

## Model 23 and 33 1psi



Model 23



Model 33

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

### DESCRIPTION

The Models 23 and 33 are temperature compensated, piezoresistive silicon pressure sensor packaged in TO-8 configuration. It provides excellent performance and long-term stability.

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 Models 23 and 33 standard datasheets for information on products with operating pressures greater than 1 psi.

### FEATURES

- TO-8 Package
- 0°C to 50°C Compensated Temperature Range
- $\pm 0.3\%$  Non Linearity
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability

### APPLICATIONS

- Medical Instruments
- Process Control
- Factory Automation
- Leak Detection
- Airspeed Measurement
- Level Detection

### STANDARD RANGES

Range	Model 23 psig	Model 33 psid
0 to 1	•	•

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## PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	PRESSURE RANGE 0 – 1 psi			UNITS	NOTES
	MIN	TYP	MAX		
Span	65	100	150	mV	1
Zero Pressure Output	-2		2	mV	
Pressure Non Linearity	-0.3	±0.2	0.3	%Span	2
Pressure Hysteresis	-0.05	±0.01	0.05	%Span	
Input & Output Resistance	2500	4400	6000	Ω	
Temperature Error – Span	-1.0	±0.5	1.0	%Span	3
Temperature Error – Zero	-1.0	±0.5	1.0	%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)		±0.2		%Span	6
Pressure Overload			10	psi	
Compensated Temperature	0		50	°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, Nickel, and Aluminum				

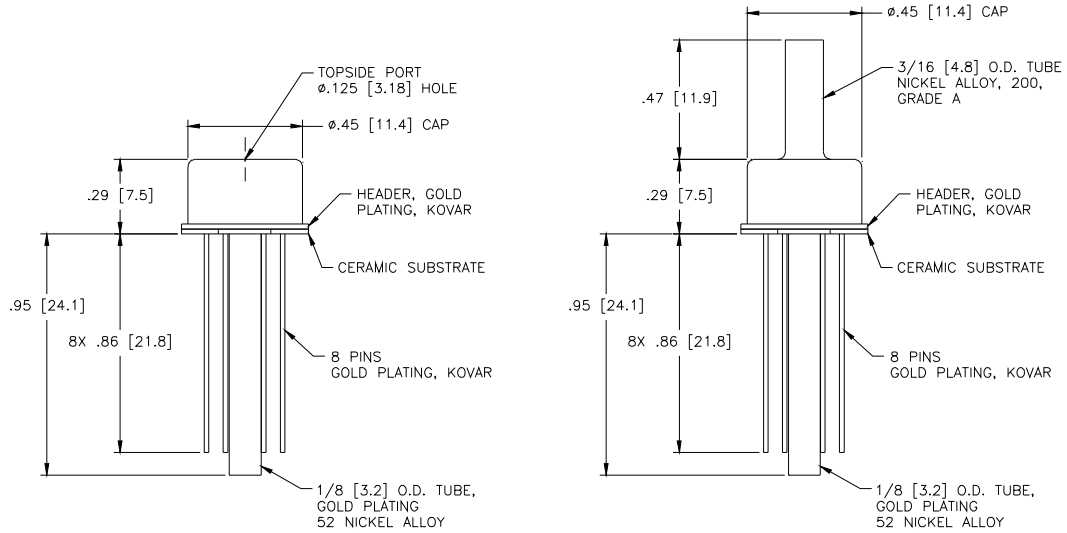
### Notes

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.
4. For a zero-to-full scale pressure step change.
5. Minimum distance between case and pins.
6. Long term stability over a one year period with constant current and temperature.

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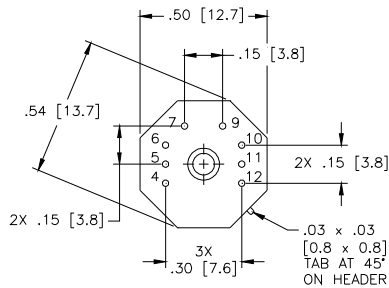
## DIMENSIONS

DIMENSIONS ARE IN INCHES [mm]

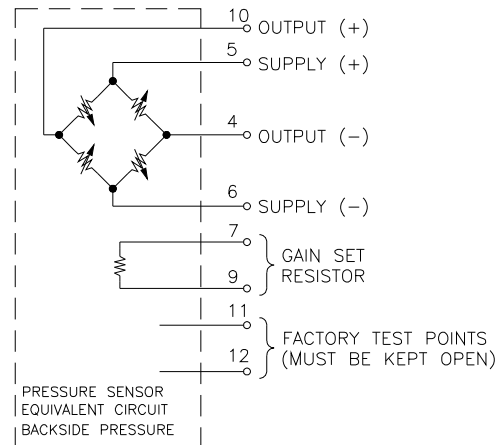
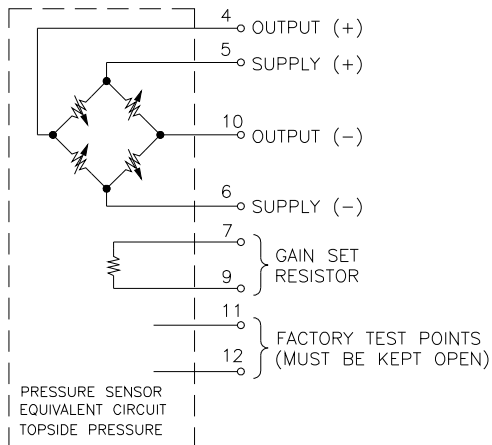


MODEL 23

MODEL 33

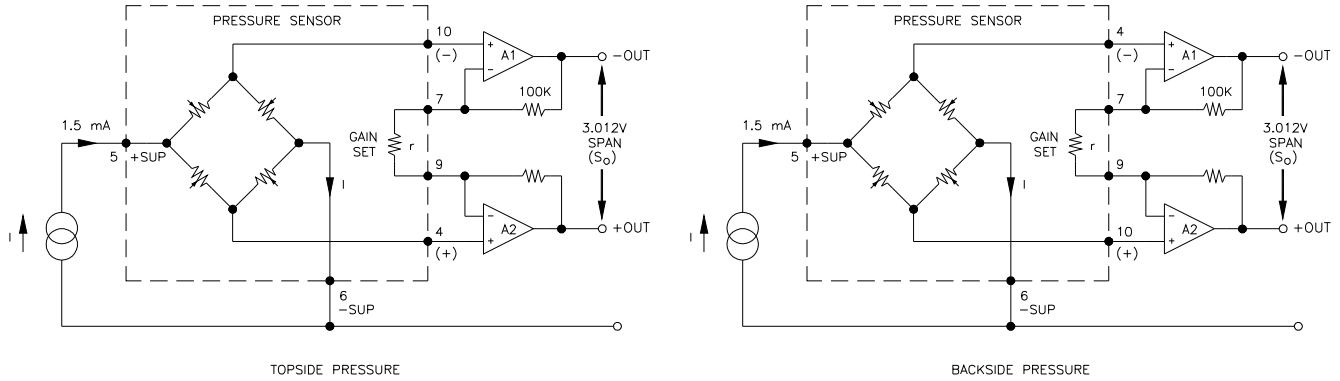


## CONNECTIONS



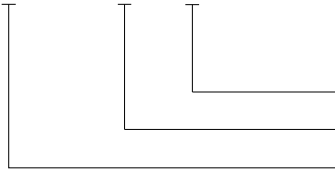
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## APPLICATION SCHEMATIC



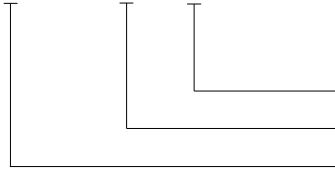
## ORDERING INFORMATION

23A - 001 G



Type (G = Gage)  
Pressure Range  
Model

33A - 001 G



Type (G = Gage)  
Pressure Range  
Model

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