



# 13 AND 43

# Standard

### **SPECIFICATIONS**

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

The 13 and 43 are temperature compensated, piezoresistive silicon pressure sensors packaged in a TO-8 configuration. It provides excellent performance and long-term stability.

Gage and absolute pressure ranges from 0-2 to 0-250 psi are available. 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  $\pm 1\%$ .

Please refer to the 13 and 43 1 psi datasheets for low pressure applications.

## **FEATURES**

- ◆ TO-8 Package
- 0°C to 50°C Compensated
- ◆ Temperature Range
- ◆ ±0.1% Non Linearity
- ◆ 1.0% Interchangeable Span
- (provided by gain set resistor)
- Solid State Reliability

## **APPLICATIONS**

- Medical Instruments
- Process Control
- Factory Automation
- Altitude Measurement
- Vacuum Measurement
- Handheld Calibrators

### STANDARD RANGES

Range	psig	psia
0 to 2	<b>+</b>	
0 to 5	•	•
0 to 10	•	•
0 to 15	•	•
0 to 30	<b>+</b>	•
0 to 50	•	•
0 to 100	•	<b>•</b>
0 to 250	•	•

### PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

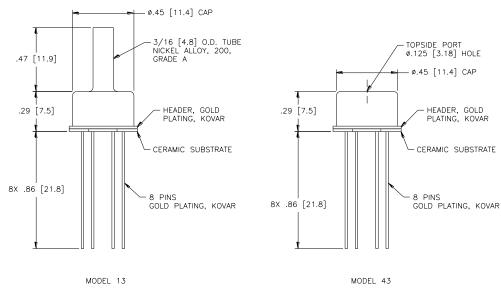
Ambient Temperature: 25°C (unless otherwise specified)							
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES		
Span	75	100	150	mV	1		
Span (2 psi version)	30		60	mV	1		
Zero Pressure Output	-2		2	mV			
Pressure Non Linearity	-0.1	±0.05	0.1	%Span	2		
Pressure Hysteresis	-0.05	±0.01	0.05	%Span			
Input & Output Resistance	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			
Insulation Resistance (50 Vdc)	50			МΩ	5		
Long Term Stability (Offset & Span)		±0.1		%Span	6		
Pressure Overload			3X	Rated	7		
Compensated Temperature	0		50	°C			
Operating Temperature	-40		+125	°C			
Storage Temperature	-50		+150	°C			
Weight			3	grams			
Solder Temperature	250ºC Max 5 Se	ec.					
Media		Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Nickel, and Aluminum					

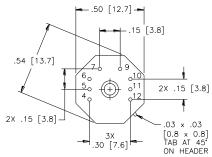
#### Notes

- 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 ±1.25%.
- 4. For a zero-to-full scale pressure step change.
- 5. Minimum resistance between case and pins.
- 6. Long term stability over a one year period with constant current and temperature.
- 7. 2X maximum for 250 psi device. 20 psi maximum for 2 and 5 psi devices.

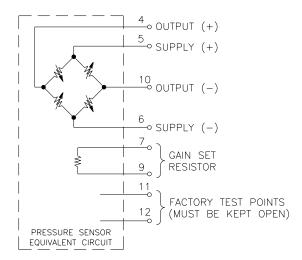
### **DIMENSIONS**

DIMENSIONS ARE IN INCHES [mm]

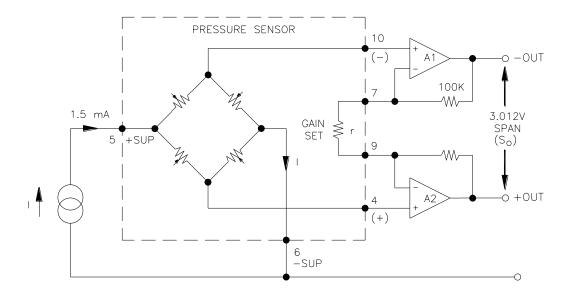




## **CONNECTIONS**

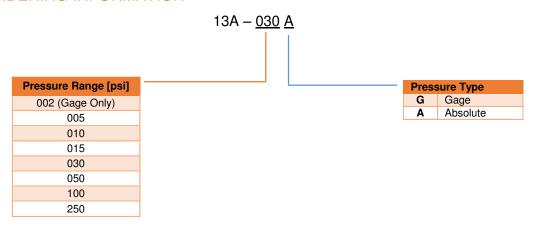


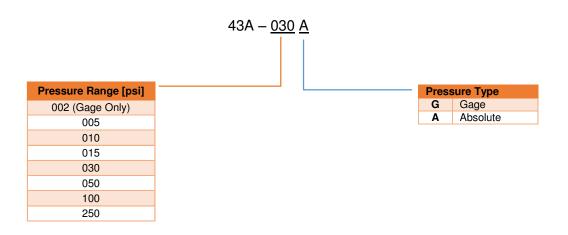
# **APPLICATION SCHEMATIC**



APPLICATION SCHEMATIC

### **ORDERING INFORMATION**





**EUROPE** 

#### **NORTH AMERICA**

Measurement Specialties, Inc., a TE Connectivity Company Tel: 800-522-6752 customercare frmt@te.com

TE.com/sensorsolutions

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Measurement Specialties (Europe), Ltd.,

a TE Connectivity Company

customercare.bevx@te.com

Tel: 800-440-5100

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#### **ASIA**

Measurement Specialties (China), Ltd., a TE Connectivity Company Tel: 0400-820-6015

mailto:customercare.shzn@te.com