

✓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

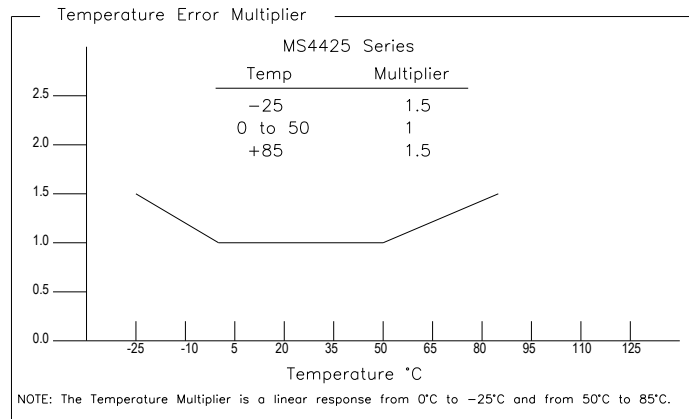
Ambient Temperature: 25°C (unless otherwise specified)

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 |       |      |        |       |

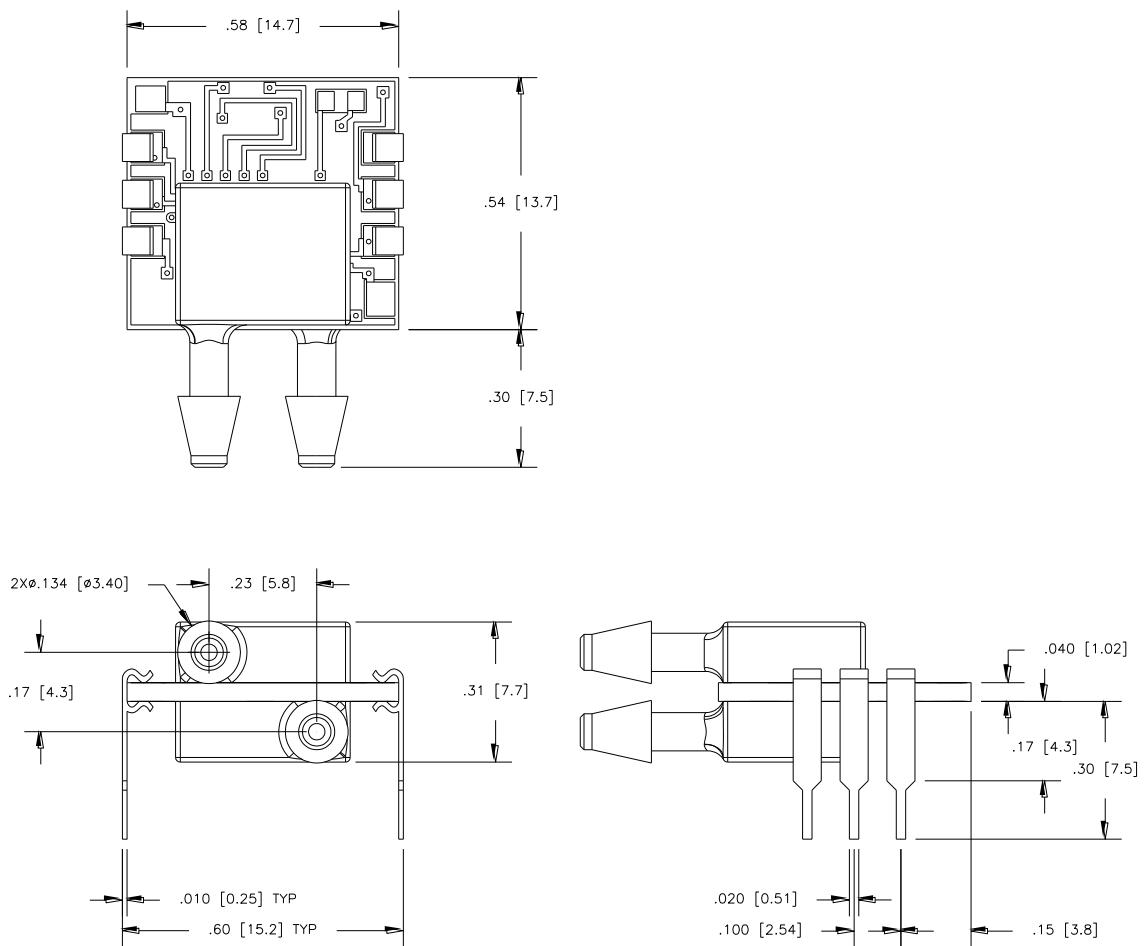
## Notes

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.



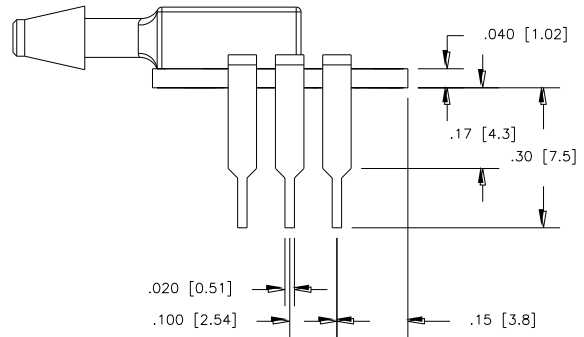
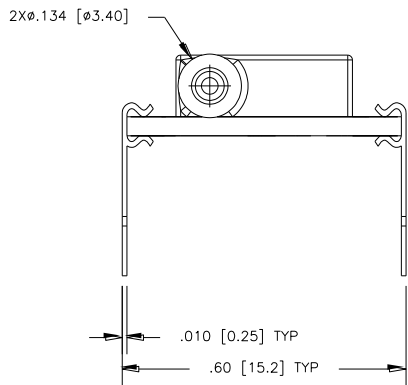
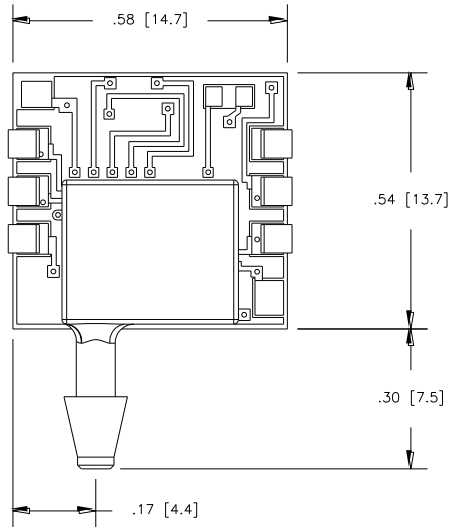
DIMENSION

DIMENSIONS ARE IN INCHES [mm]



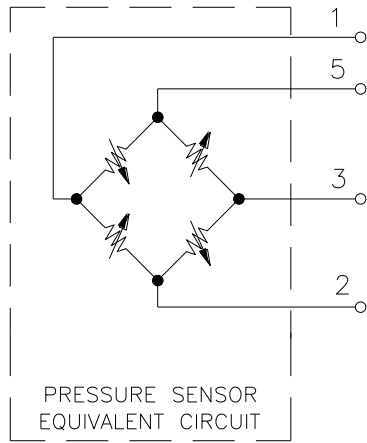
MS4425-xxxDy

DIMENSIONS ARE IN INCHES [mm]

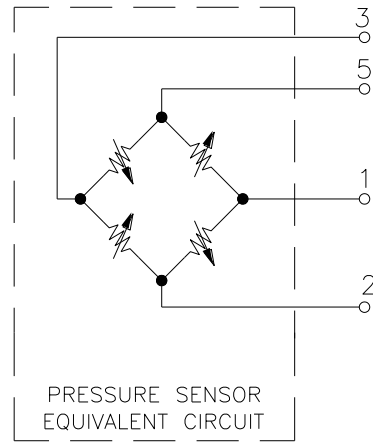


MS4425-xxxA/Gy

CONNECTIONS

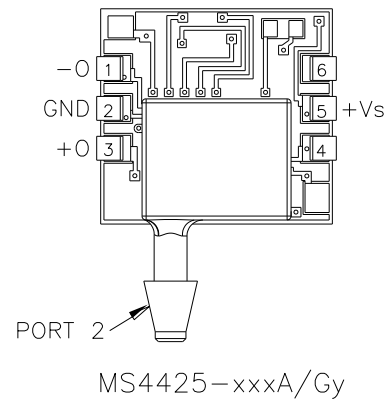
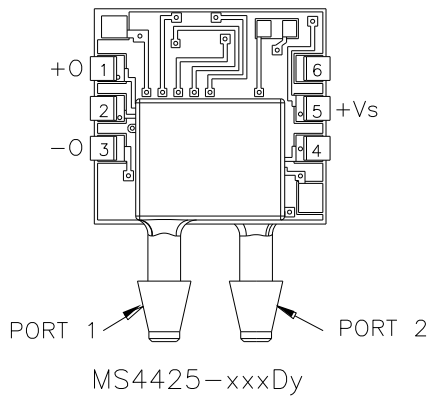


MS4425-XXXD



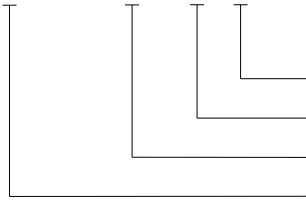
MS4425-XXXA/G

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

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