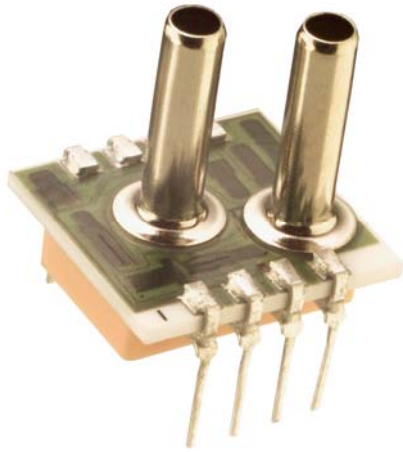


1240 UltraStable™



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

DESCRIPTION

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

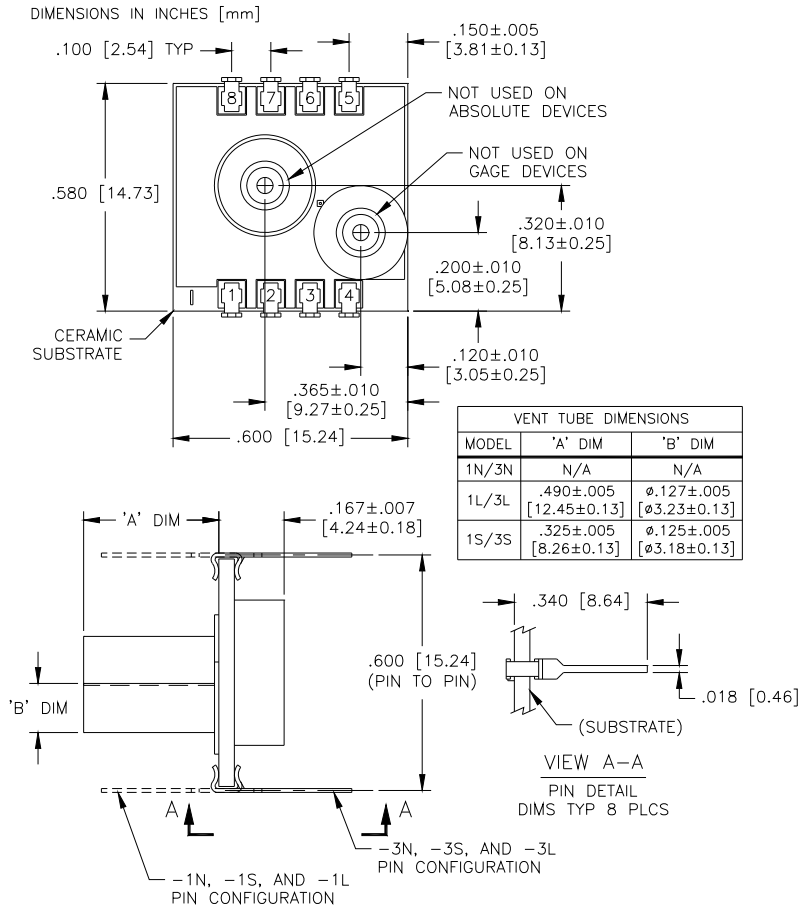
Ambient Temperature: 25°C (unless otherwise specified)

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
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	
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				

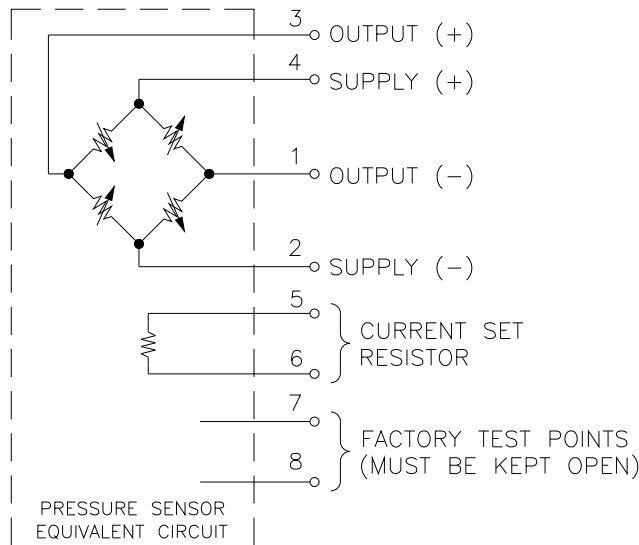
Notes

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.

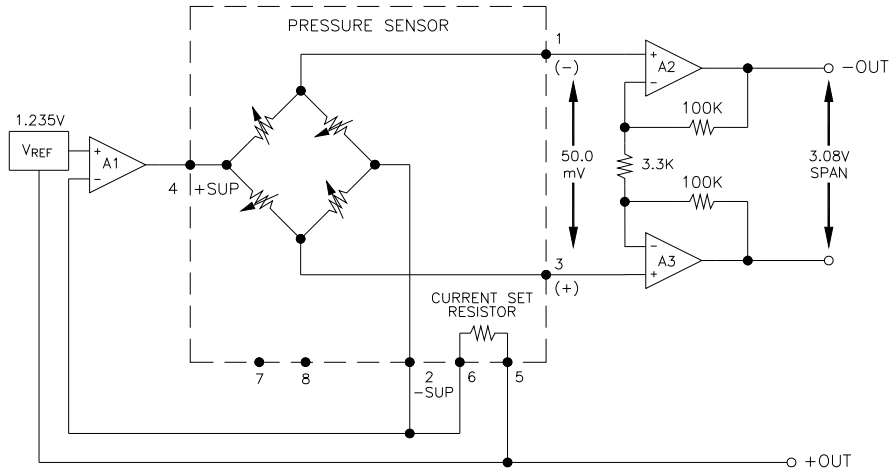
DIMENSIONS



CONNECTIONS



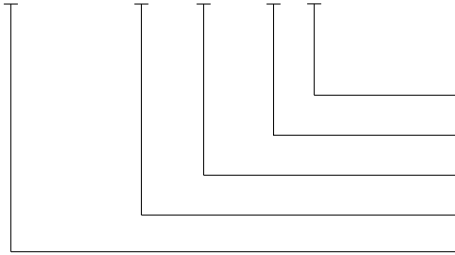
APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

ORDERING INFORMATION

1240 - 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
Model

NORTH AMERICA

Measurement Specialties
45738 Northport Loop West
Fremont, CA 94538
Tel: 1-800-767-1888
Fax: 1-510-498-1578
Sales: pfg.cs.amer@meas-spec.com

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties
(China), Ltd.
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518107
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Sales: pfg.cs.asia@meas-spec.com

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.