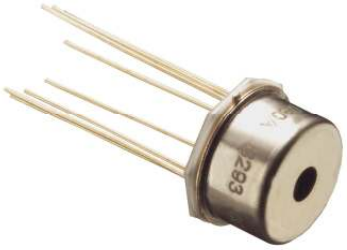
Model 13 and 43 Standard

Model 13



Model 43

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

DESCRIPTION

The Models 13 and 43 are temperature compensated, piezoresistive silicon pressure sensor packaged in 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 ±1%.

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

FEATURES

- TO-8 Package
- 0ºC to 50ºC 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	•	
0 to 5	•	•
0 to 10	•	•
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 250	•	•

Model 13 and 43 Standard

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			M Ω	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 Sec.				
Media	Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Nickel, and Aluminum				

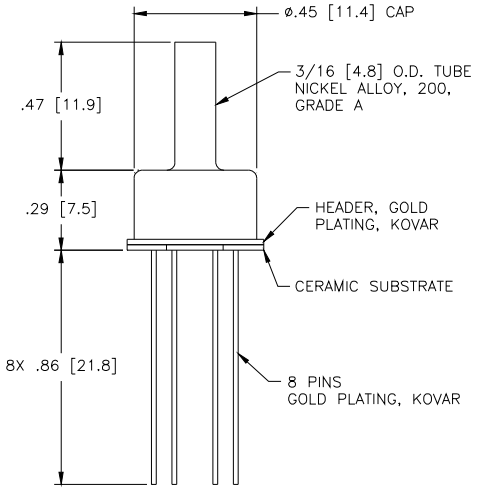
Notes

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.

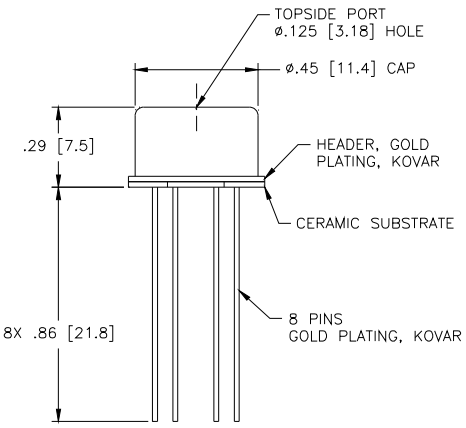
Model 13 and 43 Standard

DIMENSIONS

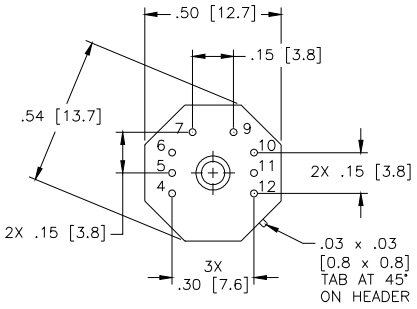
DIMENSIONS ARE IN INCHES [mm]



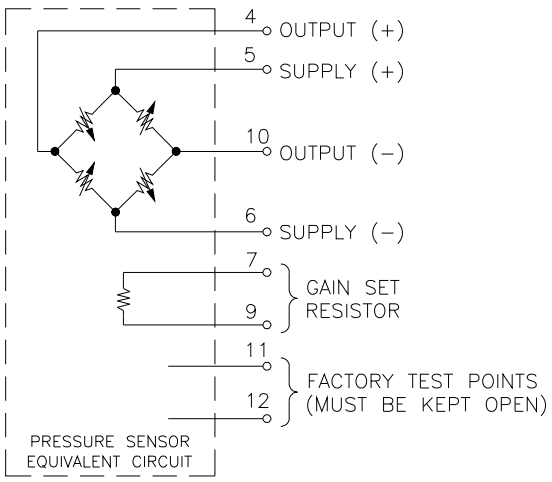
MODEL 13



MODEL 43

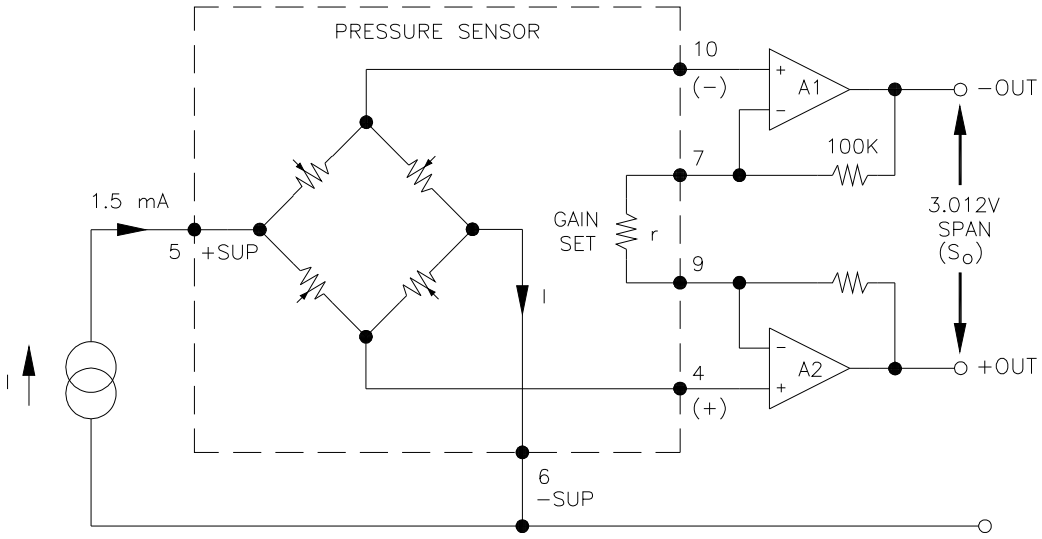


CONNECTIONS



Model 13 and 43 Standard

APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

ORDERING INFORMATION

13A - 015 G

- Type (G = Gage, A = Absolute)
- Pressure Range
- Model

43A - 015 G

- Type (G = Gage, A = Absolute)
- Pressure Range
- Model