



## Features

- Compensated output
- Direct-media monitoring
- Gauge and absolute types
- Isolated onboard electronics
- Gold-plated Kovar™ port option
- RoHS compliant\*

## Applications

- Industrial:
- Refrigerant systems
  - Water level & pressure monitoring
- \*\* Medical Devices (low/medium risk):
- Diagnostic/analysis equipment
- \*\*\* Heavy Equipment:
- Oil & fuel systems
  - Exhaust gas pressure sensing

# BPS130 Series - 10 mm Analog High Pressure Sensor

### Electrical Characteristics

Supply Voltage ( $V_S$ )	4.5 V minimum, 5 V typical, 5.5 V maximum
Supply Current	10 mA
Output Current	2.5 mA
Short Circuit Current	±25 mA
Reverse Polarity Protection	-33 V
Overshoot Protection	33 V

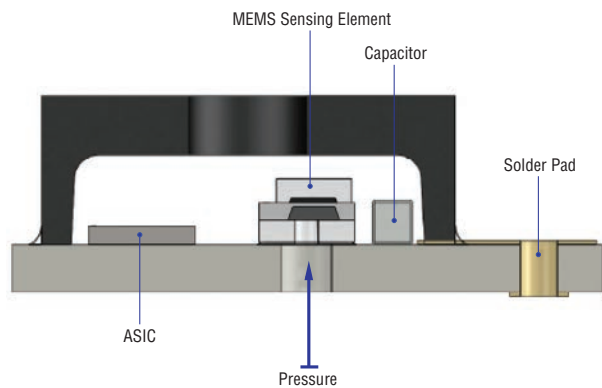
### Performance Characteristics

Operating Temperature	-40 °C to +150 °C (-40 °F to +302 °F)
Storage Temperature	-55 °C to +150 °C (-67 °C to +302 °F)
Output Range $V_{out}$ ****	10 % to 90 % $V_S$
Output Clamping Limit $V_{out}$ ****	5% to 95% $V_S$
Resolution (>12 bit DAC)	0.02 % FS
Accuracy @ 25 °C	±0.25 % FS
Total Error Band @ -40 °C to +150 °C (-40 °F to +302 °F)	±2.5 % FS
Static Proof Pressure	2X full scale PSIA
Burst Pressure	3X full scale PSIA
Lifetime Drift	±0.5 % FS

### Product Characteristics

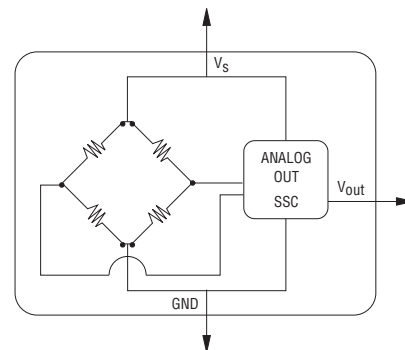
Media Compatibility	Harsh media (air, liquid and gas)
Moisture Sensitivity Level	1
ESD Classification (HBM)	>4 kV
Marking	Partial model number, media compatibility, pressure type, pressure rating, lot code
Standard Packaging	250 pcs./13-inch reel or 100 pcs./tray
Weight	1.080 grams (0.038 oz)

### Cross Section



“Wetted” Materials: Silicon, glass, Au/Sn, ceramic  
(Ported version also contains Au and solder)  
Any material in contact with the media is considered a “wetted” material.

### Basic Circuit Schematic



Note: Power supply decoupling and output filtering included.  
Consult factory for custom options such as supply voltage, temperature calibration range, output range accuracy specification, and update rate.

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\* RoHS3 Directive 2015/863 Amendments of Annex II on March 31, 2015  
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\*\*\* Custom engineered solutions. Check with factory for availability.  
\*\*\*\* 5 V input voltage.

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Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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# BPS130 Series - 10 mm Analog High Pressure Sensor

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## Transfer Function Formula

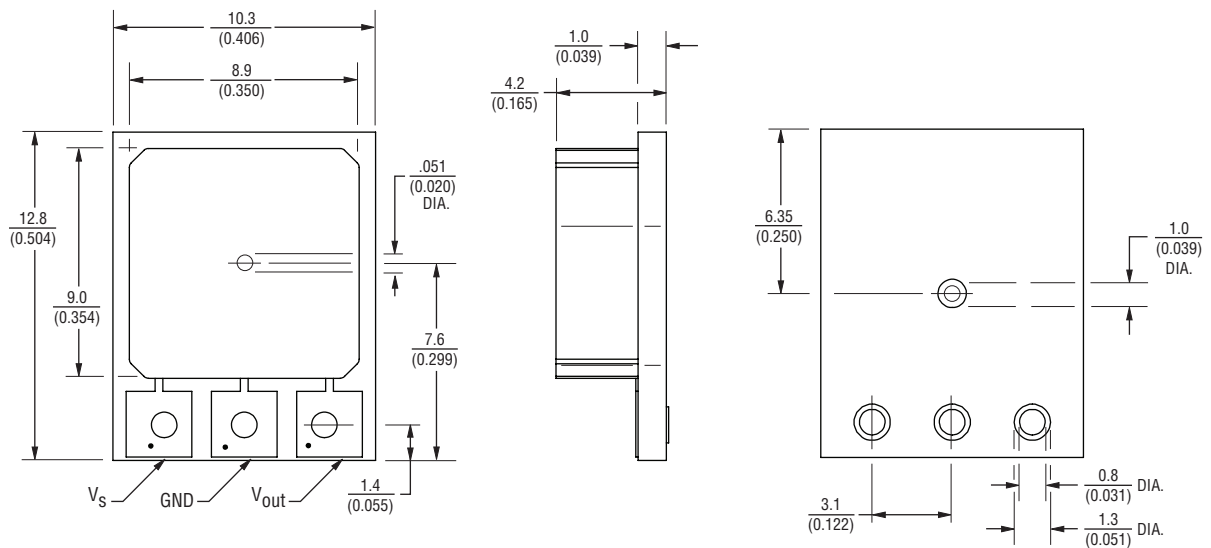
$$P_{\text{psi}} = (P_{\text{max}} - P_{\text{min}}) \cdot \left( \frac{V_{\text{out}} - V_{\text{minComp}}}{V_{\text{maxComp}} - V_{\text{minComp}}} \right) + P_{\text{min}}$$

### Where

- $P_{\text{psi}}$  = Measured Pressure in PSI
- $P_{\text{max}}$  = Maximum Pressure
- $P_{\text{min}}$  = Minimum Pressure
- $V_{\text{minComp}}$  = Minimum Voltage (Usually 0.5 V)
- $V_{\text{maxComp}}$  = Maximum Voltage (Usually 4.5 V)
- $V_{\text{out}}$  = Output Voltage

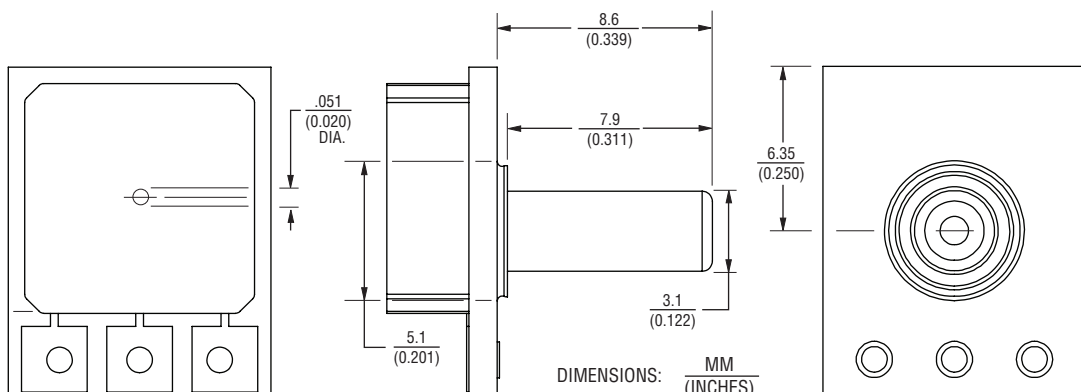
## Product Dimensions

### Manifold Mount



(Electrical pin-out for all configurations)

### Single Port



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

TOLERANCES:  $\frac{0.3}{(0.012)}$

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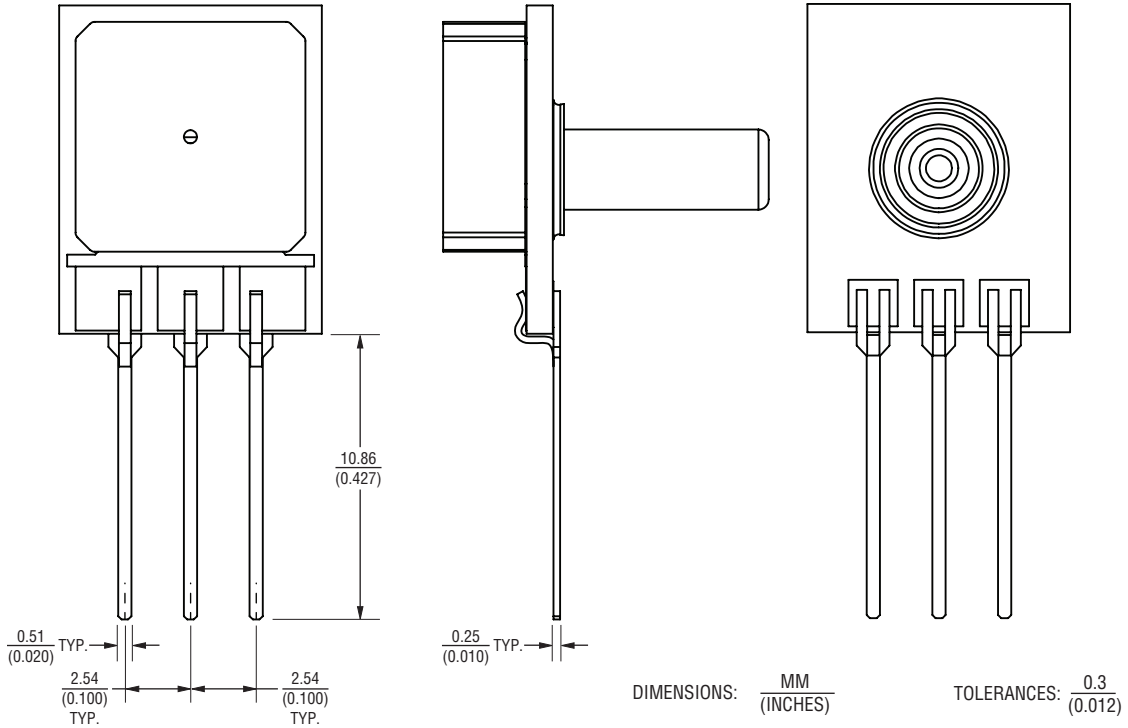
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# BPS130 Series - 10 mm Analog High Pressure Sensor

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## Product Dimensions (Continued)

### Single Port and Pins



## How To Order

**BPS130 - H G 015P - 1 M G**

Model Series \_\_\_\_\_

  Analog \_\_\_\_\_

Media Compatibility \_\_\_\_\_

  H = Certain Harsh Media \_\_\_\_\_

Pressure Type \_\_\_\_\_

  A = Absolute \_\_\_\_\_

  G = Gauge \_\_\_\_\_

Pressure (psi) \_\_\_\_\_

  015P = 15           300P = 300

  030P = 30           500P = 500

  100P = 100 \_\_\_\_\_

Terminal Pins \_\_\_\_\_

  1 = No Terminal Pins \_\_\_\_\_

  3 = Vertical Terminal Pins (Tray Packaging only) \_\_\_\_\_

Port Style \_\_\_\_\_

  M = Manifold Mount \_\_\_\_\_

  S = Single Port \_\_\_\_\_

Packaging Designator \_\_\_\_\_

  G = 250 pcs. per 13-inch Reel \_\_\_\_\_

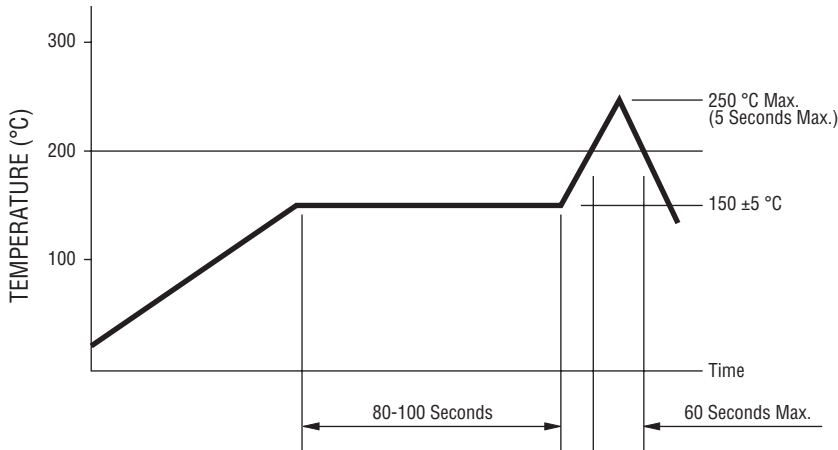
  Blank = 100 pcs. per Tray \_\_\_\_\_

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# BPS130 Series - 10 mm Analog High Pressure Sensor

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## Solder Profile



### Notes:

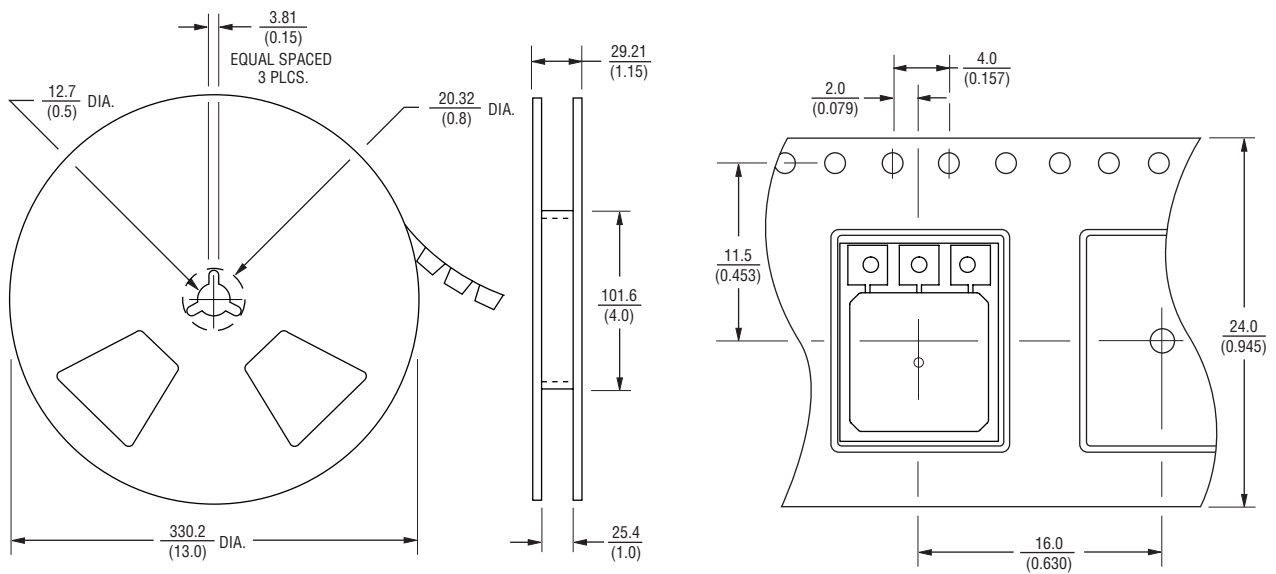
1. No clean solder paste is recommended.
2. Aqueous wash is not recommended.
3. Use of water soluble soldering flux should be avoided due to possible corrosion.
4. Multiple passes through the soldering process is not recommended.
5. Other SMD processes and profiles should be verified by the customer.

Processing Method: Reflow soldering with infrared heat or forced air convection (only once).

## Packaging Specification

250 pieces per 13-inch reel.

Meets specifications of EIA-481-1 or EIA-481-2.



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

TOLERANCES:  $\frac{0.25}{(0.010)}$

REV. 12/19

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