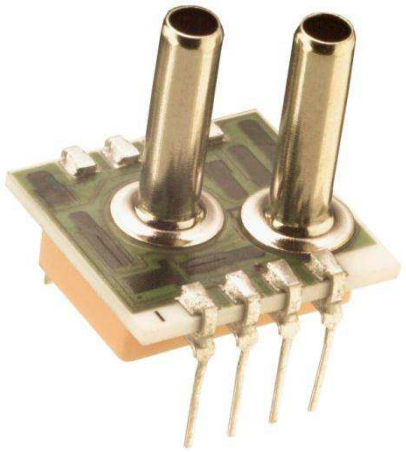


1240

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
- -20ºC to +85ºC 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

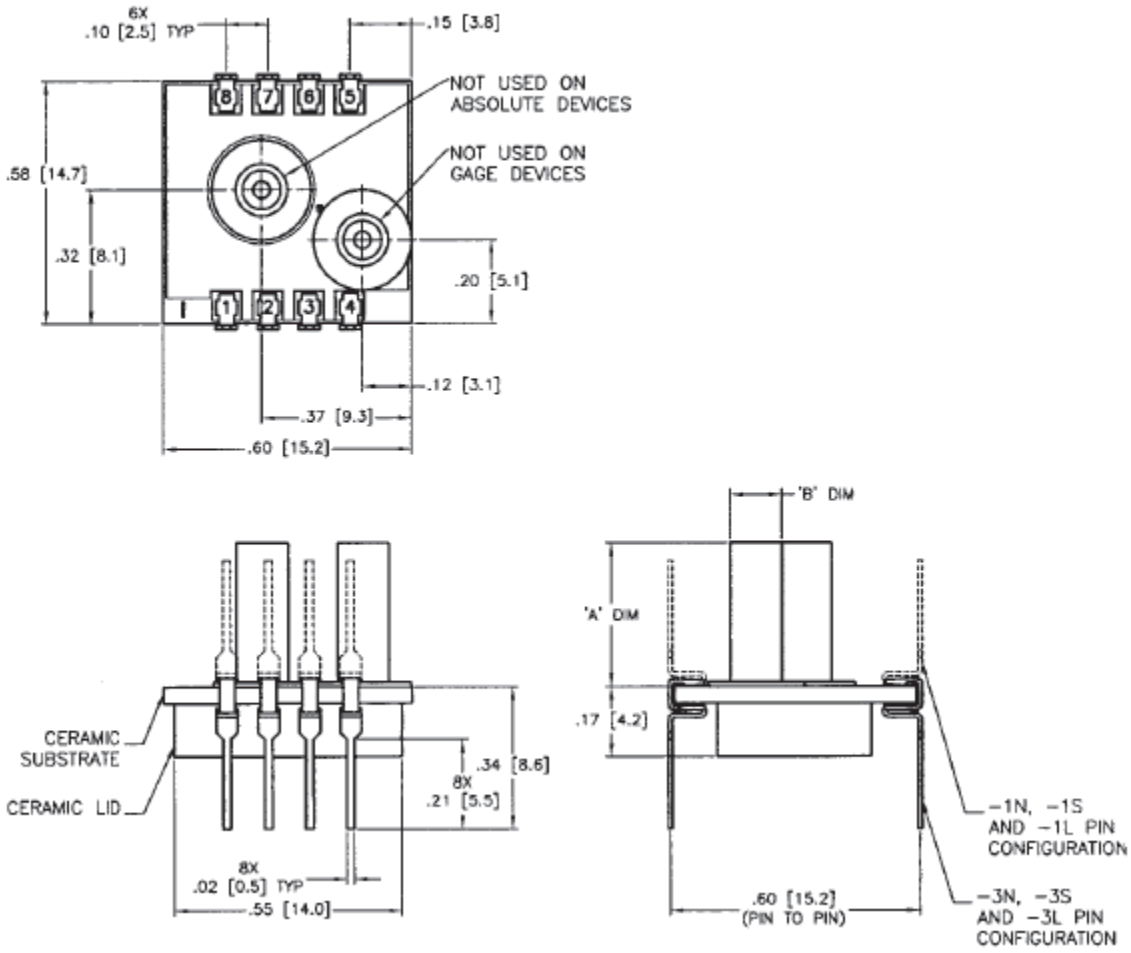
Supply Voltage: See application schematic
Ambient Temperature: 25°C (unless otherwise specified)

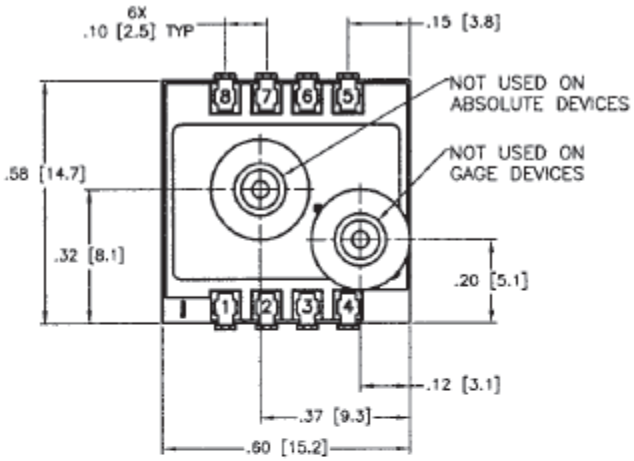
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	49.5	50	50.5	mV	1
Zero Pressure Output	-2		2	mV	
Pressure Non Linearity	-0.1	±0.05	0.1	%Span	2
Pressure Hysteresis	-0.1	±0.01	0.1	%Span	
Input Resistance	2200	4000	5800	Ω	
Output Resistance		4200		Ω	
Temperature Error – Span	-0.5	±0.3	0.5	%Span	3
Temperature Error – Zero	-0.5	±0.1	0.5	%Span	3,8
Temperature Coefficient – Resistance		0.15		%/ºC	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	250ºC Max 5 Sec.				
Media	Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Ceramic, Nickel, and Aluminum				

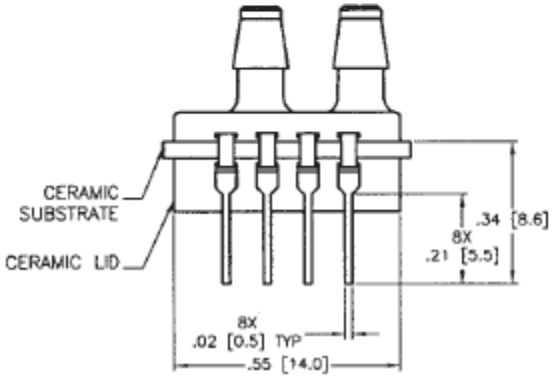
Notes

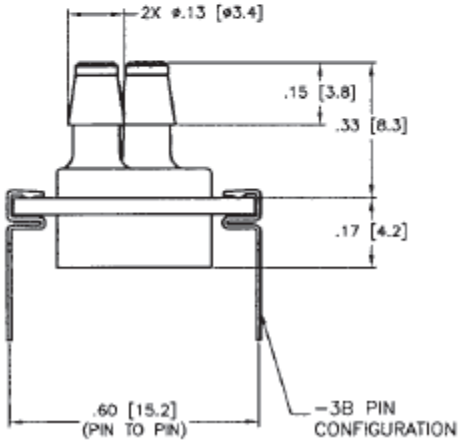
1. Refer to application schematic.
2. Best fit straight line. Non Linearity for 2 PSI is ±0.2% 5 PSI is ± 0.50%.
3. Maximum temperature error between -20°C and +85°C with respect to 25°C.
4. Short term stability over 7 days with constant current and temperature.
5. Long term stability over a one year 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 0ºC to 50ºC and thermal error of offet is ±1.25%.

DIMENSIONS

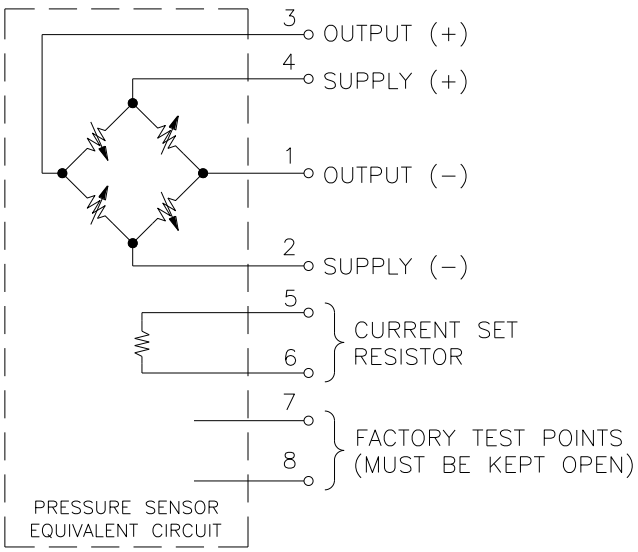

6X
.10 [2.5] TYP
.15 [3.8]
NOT USED ON
ABSOLUTE DEVICES
NOT USED ON
GAGE DEVICES
.58 [14.7]
.32 [8.1]
.20 [5.1]
.12 [3.1]
.37 [9.3]
.60 [15.2]
'B' DIM
'A' DIM
.17 [4.2]
CERAMIC
SUBSTRATE
CERAMIC LID
.34 [8.6]
8X
.21 [5.5]
8X
.02 [0.5] TYP
.55 [14.0]
-1N, -1S
AND -1L PIN
CONFIGURATION
-3N, -3S
AND -3L PIN
CONFIGURATION
.60 [15.2]
(PIN TO PIN)



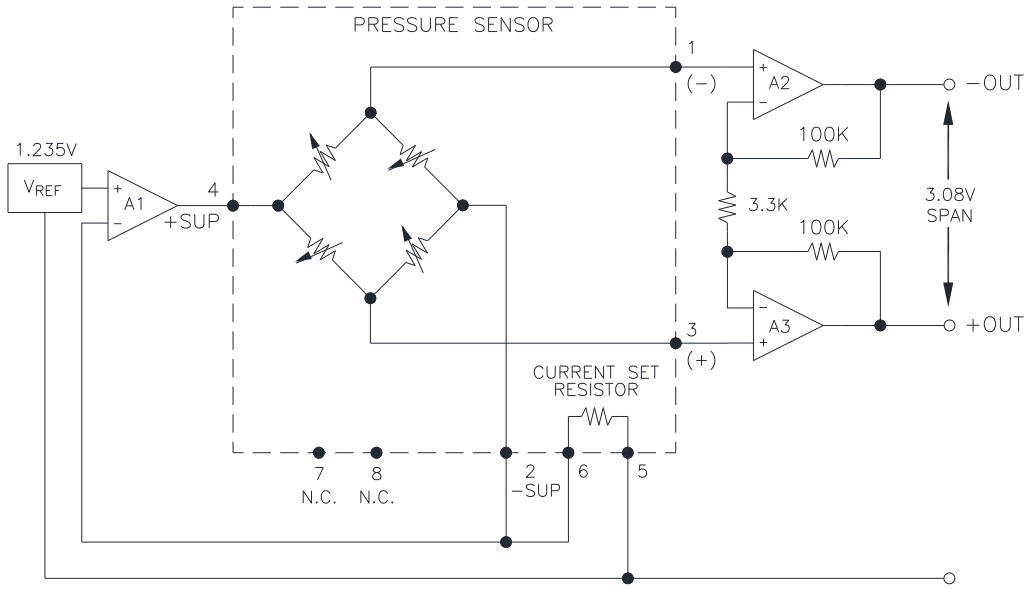




CONNECTIONS



APPLICATION SCHEMATIC



ORDERING INFORMATION

1240 Model Name	—	002	A	—	3	B

Pressure range [psi]

002	015	030
005	100	

Pressure Type

A = Absolute	**G**=Gage
D=Differential	

Lead Configuration

1=Same side as Vent Tube
3=Opposite Side as vent tube

Vent Type

L=Long Tube	**N**=No Tube
S=Short Tube	**B**=Barb