





- 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

	ST	AND	ARD	RANGES
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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

mbient Temperature: 25°C (unless otherwise PARAMETERS	MIN	ТҮР	МАХ	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	
nput Resistance	2200	4000	5800	Ω	
Dutput Resistance		4200		Ω	
Temperature Error – Span	-0.5	±0.3	0.5	%Span	3
Femperature Error – Zero	-0.5	±0.1	0.5	%Span	3
Femperature Coefficient – Resistance		0.15		%/°C	3
Thermal Hysteresis – Zero		±0.05		%Span	3
Short Term Stability (Offset & Span)		±0.05		%Span	4
ong Term Stability (Offset & Span)		±0.1		%Span	5
Supply Voltage Reference		1.235		V	1
Response Time (10% to 90%)		1.0		mS	6
Dutput 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 S	ec.		-	
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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 $\pm 0.2\%$ 5 PSI is $\pm 0.50\%$.

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.

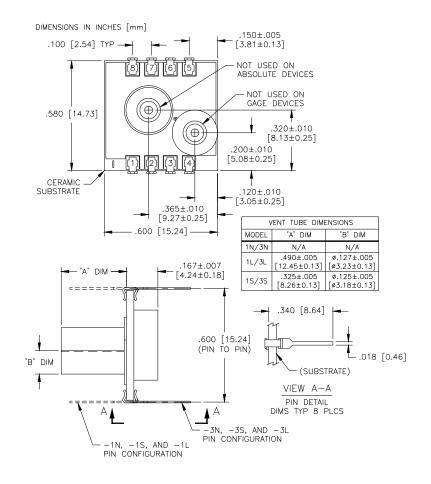
6. For a zero-to-full scale pressure step change.

7. 2X maximum for 100 psi device.

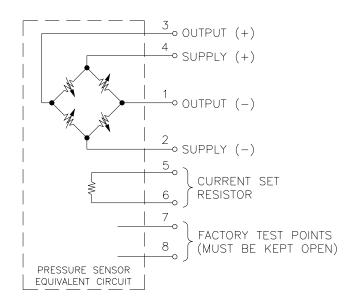


1240 UltraStable™

DIMENSIONS

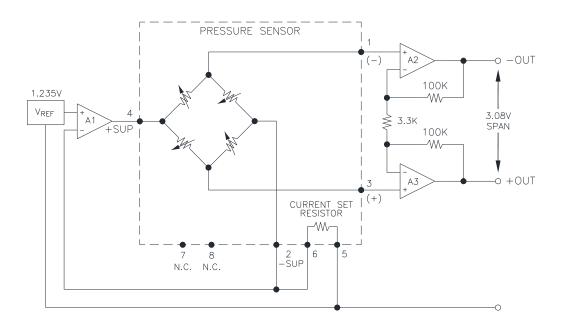


CONNECTIONS

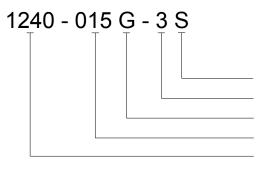




APPLICATION SCHEMATIC



ORDERING INFORMATION



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

Pressure Range

Model

ASIA

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

> Measurement Specialties (China), Ltd. No. 26 Langshan Road Shenzhen High-Tech Park (North) Nanshan District, Shenzhen 518057 China Tel: +86 755 3330 5088 Fax: +86 755 3330 5099 Sales: pfg.cs.asia@meas-spec.com

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