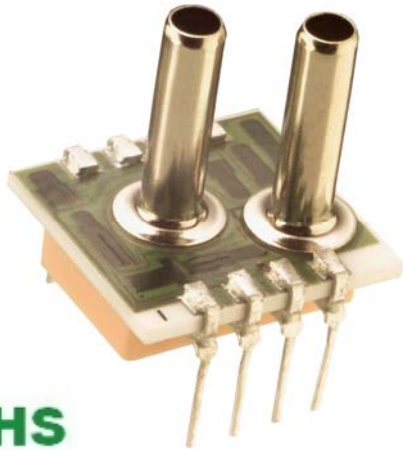


1230 UltraStable™



- PC Board Mountable Pressure Sensor
- 0-100 mV Output
- Current Excitation
- Gage, Differential, and Absolute
- Temperature Compensated

DESCRIPTION

The 1230 is a high performance temperature compensated, piezoresistive silicon pressure sensor packaged in a dual-in-line configuration. It uses Measurement Specialties' proprietary UltraStable™ die to provide excellent performance and long-term stability over wide temperatures.

Integral temperature compensation is provided over a range of -20°C to +85°C using laser-trimmed resistors. An additional laser-trimmed resistor is included to normalize pressure sensitivity variations by programming the gain of an external differential amplifier. This provides sensitivity interchangeability of ±1%. Absolute, differential and gage pressure ranges from 0-15 to 0-100 psi are available. Multiple lead and tube configurations are available for different applications.

Please refer to the 1210 and 1220 for information on products with operating pressures less than 0-15 psi. For voltage excitation, please refer to the Model 1240.

FEATURES

- Dual-in-Line Package
- -20°C to +85°C Compensated Temperature Range
- ±0.1% Non Linearity
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability

APPLICATIONS

- Medical Instruments
- Altitude Measurement
- Process Control
- Factory Automation
- Handheld Calibrators
- Environmental Control

STANDARD RANGES

| Range | psia | psid | psig |
|----------|------|------|------|
| 0 to 2 | | • | • |
| 0 to 5 | | • | • |
| 0 to 15 | • | • | • |
| 0 to 30 | • | • | • |
| 0 to 50 | • | • | • |
| 0 to 100 | • | • | • |

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5 mA

Ambient Temperature: 25°C (unless otherwise specified)

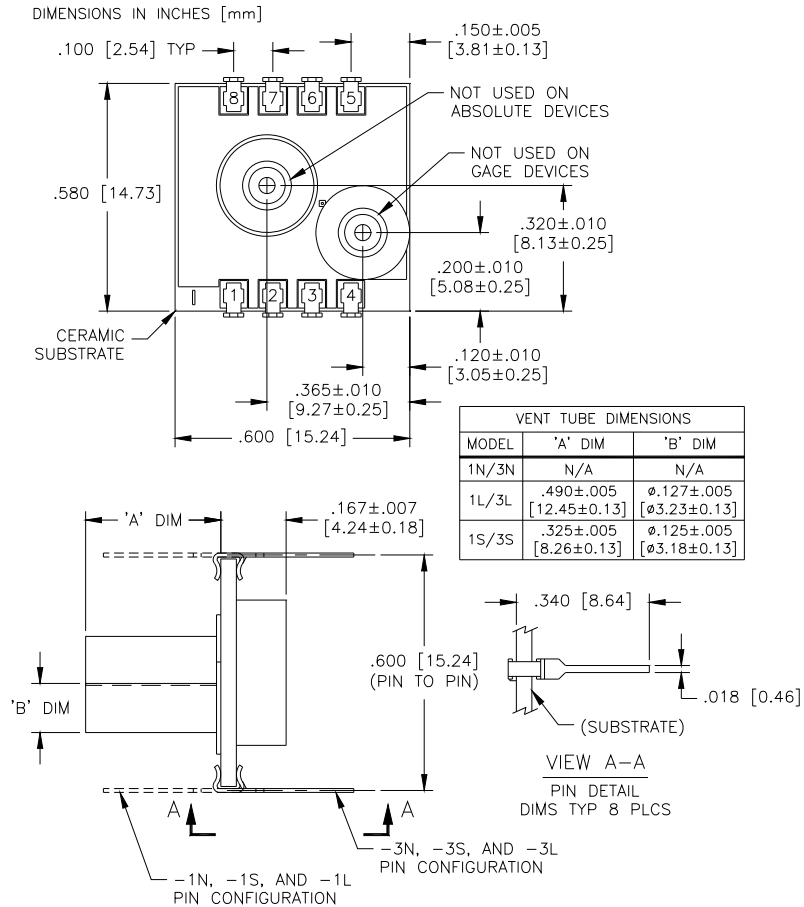
| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|--------------------------------------|--|-------|------|--------|-------|
| Span | 75 | 100 | 150 | mV | 1 |
| Zero Pressure Output | -2 | | 2 | mV | |
| Pressure Non Linearity | -0.1 | ±0.05 | 0.1 | %Span | 2 |
| Pressure Hysteresis | -0.1 | ±0.01 | 0.1 | %Span | |
| Input Resistance | 2200 | 4000 | 5800 | Ω | |
| Output Resistance | | 4200 | | Ω | |
| Temperature Error – Span | -0.5 | ±0.3 | 0.5 | %Span | 3 |
| Temperature Error – Zero | -0.5 | ±0.1 | 0.5 | %Span | 3 |
| Temperature Coefficient – Resistance | | 0.15 | | %/°C | 3 |
| Thermal Hysteresis – Zero | | ±0.05 | | %Span | 3 |
| Short Term Stability (Offset & Span) | | ±0.05 | | %Span | 4 |
| Long Term Stability (Offset & Span) | | ±0.1 | | %Span | 5 |
| Supply Current | 0.5 | 1.5 | 2.0 | mA | |
| Response Time (10% to 90%) | | 1.0 | | mS | 6 |
| Output Noise (10Hz to 1kHz) | | 1.0 | | μV p-p | |
| Pressure Overload | | | 3X | Rated | 7 |
| Compensated Temperature | -20 | | +85 | °C | |
| Operating Temperature | -40 | | +125 | °C | |
| Storage Temperature | -50 | | +150 | °C | |
| Weight | | | 3 | grams | |
| Solder Temperature | 250°C Max 5 Sec. | | | | |
| Media | Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Ceramic, Nickel, and Aluminum | | | | |

Notes

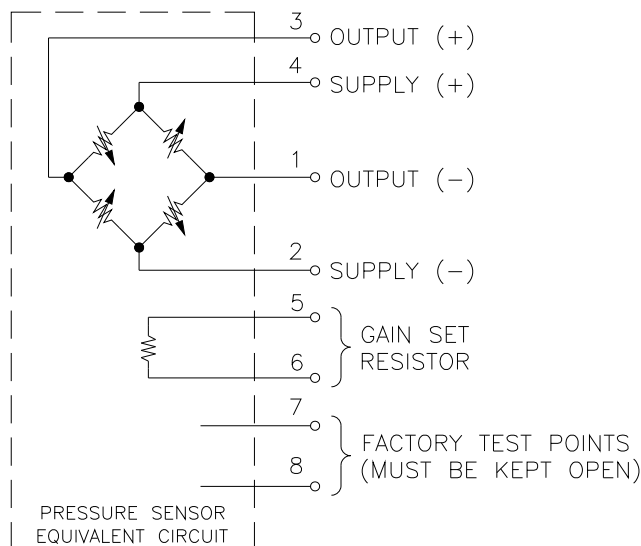
1. Ratiometric to supply current. Span for 2PSI is 30 to 60mV.
2. Best fit straight line. Non Linearity for 2 PSI is ±0.2% and 5 PSI is ± 0.5%.
3. Maximum temperature error between -20°C and +85°C with respect to 25°C.
4. Short term stability over 7 days with constant current and temperature.
5. Long term stability over a one year period with constant current and temperature.
6. For a zero-to-full scale pressure step change.
7. 2X maximum for 100 psi device.

1230 UltraStable™

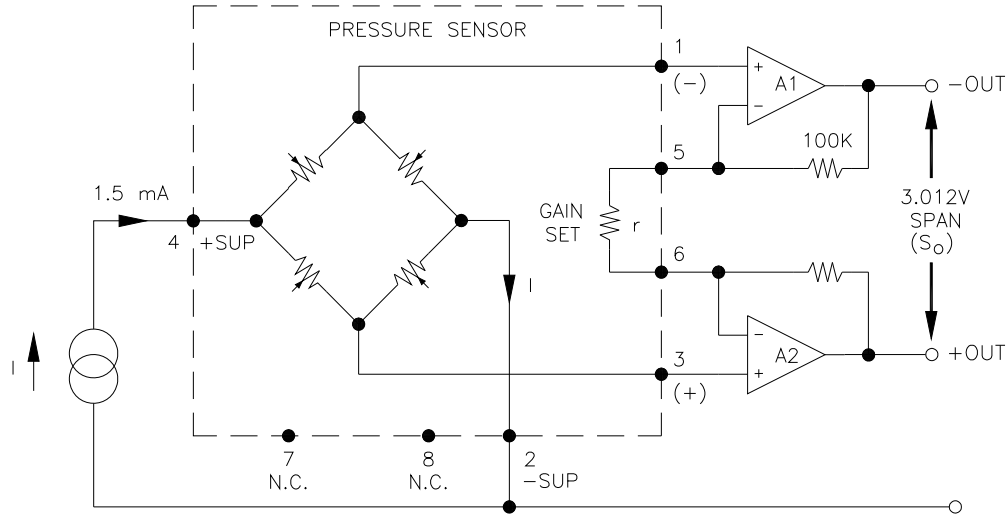
DIMENSIONS



CONNECTIONS



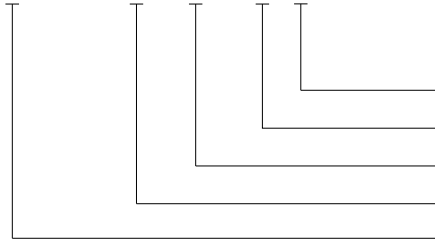
APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

ORDERING INFORMATION

1230 - 015 G - 3 S



- Pressure Tubes (L = Long, S = Short, N = None)
- Lead Configuration (1,3 - See Dimensions Diagram)
- Type (G= Gage, A = Absolute, D = Differential)
- Pressure Range
- Model

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