

23



33

RoHS

# 23 AND 33

## 1psi

## SPECIFICATIONS

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

The 23 and 33 are temperature compensated, piezoresistive silicon pressure sensors packaged in a 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 ±1%.

Please refer to the 23 and 33 standard datasheets for information on products with operating pressures greater than 1 psi.

## FEATURES

- TO-8 Package
- 0ºC to 50ºC Compensated
- Temperature Range
- ±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

| | 23 | 33 |
|---|---|---|
| **Range** | **psig** | **psid** |
| 0 to 1 | • | • |

## PERFORMANCE SPECIFICATIONS

**Supply Current: 1.5mA**
**Ambient Temperature: 25°C (unless otherwise specified)**

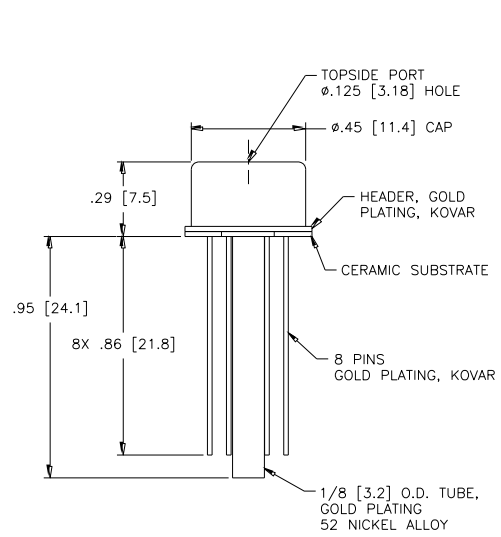
| | PRESSURE RANGE 0 – 1 psi | | | | |
|---|---|---|---|---|---|
| **PARAMETERS** | **MIN** | **TYP** | **MAX** | **UNITS** | **NOTES** |
| Span | 65 | 100 | 150 | mV | 1 |
| Zero Pressure Output | -2 | | 2 | mV | |
| Pressure Non Linearity | -0.3 | ±0.2 | 0.3 | %Span | 2 |
| Pressure Hysteresis | -0.05 | ±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 | 250ºC Max 5 Sec. | | | | |
| Media | Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Nickel, and Aluminum | | | | |

**Notes**

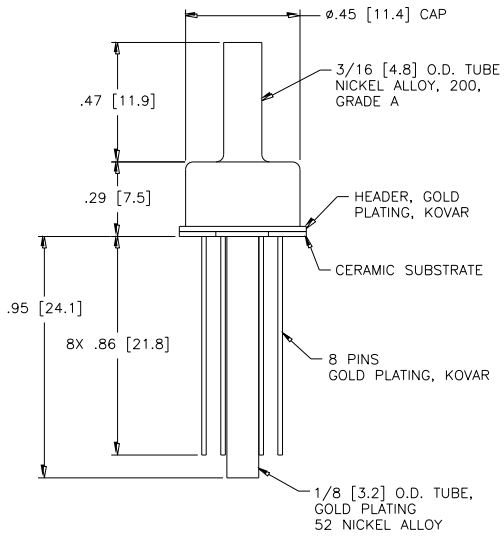
1. Ratiometric to supply current.
2. Best fit straight line.
3. Maximum temperature error between 0°C and 50°C with respect to 25°C.
4. For a zero-to-full scale pressure step change.
5. Minimum distance between case and pins.
6. Long term stability over a one year period with constant current and temperature.

## DIMENSIONS

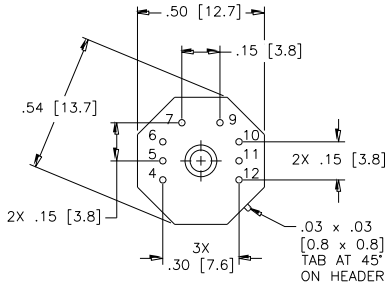
DIMENSIONS ARE IN INCHES [mm]



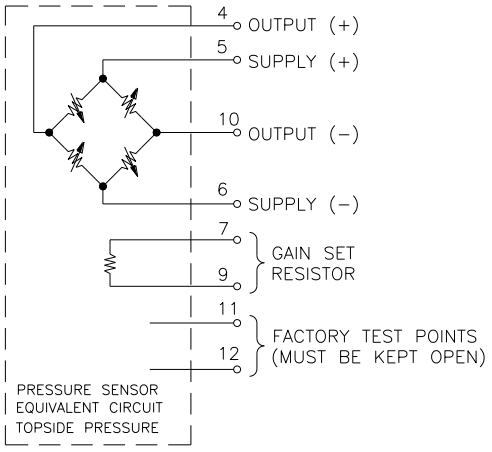

MODEL 23

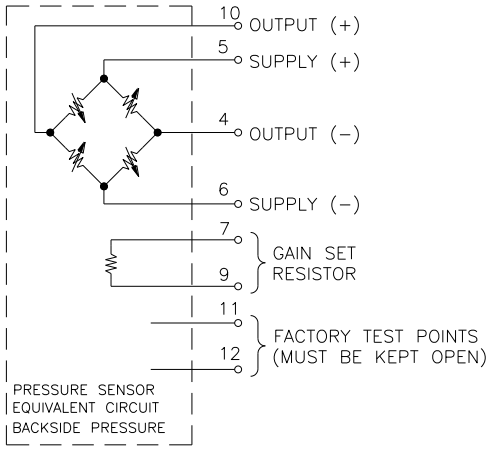



MODEL 33

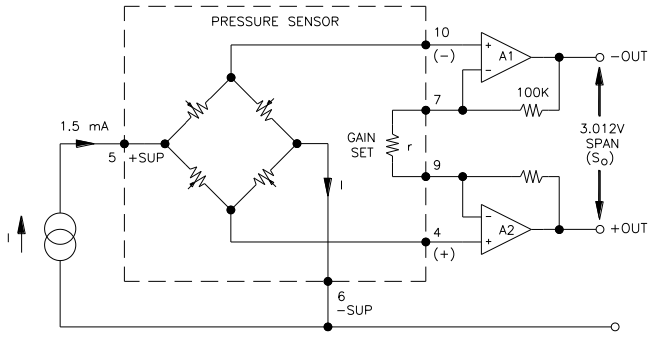



## CONNECTIONS

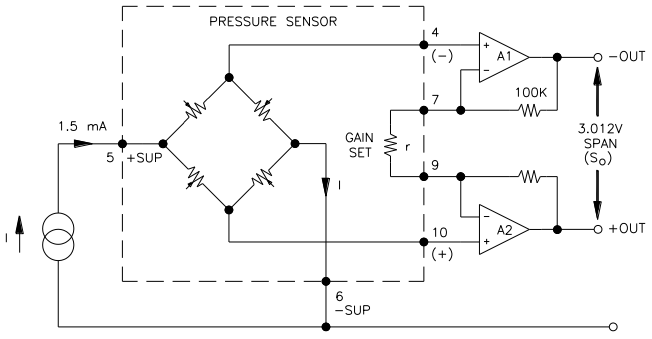


## APPLICATION SCHEMATIC

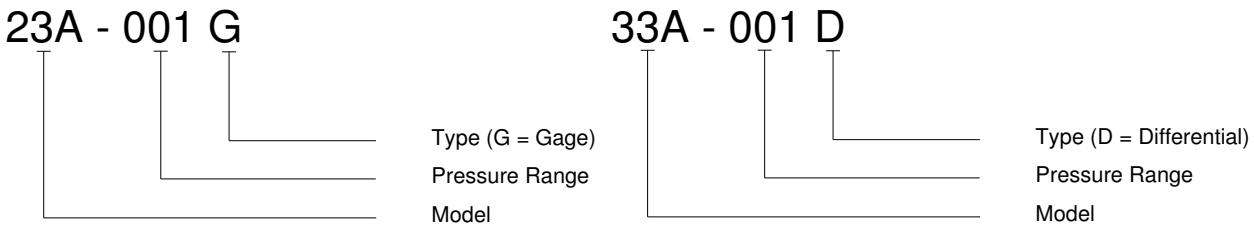



TOPSIDE PRESSURE




BACKSIDE PRESSURE

## ORDERING INFORMATION




**NORTH AMERICA**
Measurement Specialties, Inc.,
a TE Connectivity Company
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customercare.frmt@te.com

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customercare.bevx@te.com

**ASIA**
Measurement Specialties (China), Ltd.,
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