

## 1210 Standard



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

### DESCRIPTION

The 1210 is a temperature compensated, piezoresistive silicon pressure sensor packaged in a dual-in-line configuration. It is intended for cost sensitive applications where excellent performance and long-term stability are required.

Integral temperature compensation is provided over a range of 0-50°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  $\pm 1\%$ . 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 1210 1 psi datasheet for low pressure applications. For voltage excitation, please refer to the Model 1220.

### FEATURES

- Dual-in-Line Package
- 0°C to 50°C Compensated Temperature Range
- $\pm 0.1\%$  Non Linearity
- 1.0% Interchangeable Span (provided by gain 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 | •    | •    | •    |

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## PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

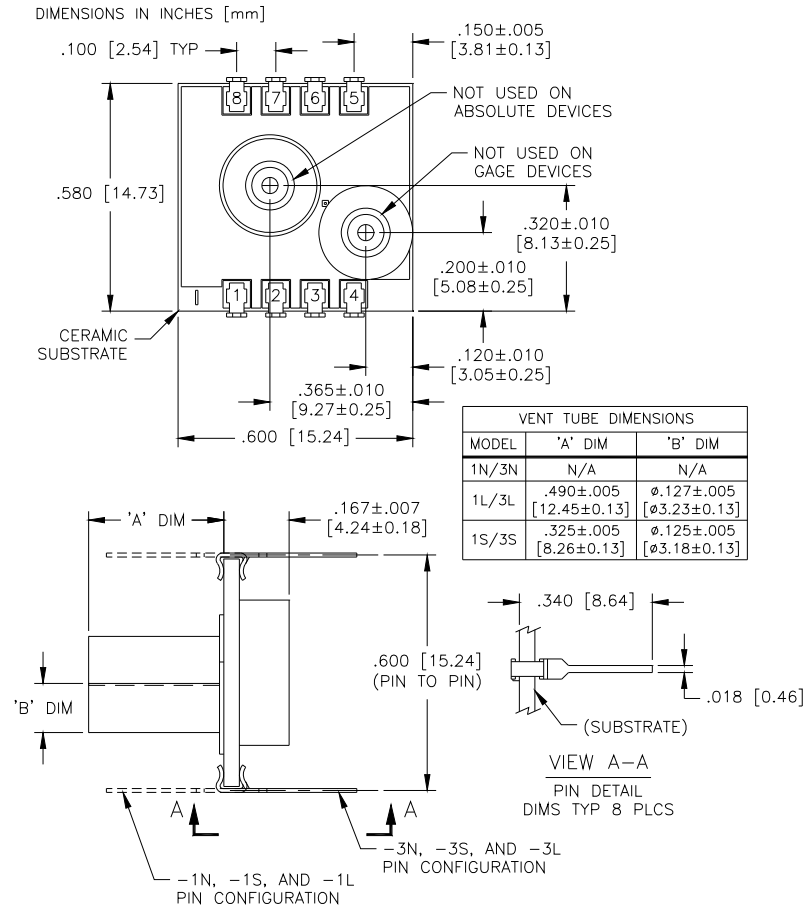
Ambient Temperature: 25°C (unless otherwise specified)

| PARAMETERS                          | MIN                                                                                              | TYP   | MAX  | UNITS  | NOTES |
|-------------------------------------|--------------------------------------------------------------------------------------------------|-------|------|--------|-------|
| Span                                | 75                                                                                               | 100   | 150  | mV     | 1     |
| Span (2 psi version)                | 30                                                                                               |       | 60   | mV     | 1     |
| Zero Pressure Output                | -2                                                                                               |       | 2    | mV     |       |
| Pressure Non Linearity              | -0.1                                                                                             | ±0.05 | 0.1  | %Span  | 2     |
| 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 Current                      |                                                                                                  | 1.5   | 2.0  | mA     |       |
| 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                  | 250°C Max 5 Sec.                                                                                 |       |      |        |       |
| Media                               | Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Ceramic, Nickel, and Aluminum |       |      |        |       |

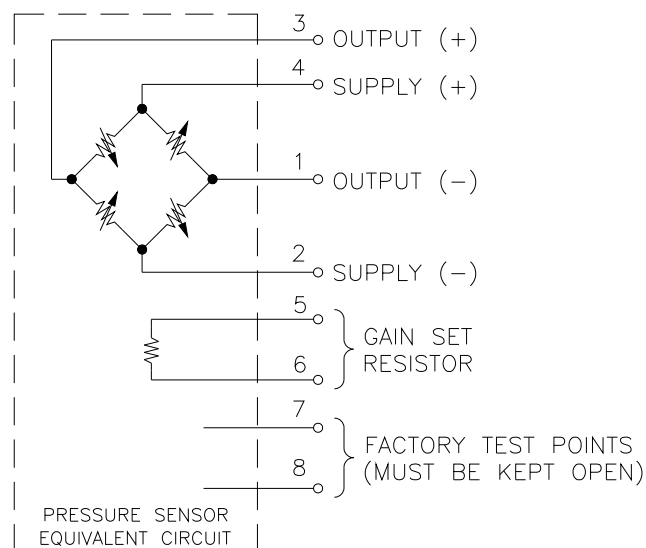
### Notes

1. Ratiometric to supply current.
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%.
4. For a zero-to-full scale pressure step change.
5. Long term stability over a one year period with constant current and temperature.
6. 2X maximum for 100psi device. 20psi maximum for 2 and 5psi devices.

## DIMENSIONS

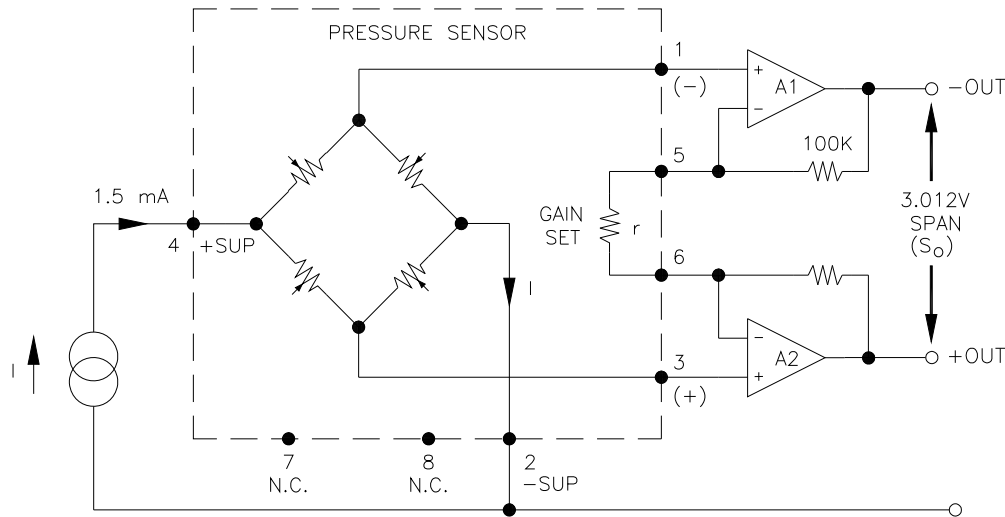


## CONNECTIONS



# 1210 Standard

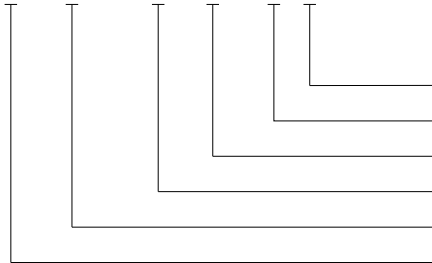
## APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

## ORDERING INFORMATION

1210 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

### NORTH AMERICA

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