



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
Overtoltage Protection	33 V

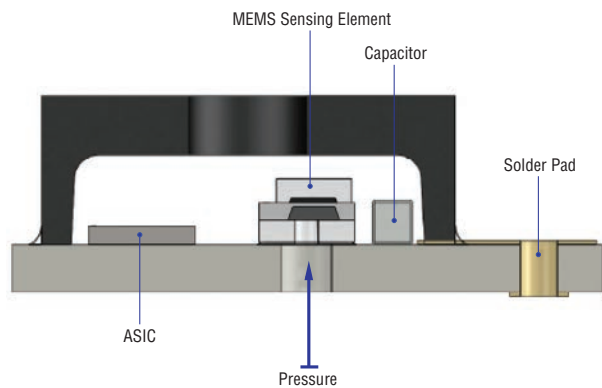
Performance Characteristics

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

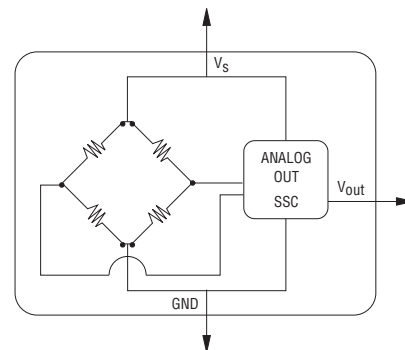
Media Compatibility	Harsh media (air, liquid and gas)
Moisture Sensitivity Level	1
ESD Classification (HBM)	>4 kV
Marking	Partial model number, media compatibility, pressure type, pressure rating, lot code
Standard Packaging	250 pcs./13-inch reel or 100 pcs./tray
Weight	1.080 grams (0.038 oz)

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

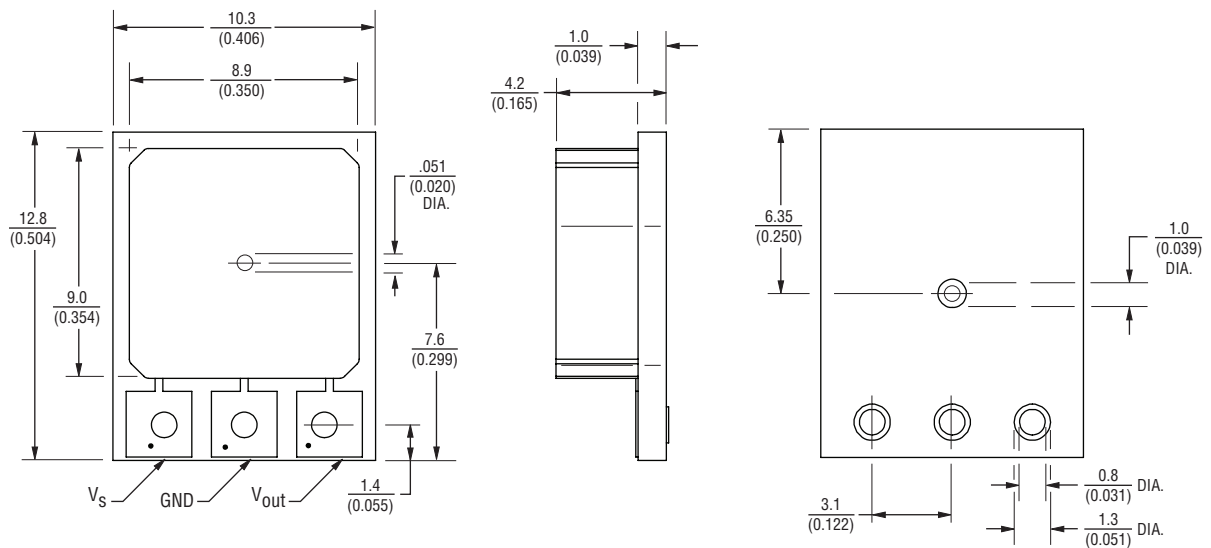
$$P_{\text{psi}} = (P_{\text{max}} - P_{\text{min}}) \cdot \left(\frac{V_{\text{out}} - V_{\text{minComp}}}{V_{\text{maxComp}} - V_{\text{minComp}}} \right) + P_{\text{min}}$$

Where

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

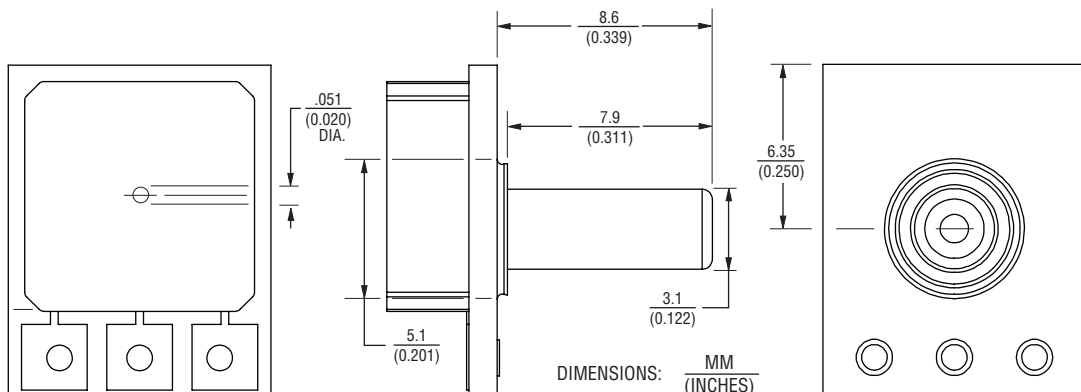
Product Dimensions

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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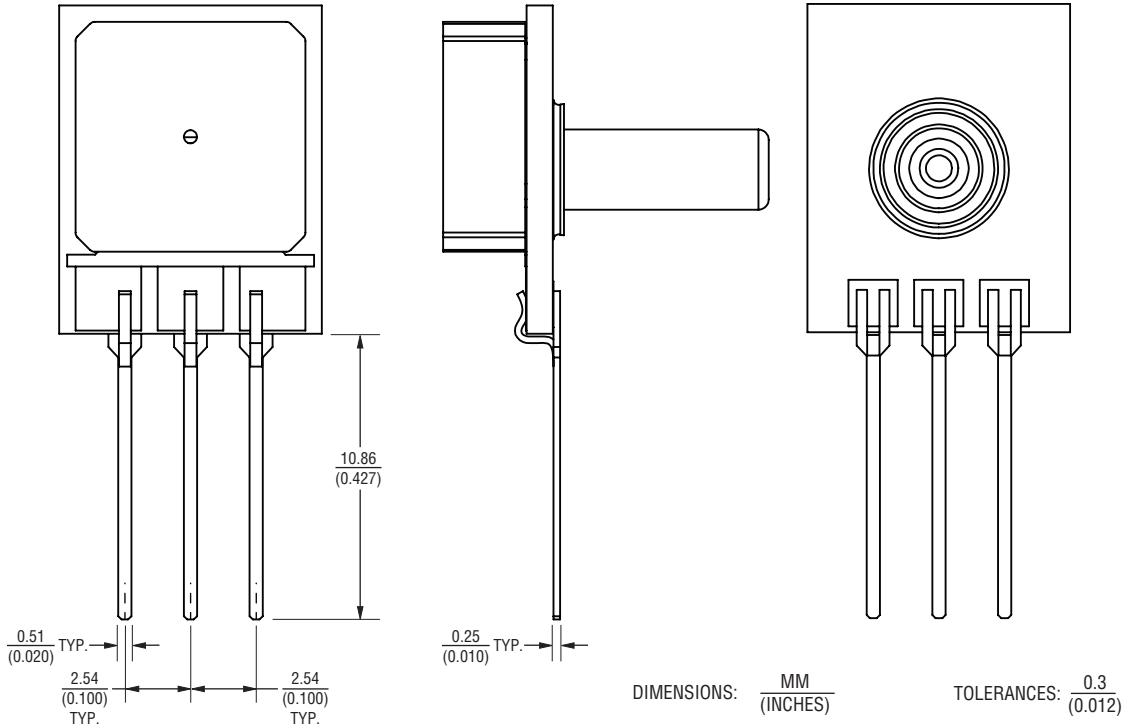
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Product Dimensions (Continued)

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 _____

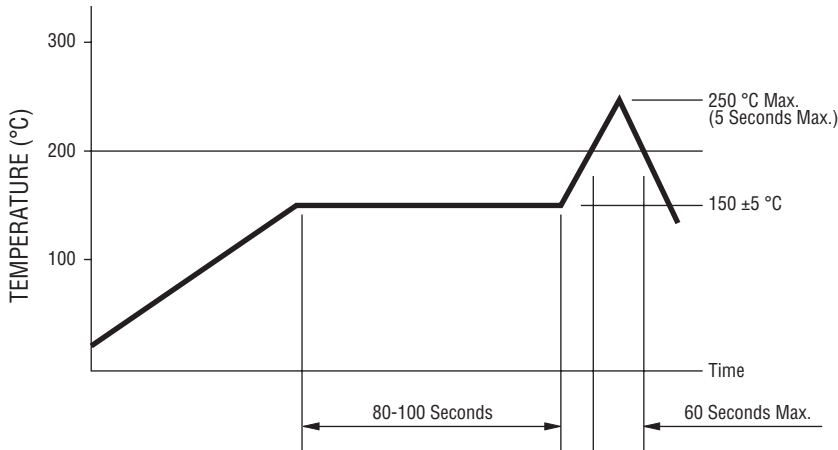
 Blank = 100 pcs. per Tray _____

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BPS130 Series - 10 mm Analog High Pressure Sensor

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Solder Profile



Notes:

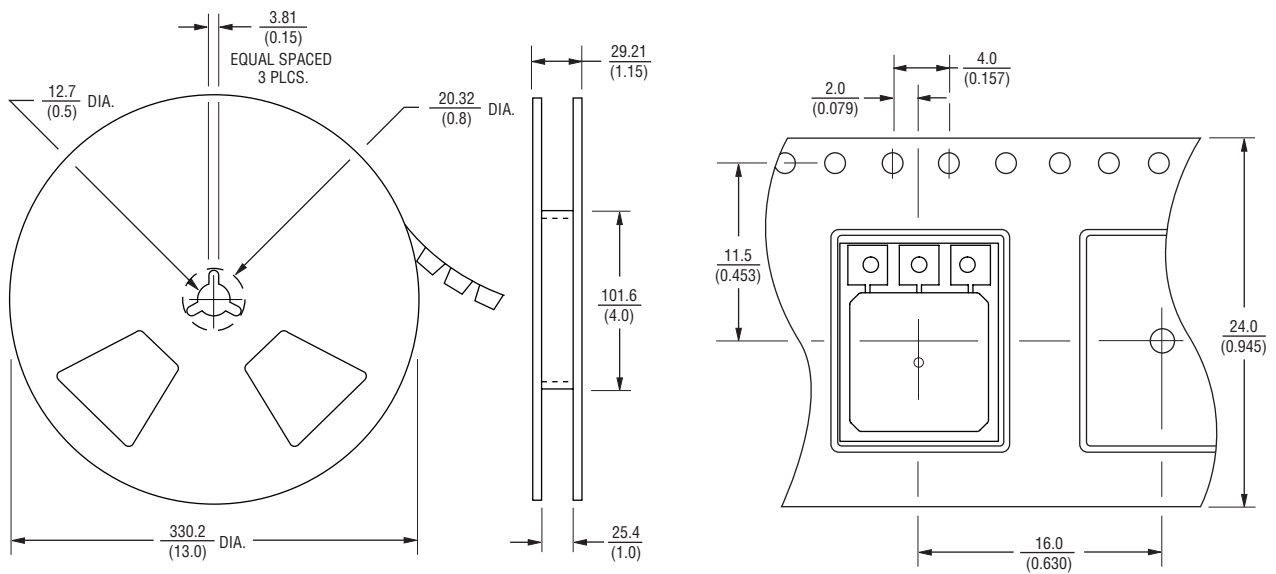
1. No clean solder paste is recommended.
2. Aqueous wash is not recommended.
3. Use of water soluble soldering flux should be avoided due to possible corrosion.
4. Multiple passes through the soldering process is not recommended.
5. Other SMD processes and profiles should be verified by the customer.

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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