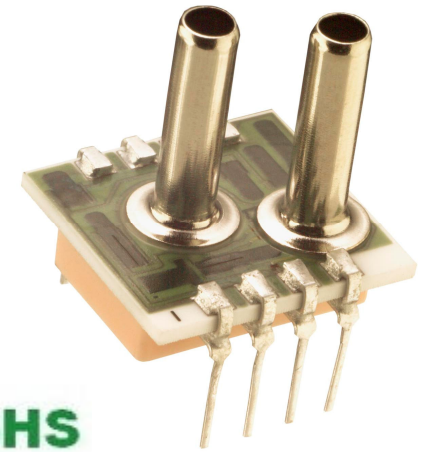
# 1220 Standard



- **PC Board Mountable Pressure Sensor**
- **0-50 mV Output**
- **Voltage Excitation**
- **Gage, Absolute, and Differential**
- **Temperature Compensated**

## DESCRIPTION

The 1220 is a temperature compensated, piezoresistive silicon pressure sensor packaged in a dual-in-line configuration and intended for cost sensitive applications where excellent performance and long-term stability are required.

When using the 1220 with a fixed voltage reference and current set resistor as shown in the application schematic, a span of 50mV and 1% interchangeability can be achieved. Integral temperature compensation is provided over a range of 0-50°C using laser-trimmed resistors. Gage, absolute, and differential pressure ranges from 0-2 psi to 0-100 psi are available. Multiple lead and tube configurations are available for specific applications.

Please refer to the 1220 1psi datasheet for low pressure applications. For current excitation, please refer to the Model 1210.

## FEATURES

- Dual-in-Line Package
- 0ºC to 50ºC Compensated Temperature Range
- ±0.1% Non Linearity
- 1.0% Interchangeable Span (provided by current set resistor)
- Solid State Reliability

## APPLICATIONS

- Medical Instruments
- Airspeed and Altitude Measurements
- Process Control
- Factory Automation
- Vacuum Measurement
- Handheld Calibrators

## 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

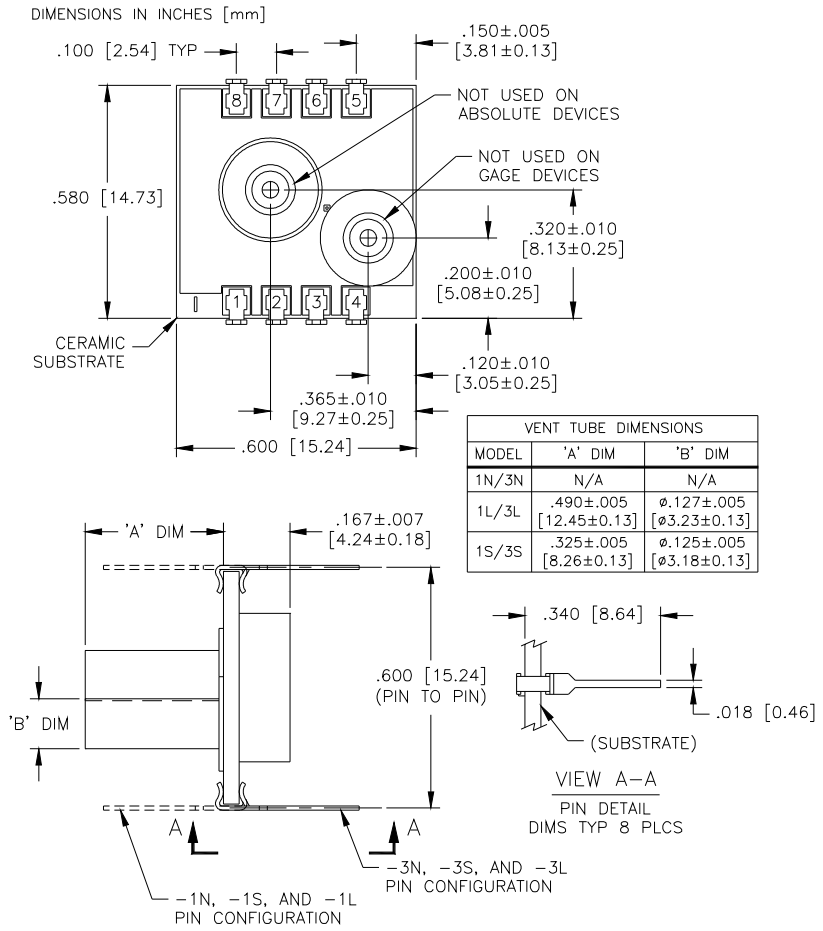
**Supply Voltage: See application schematic**
**Ambient Temperature: 25°C (unless otherwise specified)**

| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|---|---|---|---|---|---|
| Span | 49.5 | 50 | 50.5 | mV | 1 |
| Zero Pressure Output | -2 | | 2 | mV | 2 |
| Pressure Non Linearity | -0.1 | ±0.05 | 0.1 | %Span | |
| Pressure Hysteresis | -0.05 | ±0.01 | 0.05 | %Span | |
| Input & Output Resistance | 2500 | 4400 | 6000 | Ω | |
| Temperature Error – Span | -0.5 | ±0.3 | 0.5 | %Span | 3 |
| Temperature Error – Zero | -0.5 | ±0.1 | 0.5 | %Span | 3 |
| Thermal Hysteresis – Zero | | ±0.1 | | %Span | 3 |
| Supply Voltage Reference | | 1.235 | | V | 1 |
| Response Time (10% to 90%) | | 1.0 | | mS | 4 |
| Output Noise (10Hz to 1kHz) | | 1.0 | | µV p-p | |
| Long Term Stability (Offset & Span) | | ±0.1 | | %Span | 5 |
| Pressure Overload | | | 3X | Rated | 6 |
| Compensated Temperature | 0 | | 50 | °C | |
| Operating Temperature | -40 | | +125 | °C | |
| Storage Temperature | -50 | | +150 | °C | |
| Weight | | | 3 | grams | |
| Solder Temperature | 250ºC Max 5 Sec. | | | | |
| Media | Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Ceramic, Nickel, Gold, and Aluminum | | | | |

**Notes**

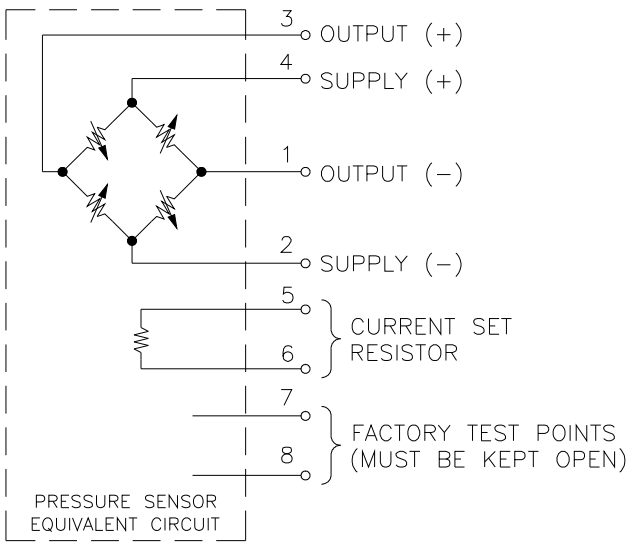
1. Refer to application schematic.
2. Best fit straight line.
3. Maximum temperature error between 0°C and 50°C with respect to 25°C. For 2psi devices, Temperature Error -- Zero is ±1.25%.
4. For a zero-to-full scale pressure step change.
5. Long term stability over a one year period with constant voltage and temperature.
6. 2X maximum for 100 psi device. 20psi maximum for 2 and 5 psi devices.

## DIMENSIONS

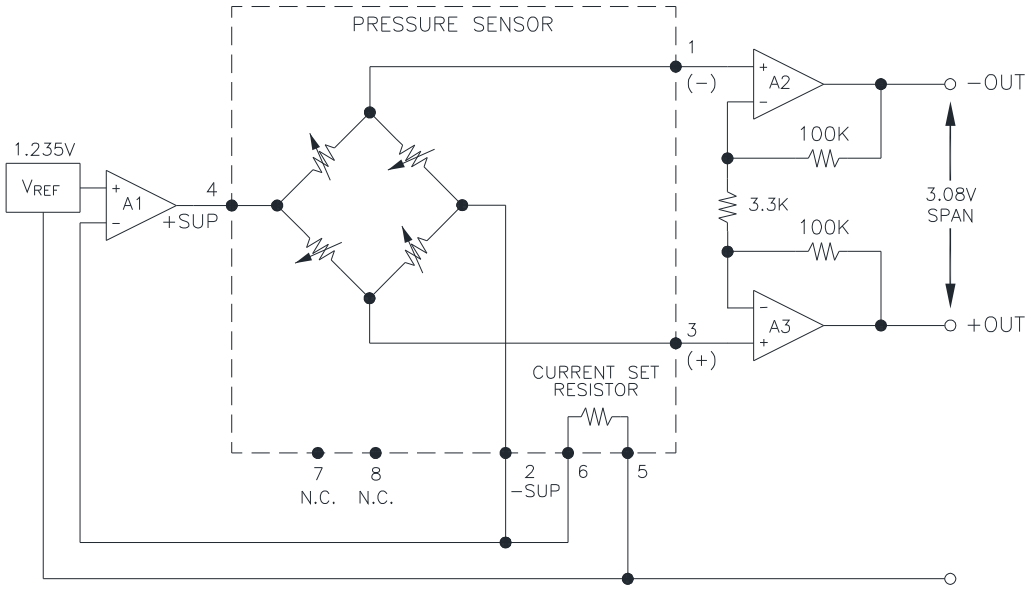



| VENT TUBE DIMENSIONS | | |
|---|---|---|
| MODEL | 'A' DIM | 'B' DIM |
| 1N/3N | N/A | N/A |
| 1L/3L | .490±.005 [12.45±0.13] | ø.127±.005 [ø3.23±0.13] |
| 1S/3S | .325±.005 [8.26±0.13] | ø.125±.005 [ø3.18±0.13] |

## CONNECTIONS



## APPLICATION SCHEMATIC




## ORDERING INFORMATION

1220 A - 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
- Grade
- Model


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