



- 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.

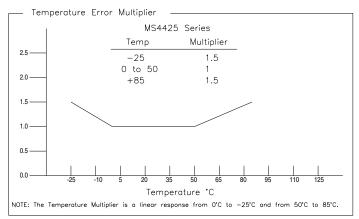
2. Best fit straight line. Non linearity for 5 psi Differential devices is 0.75%.

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.

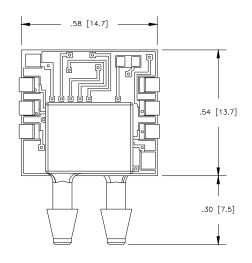


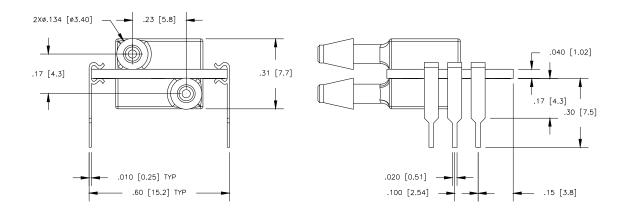


# **MS4425**

### DIMENSION

DIMENSIONS ARE IN INCHES [mm]





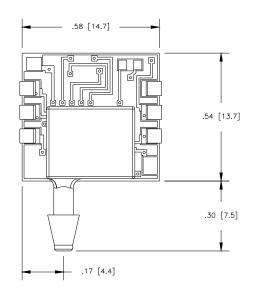
MS4425-xxxDy

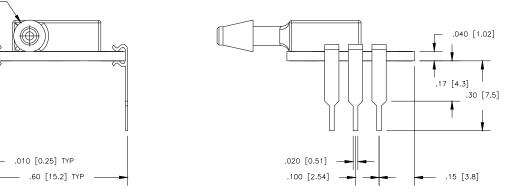




2Xø.134 [ø3.40]

DIMENSIONS ARE IN INCHES [mm]



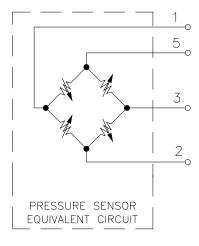


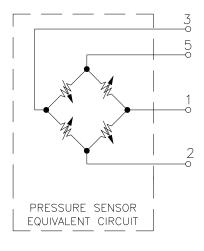
MS4425-xxxA/Gy



# **MS4425**

## CONNECTIONS

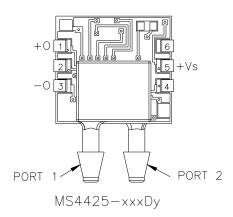


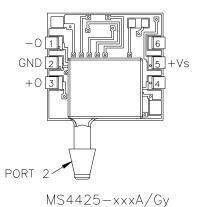


MS4425-XXXD

MS4425-XXXA/G

### PACKAGE STYLE, PINOUT, AND PORT DESIGNATION

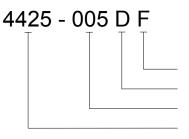






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### **ORDERING INFORMATION**



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

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