

✓RoHS

## 1220

1psi

### SPECIFICATIONS

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

The 1220 1psi 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.

Please refer to the 1220 standard datasheet for information on products with operating pressures greater than 1psi. For current excitation, please refer to the Model 1210.

## FEATURES

- Dual-in-Line Package
- 1.0% Interchangeable Span  
(provided by current set resistor)
- $\pm 0.3\%$  Non Linearity
- Solid State Reliability

## APPLICATIONS

- Medical Instruments
- Airspeed Measurement
- Process Control
- Factory Automation
- Leak Detection

## STANDARD RANGES

| Range  | psid | psig |
|--------|------|------|
| 0 to 1 | •    | •    |

## PERFORMANCE SPECIFICATIONS

Supply Current: 1.5 mA

Ambient Temperature: 25°C (unless otherwise specified)

| PARAMETERS                    | PRESSURE RANGE 0 – 1 psi                                 |       |      | UNITS    | NOTES |
|-------------------------------|--|-------|------|----------|-------|
|                               | MIN  | TYP   | MAX  |          |       |
| Span                          | 50   | 100   | 150  | mV       | 1     |
| Zero Pressure Output (Offset) | -2.0   |       | 2.0  | mV       |       |
| Pressure Non Linearity        | -0.3   |       | 0.3  | %Span    | 2     |
| Pressure Hysteresis           | -0.10  | ±0.01 | 0.10 | %Span    |       |
| Input/Output Resistance       | 1800   |       | 6500 | Ω        |       |
| Temperature Error – Span      | -1.0   | ±0.5  | 1.0  | %Span    | 3     |
| Temperature Error – Zero      | -1.0   | ±0.5  | 1.0  | %Span    | 3     |
| Thermal Hysteresis – Zero     |  | ±0.1  |      | %Span    | 3     |
| Long Term Stability           |  | ±0.2  |      | %Span/yr |       |
| Supply Current                | 0.5  | 1.5   | 2.0  | mA       | 4     |
| Response Time (10% to 90%)    |  | 1.0   |      | mSec     | 5     |
| Output Noise                  |  | 1.0   |      | μV p-p   | 6     |
| Output Load Resistance        | 2  |       |      | MΩ       | 7     |
| Insulation Resistance (50Vdc) | 50   |       |      | MΩ       |       |
| Pressure Overload             |  |       | 10   | psi      |       |
| Operating Temperature         | -40  |       | +125 | °C       |       |
| Storage Temperature           | -50  |       | +150 | °C       |       |
| Media                         | Non-Corrosive Dry Gases Compatible with Wetted Materials |       |      |          | 8     |
| Weight                        | 3 grams  |       |      |          |       |

### Notes

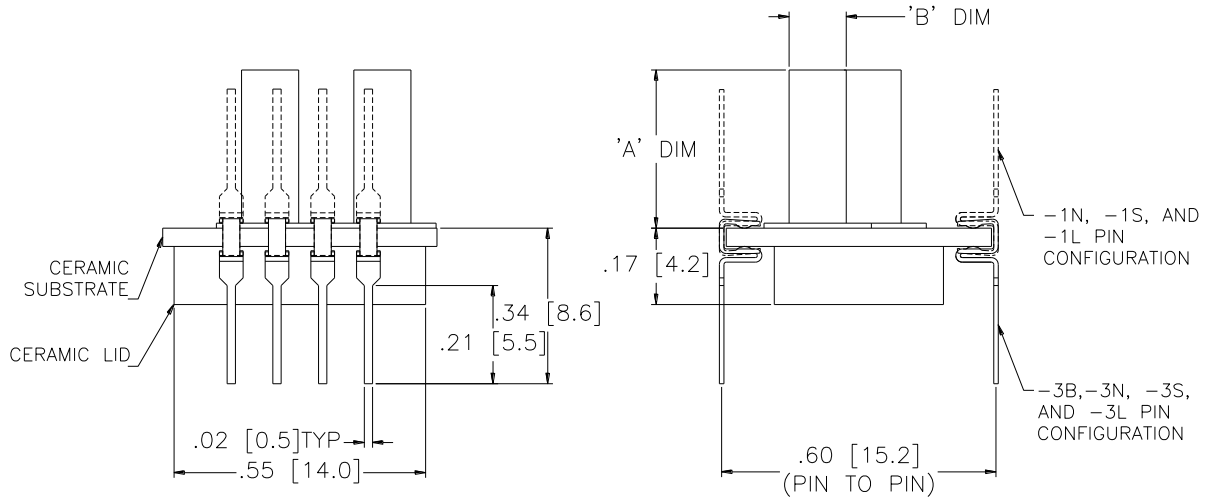
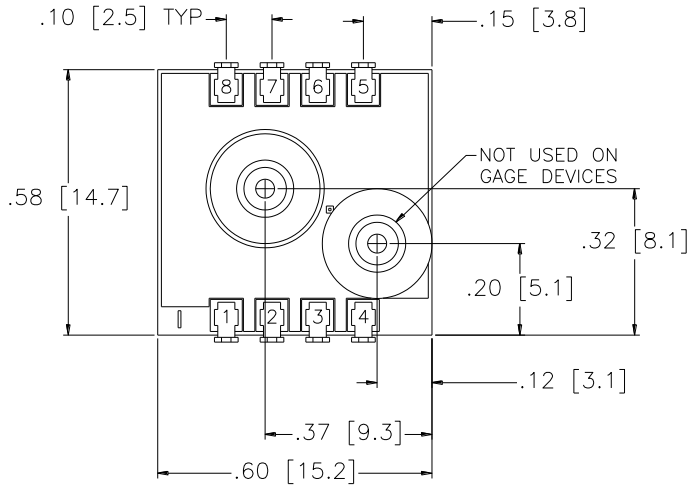
1. Output span of unamplified sensor. When the current set resistor is used as shown in the application schematic, the unamplified output span is 50mV ±2mV.
2. Best fit straight line.
3. Temperature range: 0°C to 50°C with reference to 25°C.
4. Guarantees input/output ratiometricity for span.
5. For a zero-to-full scale pressure step change.
6. 10Hz to 1kHz.
7. Prevents increase of TC-Span due to output loading.
8. Wetted materials: glass, ceramic, silicon, fluorosilicone, nickel, gold and aluminum.

### Additional Notes

Soldering leads pins: 250°C for 5 seconds, maximum.

### DIMENSIONS (TUBE VERSION)

DIMENSIONS IN INCHES [mm]

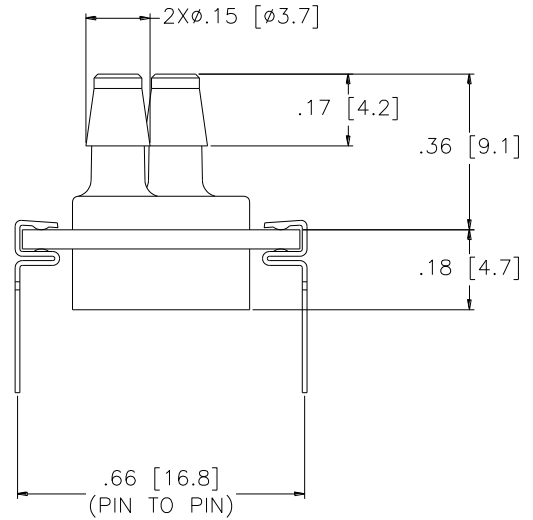
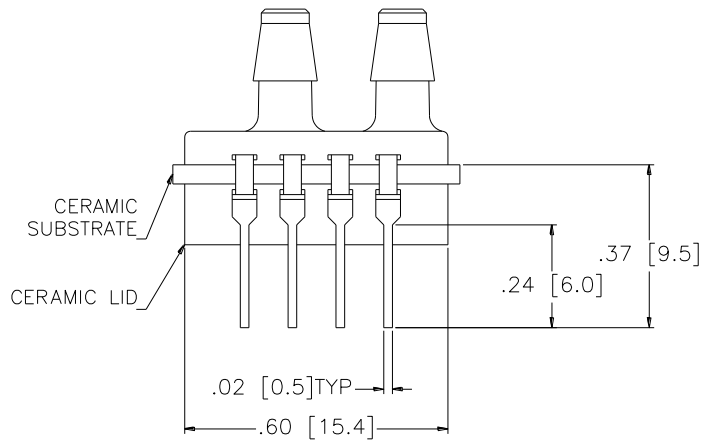
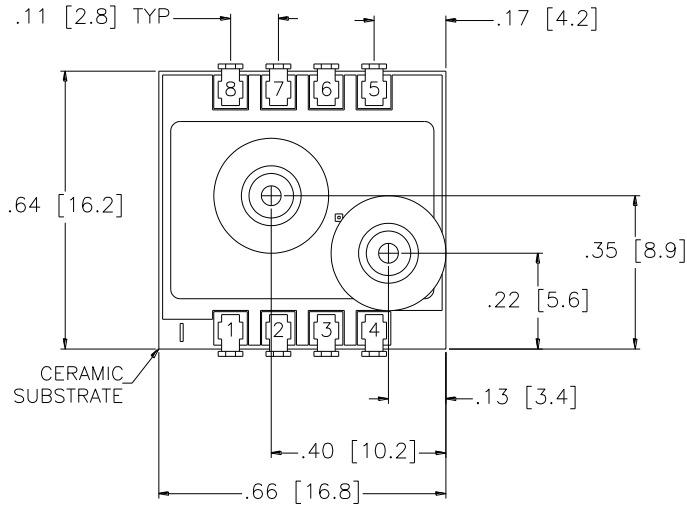


| VENT TUBE DIMENSIONS |                           |                            |
|----------------------|---------------------------|----------------------------|
| MODEL                | 'A' DIM                   | 'B' DIM                    |
| 1N/3N                | N/A                       | N/A                        |
| 1L/3L                | .490±.005<br>[12.45±0.13] | ∅.127±.005<br>[∅3.23±0.13] |
| 1S/3S                | .325±.005<br>[8.26±0.13]  | ∅.125±.005<br>[∅3.18±0.13] |

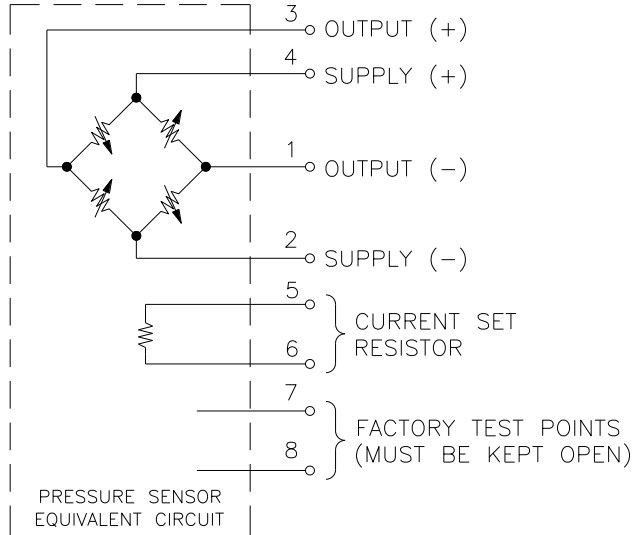
| PAD NO | FUNCTION |
|--------|----------|
| 1      | -OUT     |
| 2      | -EX      |
| 3      | +OUT     |
| 4      | +EX      |
| 5,6    | GAIN     |
| 7,8    | TEST     |

### DIMENSIONS (BARB VERSION)

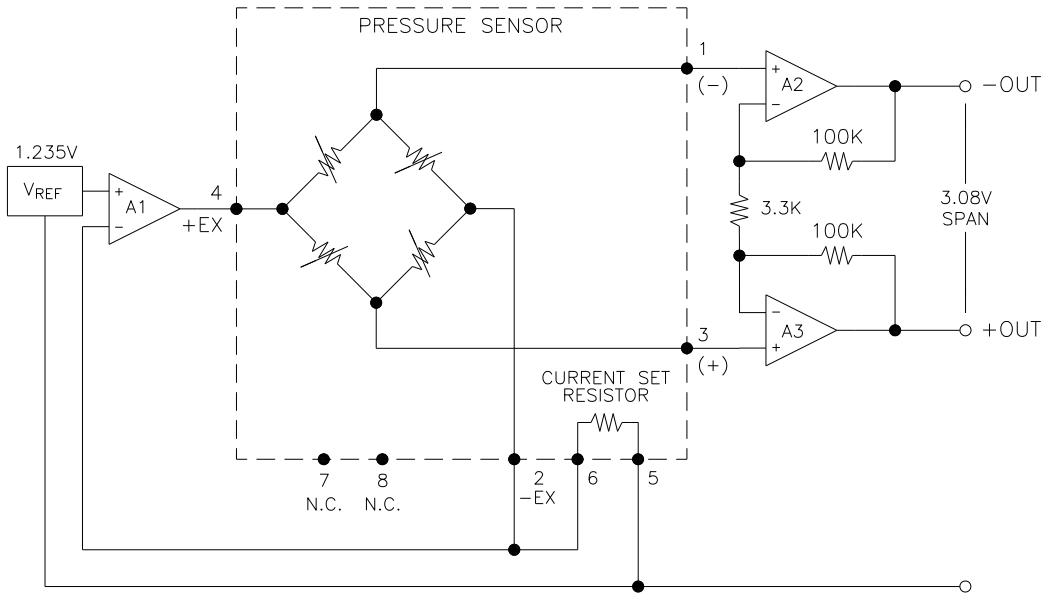
DIMENSIONS IN INCHES [mm]



## CONNECTIONS

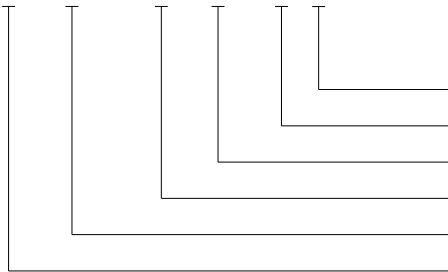


## APPLICATION SCHEMATIC



ORDERING INFORMATION

1220 A - 001 G - 3 S



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