



Features

- Compensated output
- Certain harsh media monitoring
- Absolute and gauge types
- Isolated onboard electronics
- Ceramic port
- 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

BPS140 Series - 10 mm Analog High Pressure Sensor for Certain Harsh Media

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
Overvoltage Protection	33 V

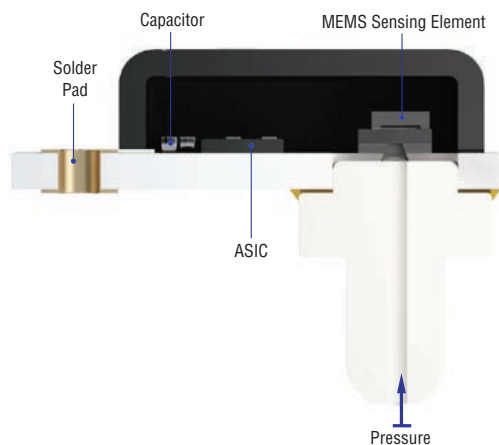
Performance Characteristics

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

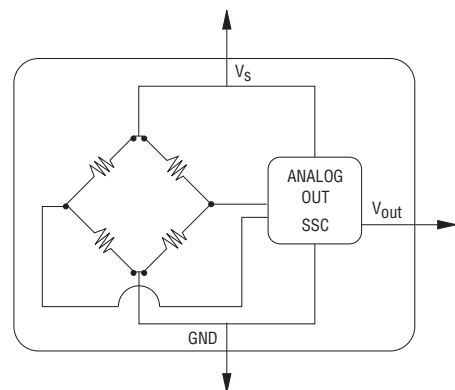
Media Compatibility	Harsh media (air, liquid and gas)
Moisture Sensitivity Level	1
ESD Classification (HBM)	>4 kV
Marking	Partial model number, media compatibility, pressure type, pressure rating, lot code
Standard Packaging	250 pcs./13-inch reel
Weight	1.042 grams (0.037 oz)

Cross Section



"Wetted" Materials: Silicon, glass, ceramic
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, and output range accuracy specification.

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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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BPS140 Series - 10 mm Analog High Pressure Sensor for Certain Harsh Media

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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

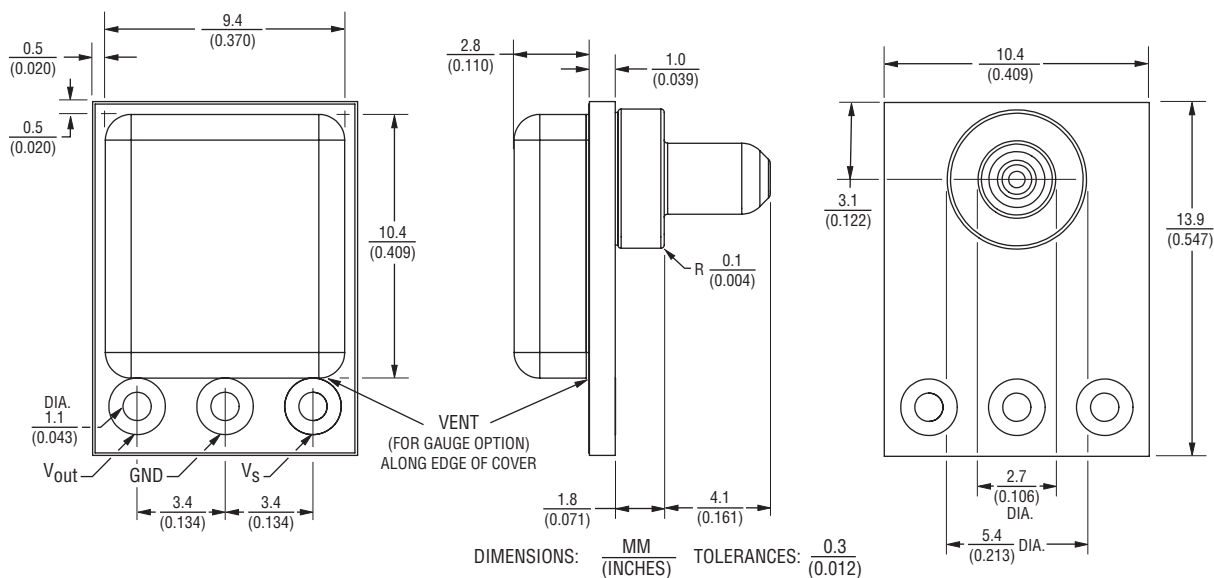
P_{min} = Minimum Pressure

V_{minComp} = Minimum Voltage (Usually 0.5 V)

V_{maxComp} = Maximum Voltage (Usually 4.5 V)

V_{out} = Output Voltage

Product Dimensions



How To Order

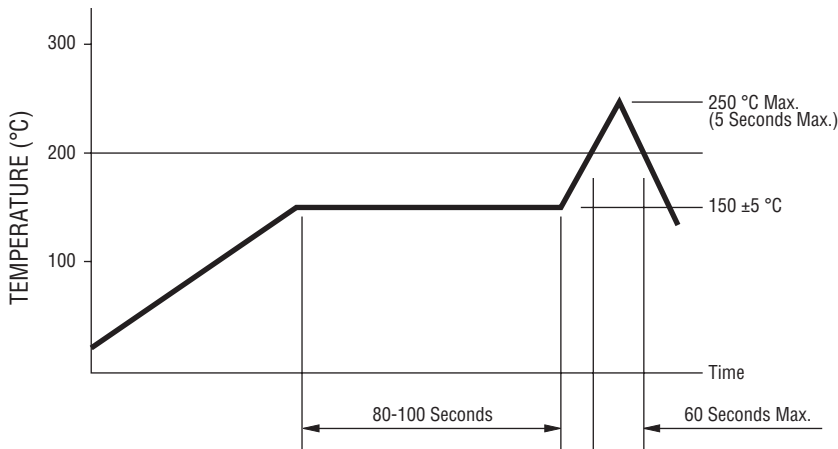
BPS140 - H A 015P - 1 S G

Model Series	_____	BPS140
Analog	_____	- H
Media Compatibility	_____	A
H = Certain Harsh Media	_____	015P
Pressure Type	_____	- 1
A = Absolute	_____	S
G = Gauge	_____	G
Pressure (psi)	_____	
015P = 15	100P = 100	
030P = 30	300P = 300	
Terminal Pins	_____	
1 = No Terminal Pins	_____	
Port Style	_____	
S = Single Port	_____	
Packaging Designator	_____	
G = 250 pcs. per 13-inch Reel	_____	

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Solder Profile**Notes:**

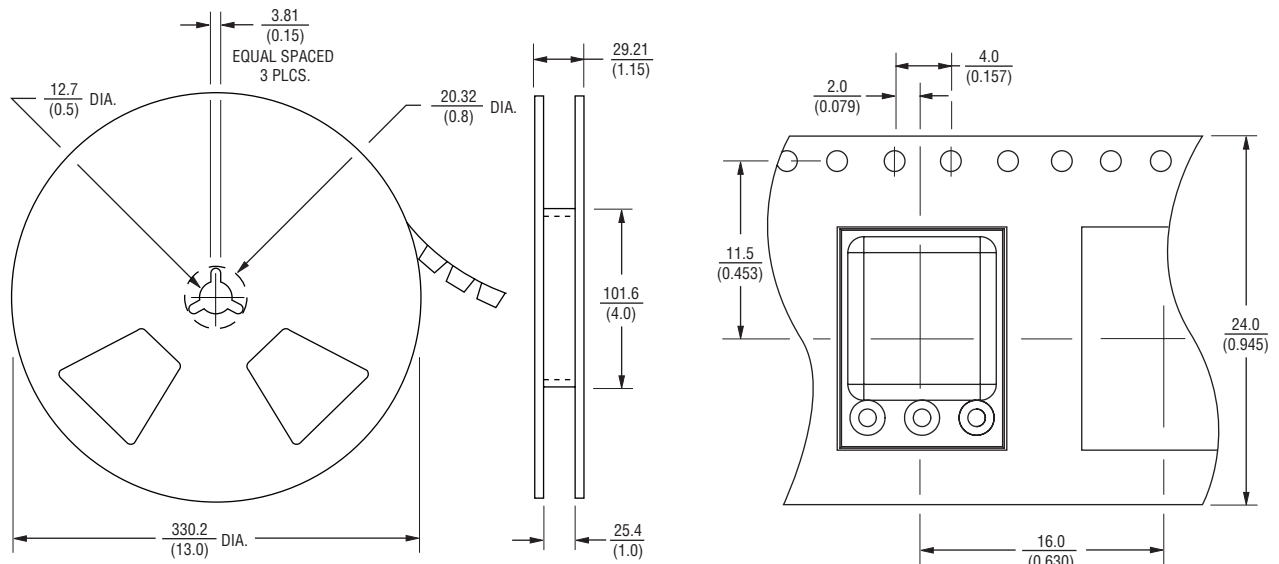
1. No clean solder paste is recommended.
2. Aqueous wash is not recommended.
3. Use of water soluble soldering flux should be avoided due to possible corrosion.
4. Multiple passes through the soldering process is not recommended.
5. Other SMD processes and profiles should be verified by the customer.

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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