



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

DESCRIPTION

The MS4425 is a temperature compensated, piezoresistive silicon pressure sensor packaged in a dualin- 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 Se | ec. | | | 6 | |
| Media | Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Ceramic & Gold | | | | | |

Notes

1. Ratiometric to supply voltage.

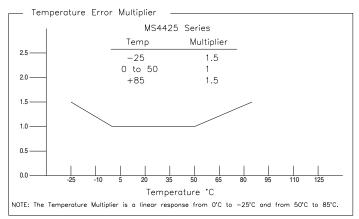
2. Best fit straight line. Non linearity for 5 psi Differential devices is 0.75%.

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.

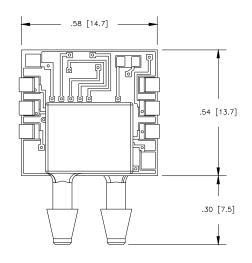


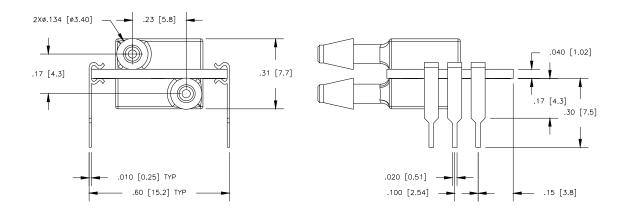


MS4425

DIMENSION

DIMENSIONS ARE IN INCHES [mm]





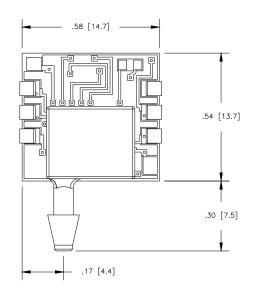
MS4425-xxxDy

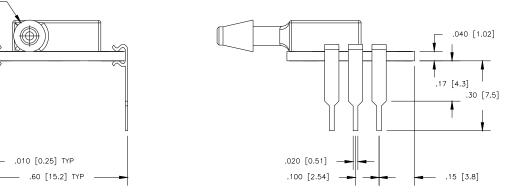




2Xø.134 [ø3.40]

DIMENSIONS ARE IN INCHES [mm]



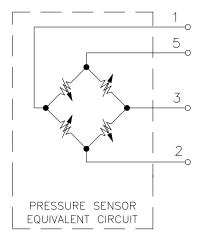


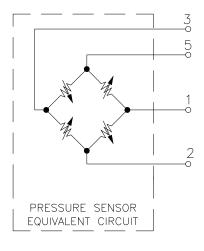
MS4425-xxxA/Gy



MS4425

CONNECTIONS

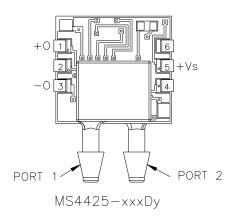


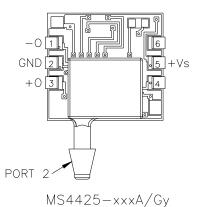


MS4425-XXXD

MS4425-XXXA/G

PACKAGE STYLE, PINOUT, AND PORT DESIGNATION

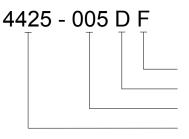






MS4425

ORDERING INFORMATION



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

NORTH AMERICA

Measurement Specialties 45738 Northport Loop West Fremont, CA 94538 Tel: 1-800-767-1888 Fax: 1-510-498-1578 Sales: pfg.cs.amer@meas-spec.com

EUROPE

Measurement Specialties (Europe), Ltd. 26 Rue des Dames F78340 Les Clayes-sous-Bois, France Tel: +33 (0) 130 79 33 00 Fax: +33 (0) 134 81 03 59 Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties (China), Ltd. No. 26 Langshan Road Shenzhen High-Tech Park (North) Nanshan District, Shenzhen 518057 China Tel: +86 755 3330 5088 Fax: +86 755 3330 5099 Sales: pfg.cs.asia@meas-spec.com

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