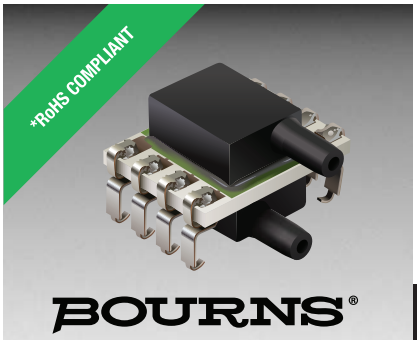

Features

- Uncompensated, mV output
- Ultra-low pressure sensing
- Absolute and differential types
- For use in clean, dry air and non-corrosive gas environments
- Tape and reel packaging
- RoHS compliant*

Applications

Industrial:
- HVAC systems
- Process monitoring
- Packaging automation

**Medical Devices (low/medium risk):
- Diagnostic equipment
- Analysis equipment

BPS310 Series - 12 mm Uncompensated Low Pressure Sensor

Electrical Characteristics

Supply Voltage (V_S)	5 V typical, 15 V maximum
Impedance	5 ±1 kΩ
Supply Current @ 5 V	3.0 mA maximum

Performance Characteristics

Operating Temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Storage Temperature	-55 °C to +100 °C (-67 °C to +212 °F)
Pressure Range	0.15 to 1.0 psi (10.3 to 68.9 mbar; 1.03 to 6.89 KPa; 4.2 to 27.7 in H2O) 5 to 30 psi (0.34 to 2.1bar; 34.5 to 207 KPa)
Offset (1)	±10 mV
Non-linearity (2)	±0.25 %FS
Pressure Hysteresis	±0.1 %FS (@25 °C)
Temperature Coefficient – Zero (3)	±20 µV/V/°C
0.15psi to 1.00psi:	
Temperature Coefficient – Resistance (3)	2500 ± 500 PPM/°C
Temperature Coefficient – Sensitivity (0.15 psi) (3)	-3000 ± 500 PPM/°C
Temperature Coefficient – Sensitivity (0.2 psi – 1 psi) (3)	-2500 ± 500 PPM/°C
Long-Term Stability	±0.25 %FS (@125 °C)
Proof Pressure	5X (Full Scale Pressure)
Burst Pressure	10 PSI
5psi to 30psi:	
Temp Coefficient – Resistance (3)	3100 + 400 /- 600 PPM/°C
Temp Coefficient – Sensitivity (3)	-2000 ± 500 PPM/°C
Long-Term Stability	±0.1 %FS (@125 °C)
Burst Pressure	10X (Full Scale Pressure)
Full Scale Output (@ 5 volts):	
0.15psi (4 in H_2O; 1.03 KPa)	37.5 ± 7.5 mV
0.30psi (8.3 in H_2O; 2.1 KPa)	45 ± 9 mV
1.00psi (27 in H_2O; 6.9 KPa)	50 ± 10 mV
5 psi (0.34 bar; 34.5 KPa)	133 ± 27 mV
15 psi (1 bar; 103 KPa)	150 ± 30 mV
30 psi (2.1 bar; 207 KPa)	160 ± 32 mV

Product Characteristics

Media Compatibility	Non-corrosive dry gasses
Moisture Sensitivity Level	1
ESD Classification (HBM)	2 kV
Marking	Partial model number, media compatibility, pressure type, pressure rating, lot code
Standard Packaging	250 pcs./reel
Weight	1.307 grams (0.046 oz)

Notes:
(1) Zero pressure, gauge only, at 25 °C
(2) Best fit straight line at 25 °C
(3) -25 °C to +75 °C

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* RoHS3 Directive 2015/863 Amendments of Annex II on March 31, 2015
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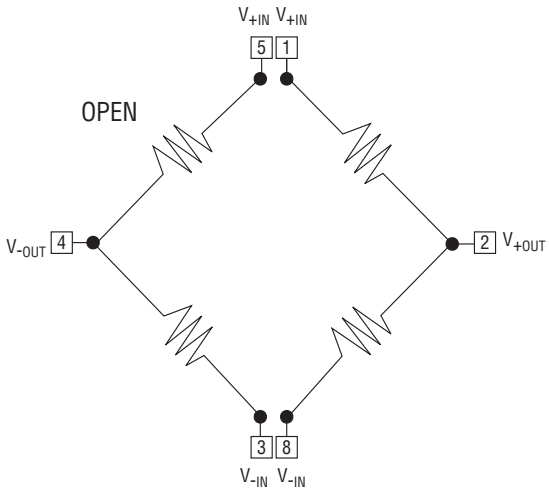
Sensor Bridge Configuration



Transfer Function Formula

V_{out} = (250 * P) + Offset ± Error

Where

Offset	= 0 mV
Error	= 0 mV
V_s	= 5.0 V
TEMP	= 25 °C

Consult factory for custom options such as supply voltage, temperature calibration range, output range accuracy specification, and update rate.

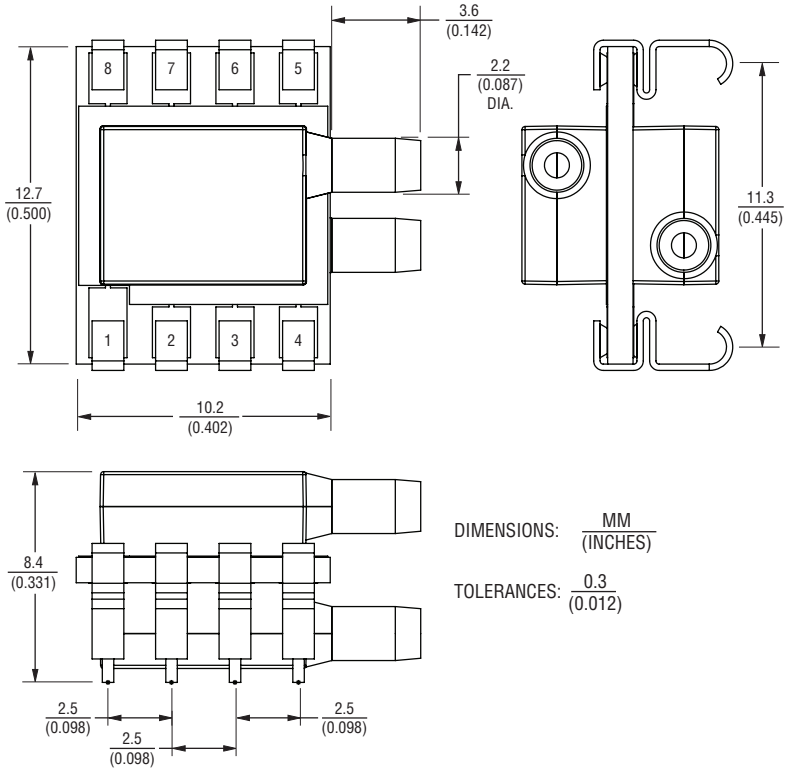
Terminal Assignment

DEVICE PINOUT	OPEN	CLOSE
P1	+IN	+IN
P2	+O	+O
P3	-IN	-IN
P4	-O	-O
P5	+IN	N/C
P6	N/C	N/C
P7	N/C	N/C
P8	-IN	N/C

BPS310 Series - 12 mm Uncompensated Low Pressure Sensor

BOURNS®

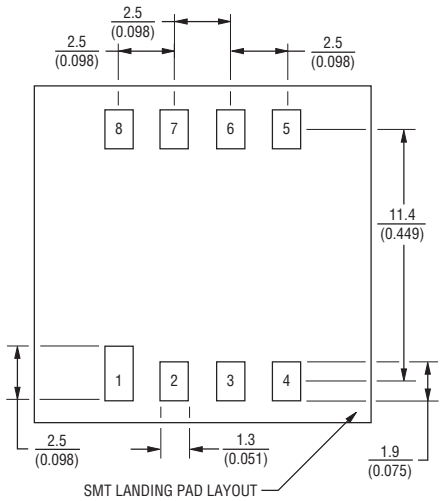
Product Dimensions



DIMENSIONS: MM (INCHES)

TOLERANCES: 0.3 (0.012)

Recommended PCB Layout



How To Order

BPS310 - A D 01P0 - 2 D G

Model Series
- Uncompensated, mV output

Media Compatibility
- A = Air/Gas

Pressure Type
- A = Absolute (15 and 30 psi only)
- D = Differential

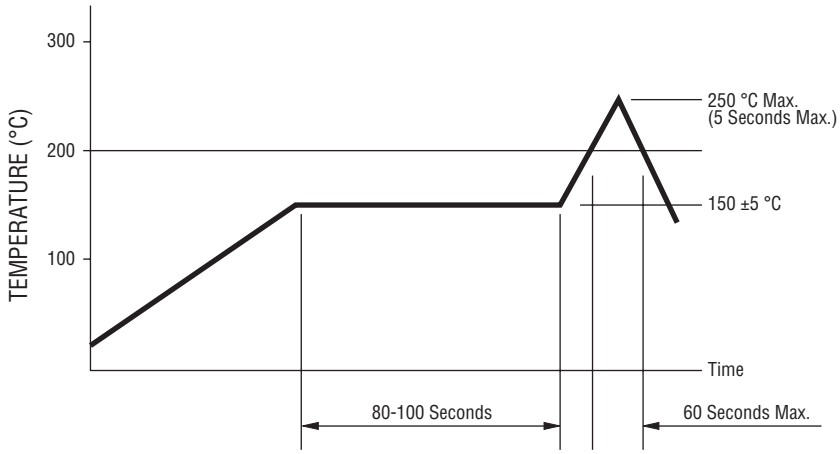
Pressure (psi)
- 0P15 = 0.15
- 0P30 = 0.30
- 01P0 = 1.0
- 015P = 15
- 030P = 30

Terminal Pins
- 2 = Surface Mount Terminals

Port Style
- D = Dual Port, Horizontal

Packaging Designator
- G = 250 pcs. per 13-inch Reel

Solder Profile



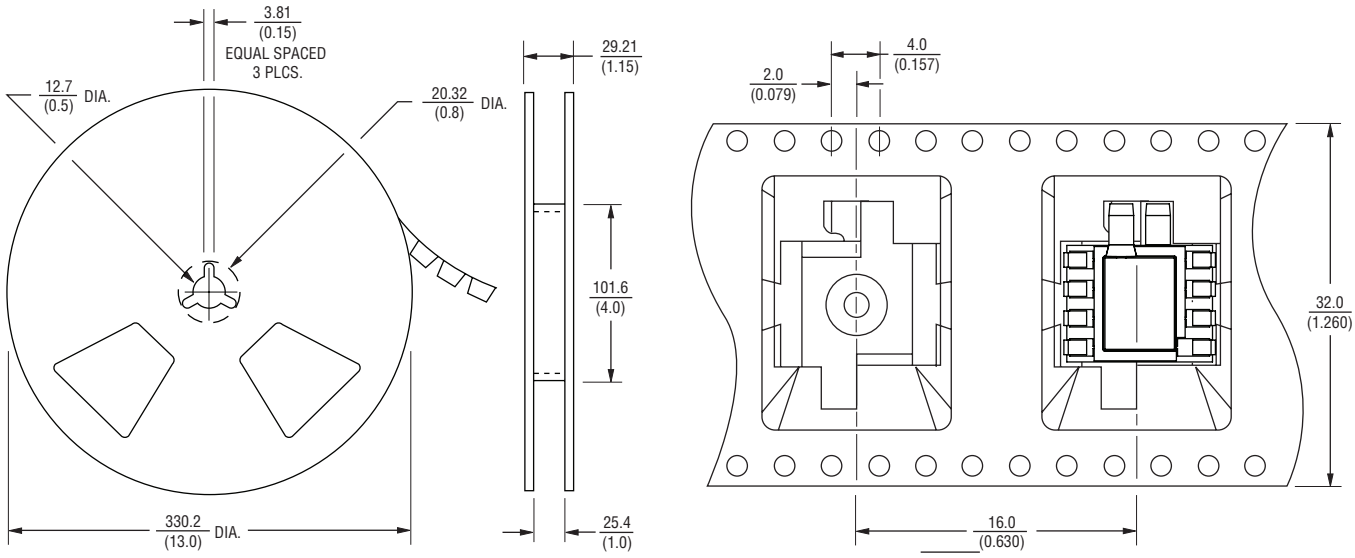
Notes:

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: MM / (INCHES) TOLERANCES: 0.25 (0.010)

02/20

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