

RoHS

# **MS4426**

## **SPECIFICATIONS**

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

The MS4426 is a temperature compensated, piezoresistive silicon pressure sensor packaged in a dual-in- line configuration and intended for cost sensitive applications where excellent performance and long-term stability are required.

Integral temperature compensation is provided over a range of 0-50°C using laser-trimmed resistors. The pressure sensor is available in absolute or gage pressure ranges from 0-1 to 0-300 psi. The pressure ports are 1/8" barbed ports which mate with 3/32" ID tubing. The tube is vertically mounted to the printed circuit board. For a horizontally mounted tube in differential, gage and absolute pressure, refer to the MS4425.

## FEATURES

- Dual-in-Line Package
- 0°C to 50°C Compensated
- Temperature Range
- ±0.15% Pressure Non Linearity
- Solid State Reliability

### **APPLICATIONS**

- Medical Instruments
- Altitude Measurement
- Process Control
- Factory Automation
- Leak Detection

### **STANDARD RANGES**

| Range    | psig | psia |
|----------|------|------|
| 0 to 1   | •    |      |
| 0 to 5   | *    |      |
| 0 to 15  | *    | •    |
| 0 to 30  | *    | *    |
| 0 to 50  | *    | *    |
| 0 to 100 | *    | *    |
| 0 to 150 | *    | *    |
| 0 to 300 | •    | •    |

## PERFORMANCE SPECIFICATIONS

### Supply Voltage: 12V Ambient Temperature: 25°C (unless otherwise specified) Pressure applied to Port 2

| PARAMETERS                          | MIN             | TYP            | MAX                  | UNITS  | NOTES |
|-------------------------------------|-----------------|----------------|----------------------|--------|-------|
| Span (0-1 psi)                      | 17.6            | 18             | 18.4                 | mV     | 1     |
| Span (0-5 psi)                      | 58              | 60             | 62                   | mV     | 1     |
| Span (0-15 to 0-50 psi)             | 88              | 90             | 92                   | mV     | 1     |
| Span (0-100 & 0-300 psi)            | 98              | 100            | 102                  | mV     | 1     |
| Span (0-150 psi)                    | 148             | 150            | 152                  | mV     | 1     |
| Zero Pressure Output                | -1              | ±0.2           | 1                    | mV     | 1     |
| Pressure Non Linearity              | -0.15           |                | 0.15                 | % Span | 2     |
| Pressure Hysteresis                 | -0.20           | ±0.05          | 0.20                 | % Span |       |
| Input Resistance                    | 5               | 15             | 25                   | ΚΩ     |       |
| Output Resistance                   | 3500            | 5000           | 6500                 | Ω      |       |
| Temperature Error – Span            | -1              | 0.3            | 1                    | % Span | 3     |
| Temperature Error – Zero            | -0.75           | ±0.2           | 0.75                 | mV     | 3     |
| Supply Voltage                      |                 | 12             | 20                   | V      |       |
| Long Term Stability (Offset & Span) |                 | ±0.1           |                      | mV     | 4     |
| Pressure Overload                   |                 |                | ЗX                   | Rated  | 5     |
| Compensated Temperature             | 0               |                | 50                   | °C     |       |
| Operating Temperature               | -25             |                | 85                   | °C     |       |
| Storage Temperature                 | -40             |                | 125                  | °C     |       |
| Humidity                            | 0               |                | 85                   | % RH   |       |
| Weight                              |                 |                | 3                    | grams  |       |
| Solder Temperature                  | 260ºC Max 5 Se  | ec.            |                      |        | 6     |
| Media                               | Non-Corrosive E | Dry Gases Comp | atible with Silicon, | Pyrex, |       |

RTV, Ceramic & Gold

### Notes

1. Ratiometric to supply voltage.

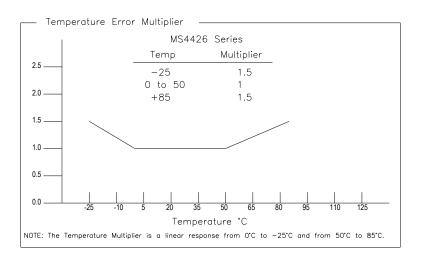
Best fit straight line. Non linearity for 5psi and 150psi devices is 0.25% 2.

Maximum temperature error between 0°C and 50°C with respect to 25°C. For errors beyond the compensated temperature, see 3. Temperature Error Multiplier Chart below. Long term stability over a one year period with constant voltage and temperature.

4.

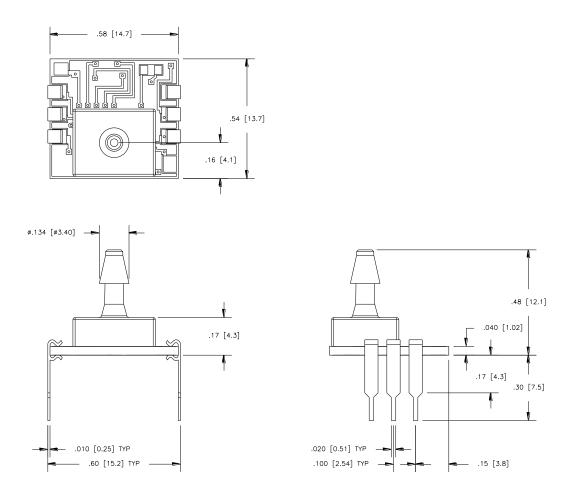
3X or 400 psi max, whichever is less. 5.

For more details refer to 4425/4426 Mounting Application Note. 6.



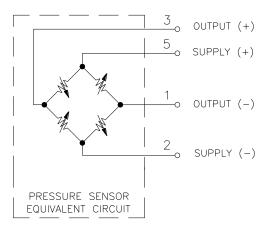
### DIMENSION

DIMENSIONS ARE IN INCHES [mm]



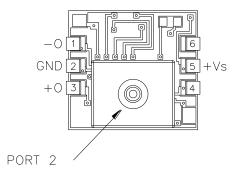
MS4426-XXXG/A

## CONNECTIONS



MS4426-XXXG/A

# PACKAGE STYLE, PINOUT, AND PORT DESIGNATION



MS4426-xxxA/Gy

### **ORDERING INFORMATION**

| 4426               |     | — | 015             | Α | F |
|--------------------|-----|---|-----------------|---|---|
| Model Name         |     |   |                 |   |   |
| Pressure Range     |     |   |                 |   |   |
| 001                | 005 |   | 015             |   |   |
| 030                | 050 |   | 100             |   |   |
| 150                | 300 |   |                 |   |   |
| Pressure Type      |     |   |                 |   |   |
| A=Absolute         |     |   | <b>G</b> =Gage  |   |   |
| Coating            |     |   |                 |   |   |
| <b>F</b> =Gel Fill |     |   | 'Blank'=No Fill |   |   |

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