

✓RoHS

MS4425

SPECIFICATIONS

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

The MS4425 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, gage or differential pressure ranges from 0-1 to 0-300 psi. The pressure ports are 1/8" barbed ports which mate with 3/32" ID tubing. These tubes are parallel to the printed circuit board to allow other boards to be located above the sensor. For a vertical mounted tube in gage or absolute pressure, refer to the MS4426.

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 and Airspeed Measurements
- Process Control
- Factory Automation
- Leak Detection

STANDARD RANGES

| Range | psid | 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

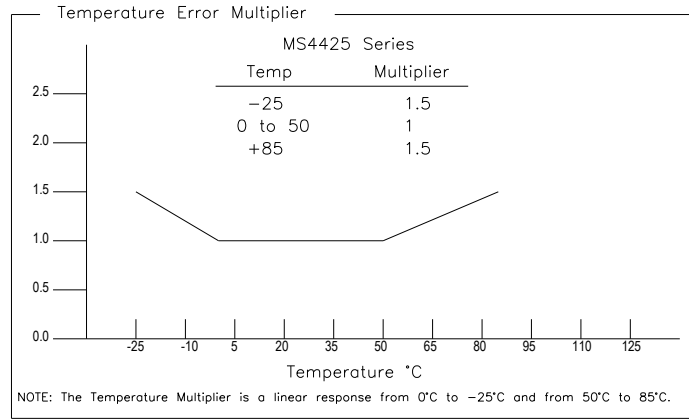
Ambient Temperature: 25°C (unless otherwise specified)

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 (Gage & Absolute) | -0.15 | | 0.15 | % Span | 2 |
| Pressure Non Linearity (Differential) | -0.25 | | 0.25 | % Span | 2 |
| Pressure Hysteresis | -0.20 | ±0.05 | 0.20 | % Span | |
| Input Resistance | 5 | 15 | 25 | KΩ | |
| 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 (Differential) | | | 3X | Rated | 5 |
| Common Mode Pressure | | | 400 | psi | |
| Compensated Temperature | 0 | | 50 | °C | |
| Operating Temperature | -25 | | 85 | °C | |
| Storage Temperature | -40 | | 125 | °C | |
| Humidity | 0 | | 85 | % RH | |
| Weight | | | 3 | grams | |
| Solder Temperature | 260°C Max 5 Sec. | | | | 6 |
| Media | Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Ceramic & Gold | | | | |

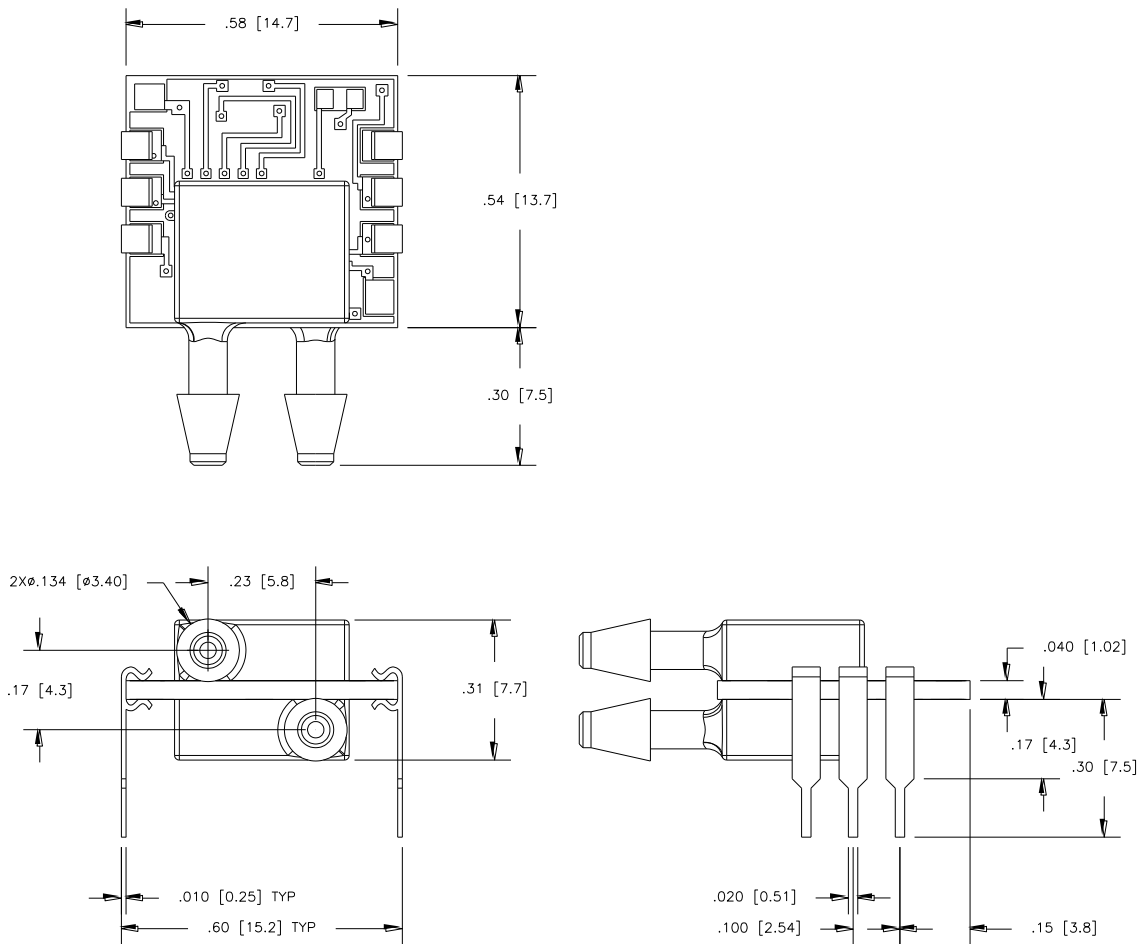
Notes

1. Ratiometric to supply voltage.
2. Best fit straight line. Non linearity for 5 psi Differential devices is 0.75%.
3. Maximum temperature error between 0°C and 50°C with respect to 25°C. For errors beyond the compensated temperature, see Temperature Error Multiplier Chart below.
4. Long term stability over a one year period with constant voltage and temperature.
5. 3X or 400 psi max, whichever is less.
6. For more details refer to 4425/4426 Mounting Application Note.



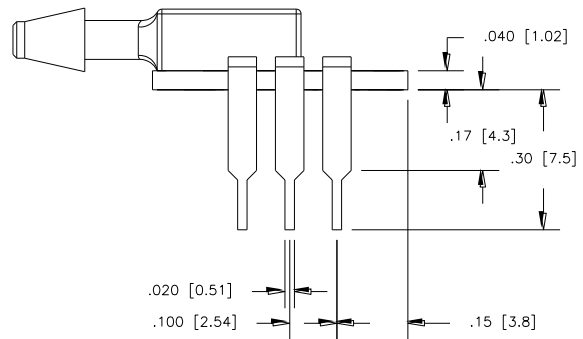
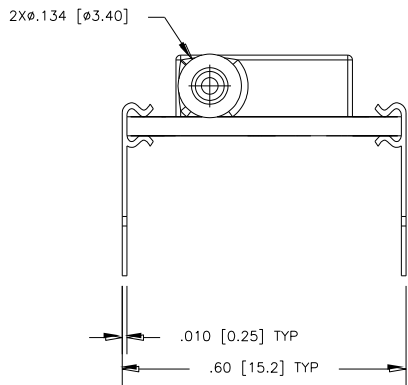
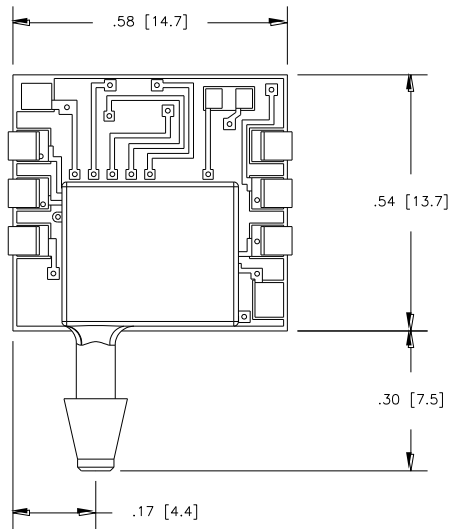
DIMENSION

DIMENSIONS ARE IN INCHES [mm]



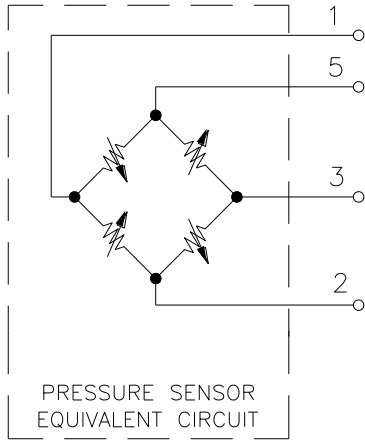
MS4425-xxxDy

DIMENSIONS ARE IN INCHES [mm]

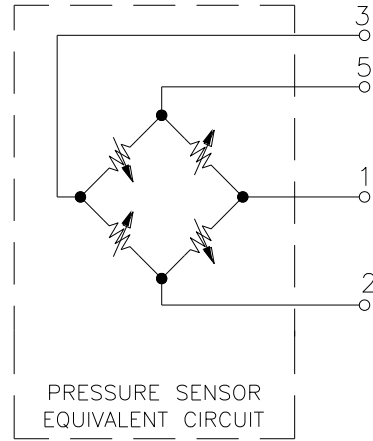


MS4425-xxxA/Gy

CONNECTIONS

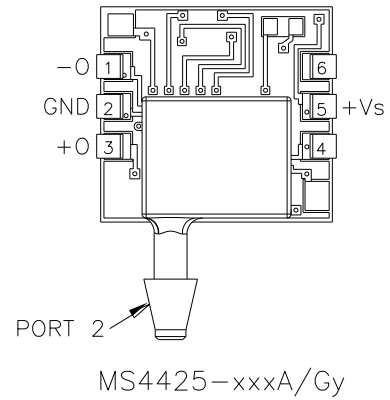
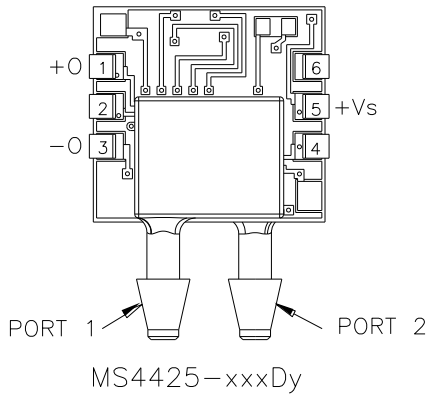


MS4425-XXXD



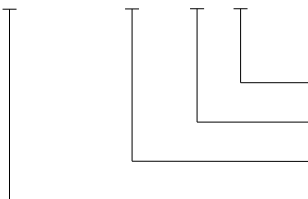
MS4425-XXXA/G

PACKAGE STYLE, PINOUT, AND PORT DESIGNATION



ORDERING INFORMATION

4425 - 005 D F



Coating (F - Gel Fill, Blank = No Coating)
Type (D = Differential, A = Absolute, G = Gage)
Pressure Range
Model