

## 1240

UltraStable™

### SPECIFICATIONS

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

The 1240 is a high performance 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.

When using the 1240 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 -20°C to +85°C using laser-trimmed resistors. 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 information on products with operating pressures less than 0-15 psi. For current excitation, please refer to the Model 1230.

## FEATURES

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

## APPLICATIONS

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

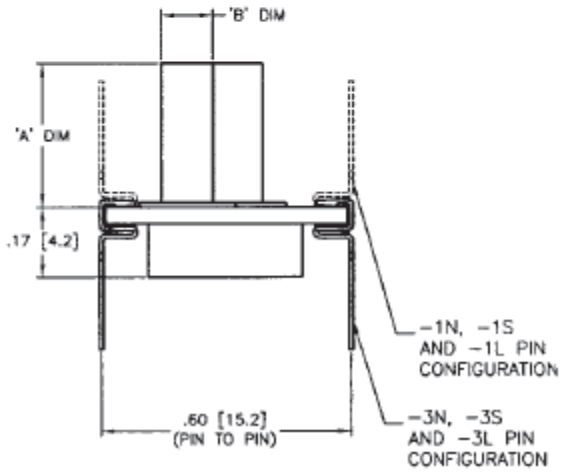
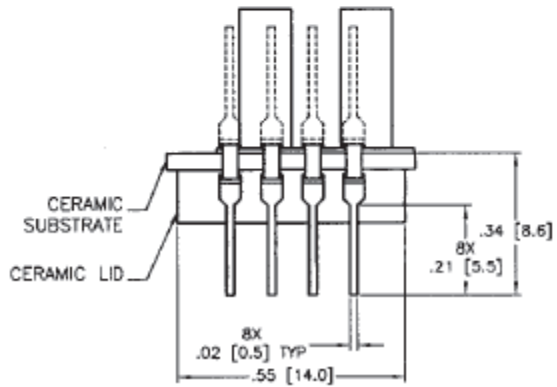
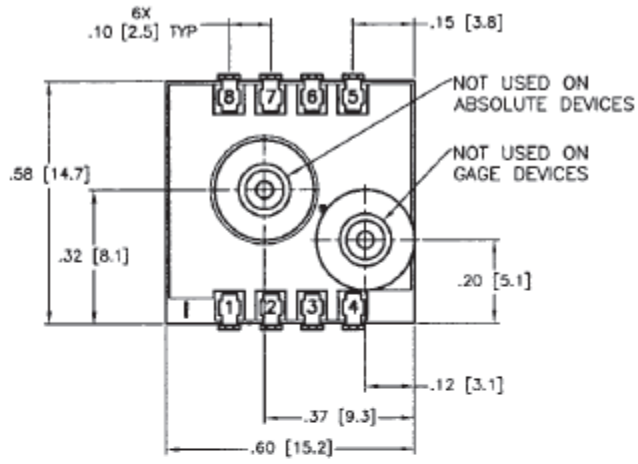
Ambient Temperature: 25°C (unless otherwise specified)

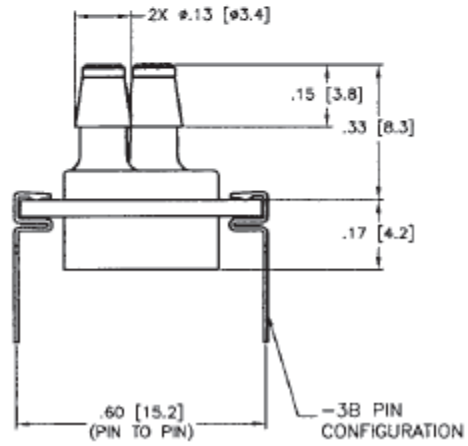
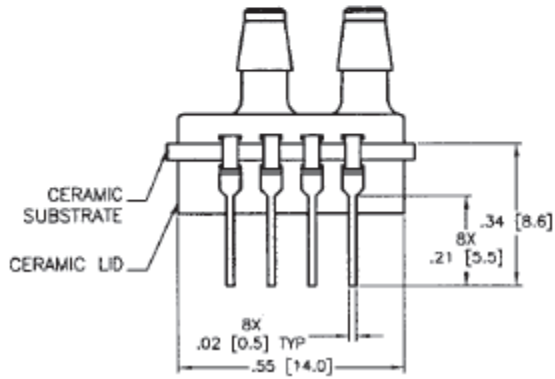
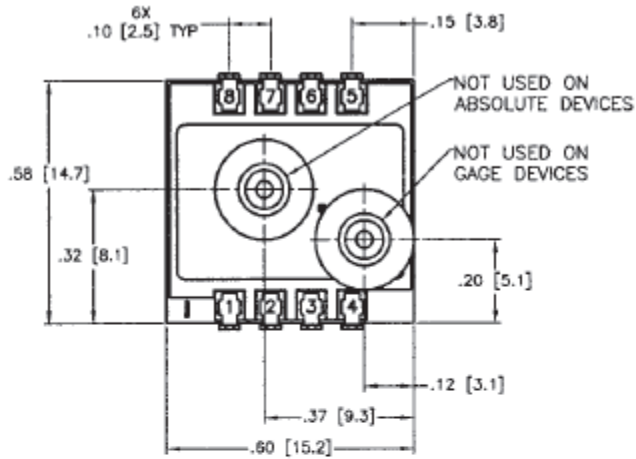
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	49.5	50	50.5	mV	1
Zero Pressure Output	-2		2	mV	
Pressure Non Linearity	-0.1	±0.05	0.1	%Span	2
Pressure Hysteresis	-0.1	±0.01	0.1	%Span	
Input Resistance	2200	4000	5800	Ω	
Output Resistance		4200		Ω	
Temperature Error – Span	-0.5	±0.3	0.5	%Span	3
Temperature Error – Zero	-0.5	±0.1	0.5	%Span	3,8
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 Voltage Reference		1.235		V	1
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	8
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

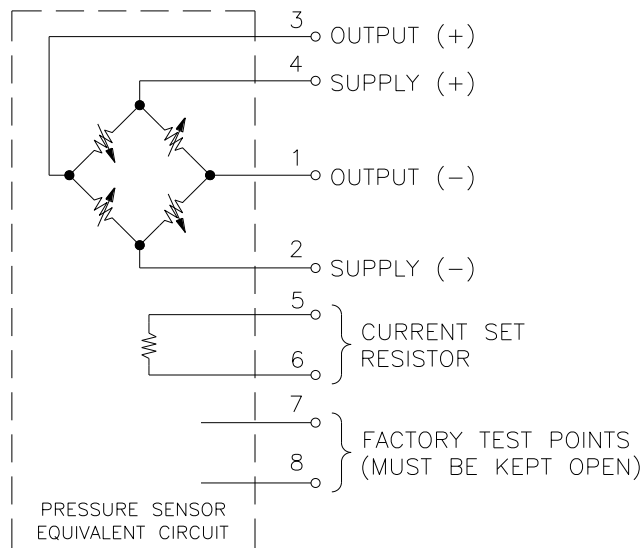
1. Refer to application schematic.
2. Best fit straight line. Non Linearity for 2 PSI is ±0.2% 5 PSI is ± 0.50%.
3. Maximum temperature error between -20°C and +85°C with respect to 25°C.
4. Short term stability over 7 days with constant current and temperature.
5. Long term stability over a one year period with constant current and temperature.
6. For a zero-to-full scale pressure step change.
7. 2X maximum for 100 psi device.
8. For pressure ranges below 15psi, compensated temperature range is 0°C to 50°C and thermal error of offset is ±1.25%.

### DIMENSIONS

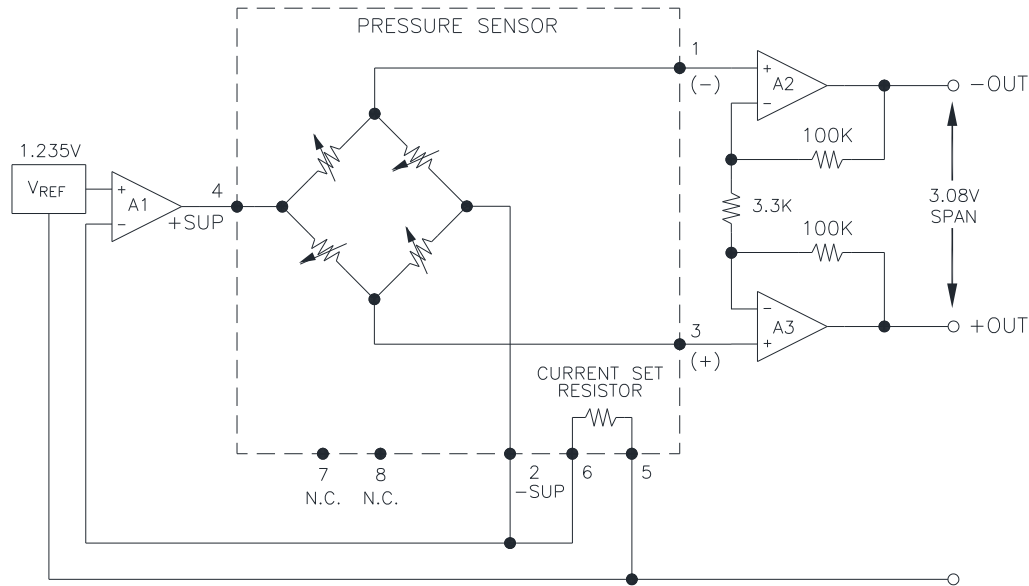




CONNECTIONS



## APPLICATION SCHEMATIC



## ORDERING INFORMATION

<b>1240</b> <b>Model Name</b>	<b>002</b>	<b>A</b>	<b>3</b>	<b>B</b>
<b>Pressure range [psi]</b>	002      015      030			
	005      100			
<b>Pressure Type</b>				
<b>A</b> = Absolute	<b>G</b> =Gage			
<b>D</b> =Differential				
<b>Lead Configuration</b>				
<b>1</b> =Same side as Vent Tube				
<b>3</b> =Opposite Side as vent tube				
<b>Vent Type</b>				
<b>L</b> =Long Tube	<b>N</b> =No Tube			
<b>S</b> =Short Tube	<b>B</b> =Barb			

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