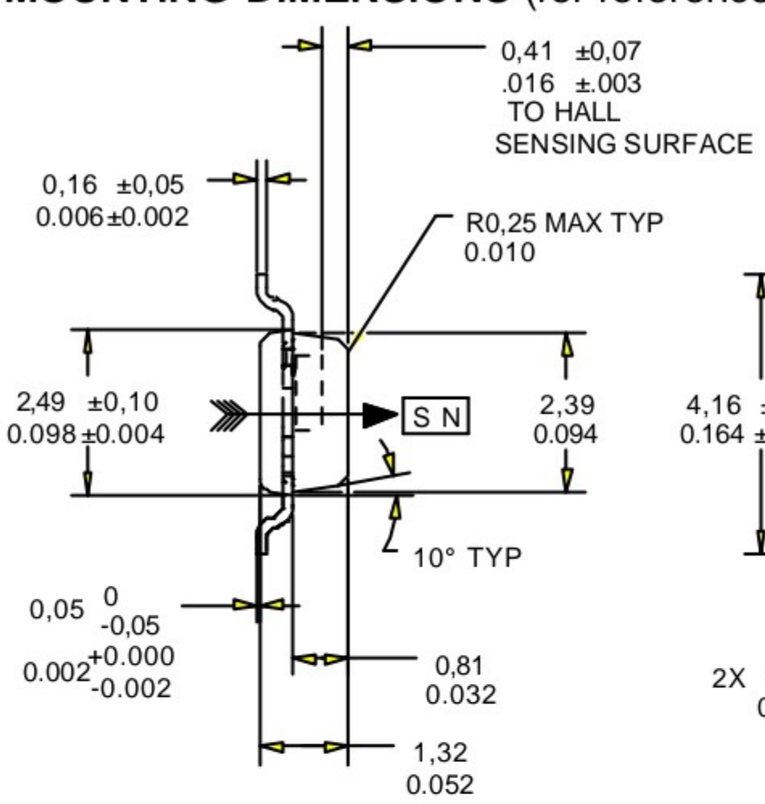


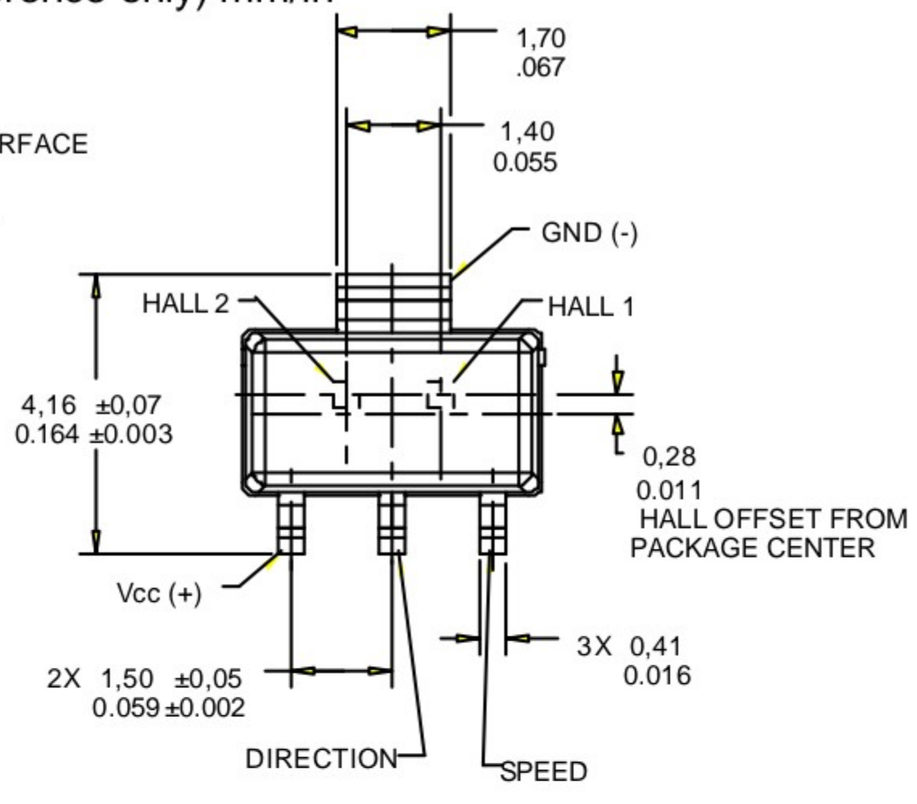


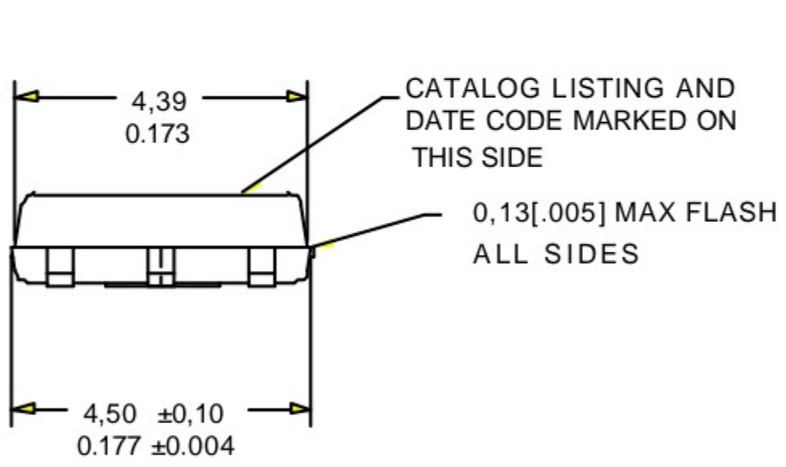




MOUNTING DIMENSIONS (for reference only) mm/in





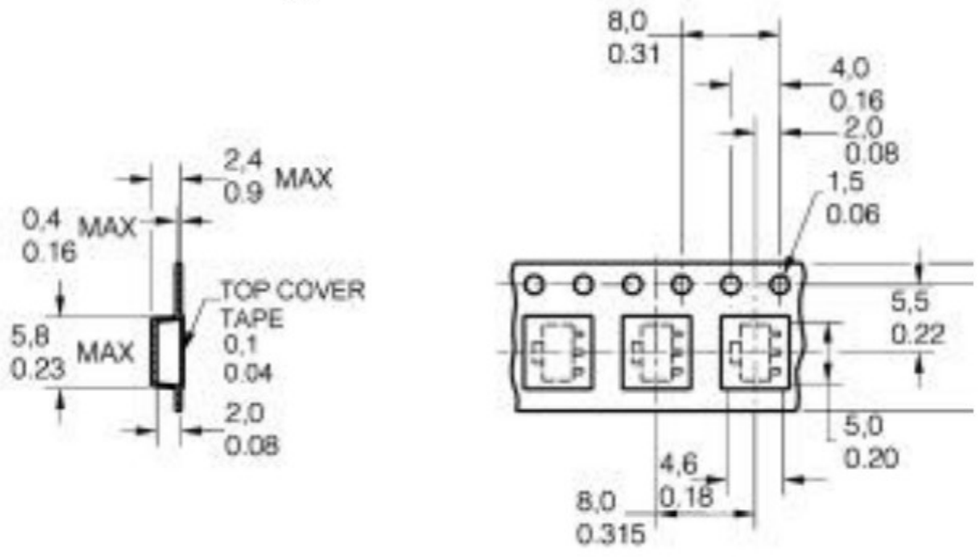


SS526DT Series

PK 80149

TAPE DIMENSIONS

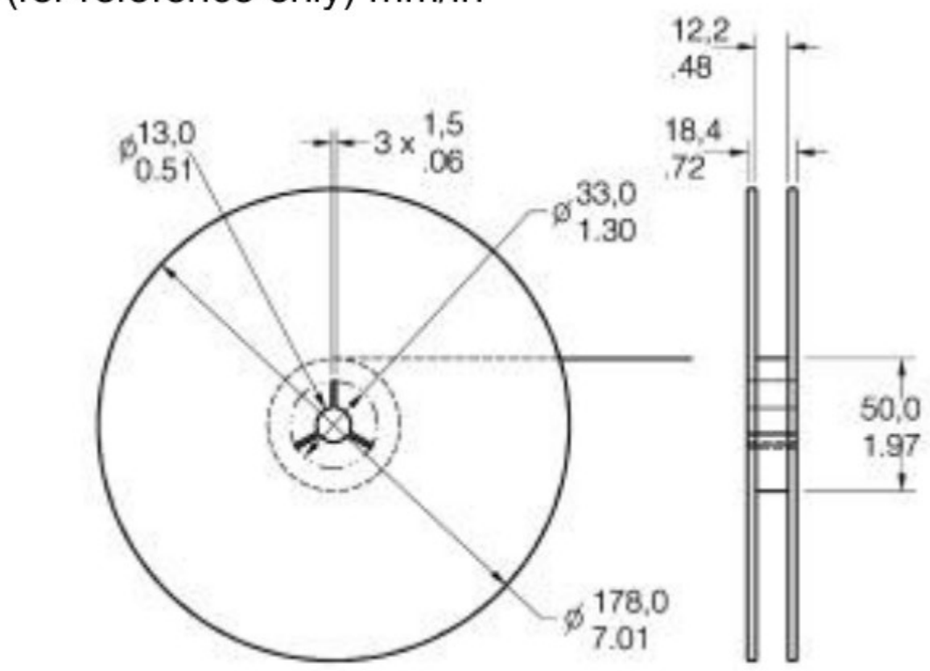
(for reference only) mm/in



NOTE: This product is sold in tape and reel form **only**, per EIA STD 481. There are 1,000 parts per reel.

REEL DIMENSIONS

(for reference only) mm/in



DIRECTION OF FEED FROM REEL

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

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.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

1-800-537-6945 USA
1-800-737-3360 Canada
1-815-235-6847 International

FAX
1-815-235-6545 USA

INTERNET
www.honeywell.com/sensing
info.sc@honeywell.com

Honeywell

Sensing and Control
Honeywell
11 West Spring Street
Freeport, Illinois 61032

www.honeywell.com/sensing

Printed with Soy Ink
on 50% Recycled Paper
PK 80149-2-EN IL50 GLO 0303 Printed in USA