

FEATURES

- 0...1 to 0...15 psi gage or differential
- High impedance bridge
- True surface mount miniature package
- Usable for wet/wet applications⁸

SERVICE

All media compatible with

- port 1: - polyphthalamide
- silver-filled silicone
- silicon nitride
- port 2: - polyphthalamide
- fluor-silicone
- silicon



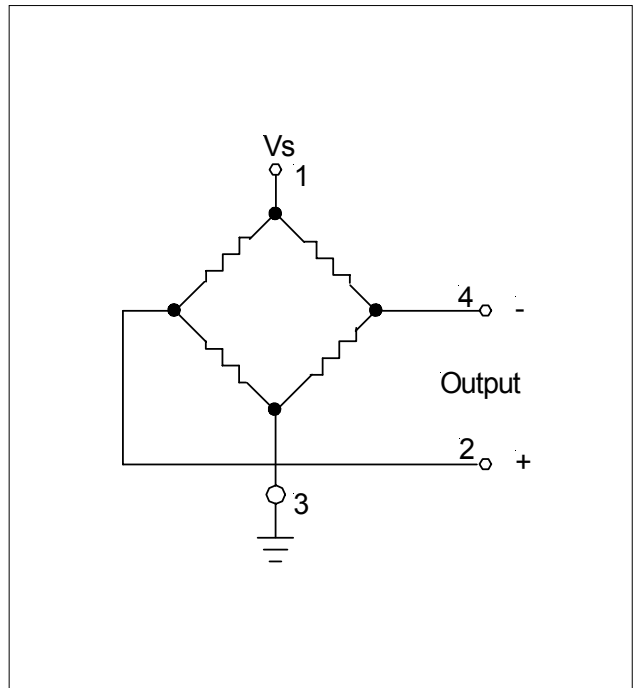
Scale: 1 cm
1/2 inch

SPECIFICATIONS

Maximum ratings

Supply voltage	12 V
Temperature limits	
Storage	-55 to +100°C
Operating	-40 to +85°C
Lead temperature (10 sec. soldering)	260°C
Humidity limits	0...100 %RH
Vibration (0 to 2000 Hz) (qualification tested)	20 g sine
Mechanical shock (qualification tested)	50 g
Proof pressure ¹	
24PC0070DSMT	20 psi
24PC0350DSMT	20 psi
24PC1000DSMT	45 psi

ELECTRICAL CONNECTION



PRESSURE SENSOR CHARACTERISTICS

$V_s = 10.0 \pm 0.01 \text{ V}$, $t_{amb} = 20^\circ\text{C}$ (unless otherwise noted)

Listing	Order number	Operating pressure	Full-scale span ²		
			Min.	Typ.	Max.
24PC01SMT	24PC0070DSMT	0 - 1 psi (69 mbar)	30 mV	45 mV	60 mV
24PC05SMT	24PC0350DSMT	0 - 5 psi (345 mbar)	85 mV	115 mV	145 mV
24PC15SMT	24PC1000DSMT	0 - 15 psi (1034 mbar)	165 mV	225 mV	285 mV

COMMON PERFORMANCE CHARACTERISTICS

$V_s = 10.0 \pm 0.01 \text{ V}$, $t_{amb} = 25^\circ\text{C}$ (unless otherwise noted)

Characteristics	Min.	Typ.	Max.	Unit
Zero pressure offset	-30		+30	mV
Temperature effects (0 - 50°C) ⁴	Offset	±2.0		
	Span		-2000	ppm/°C
Temperature effects on bridge impedance ⁴		+2200		
Linearity (P2 > P1, BSL) ³		±0.25		% span
Repeatability and hysteresis ⁵		±0.15		
Long term stability ⁷		±0.5		
Input impedance	4.0	5.0	6.0	kΩ
Output impedance	4.0	5.0	6.0	
Response time ⁶			1.0	ms

Specification notes:

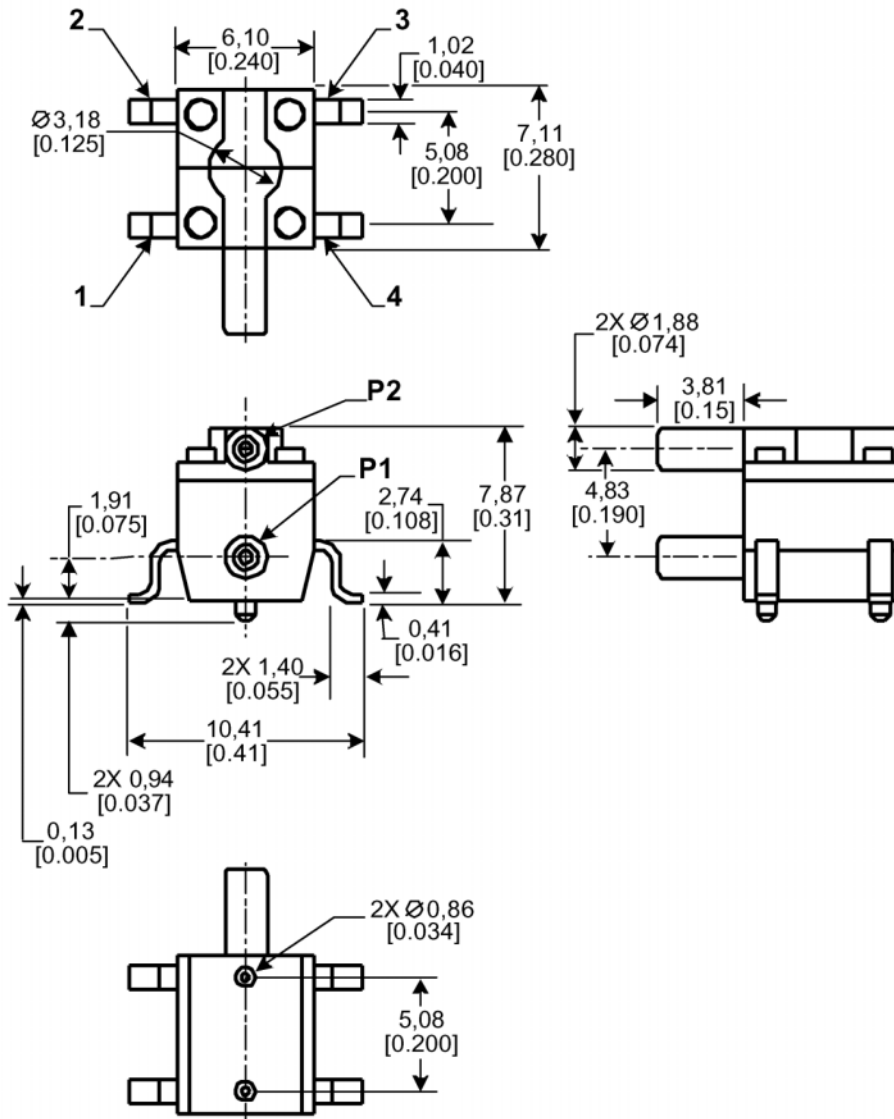
1. The maximum specified pressure which may be applied to the sensor without causing a permanent change in the output characteristics.
2. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. Span is ratiometric to the supply voltage.
3. Linearity (BSL), the deviation of measured output at constant temperature (25°C) from "Best Straight Line" determined by three points, offset pressure, full-scale pressure and half full-scale pressure.

$$\left[V_{\frac{1}{2} \text{ full scale}} - \left\{ \frac{V_{\text{full scale}} - V_{\text{offset}}}{(\text{full scale pressure})} \times \left(\frac{1}{2} \text{ full scale pressure} \right) + V_{\text{offset}} \right\} \right] : 2 (V_{\text{full scale}}) \times 100 \%$$

where: V = measured value for each device

4. Error band of the offset voltage, span or bridge impedance in the specified temperature range, relative to the 25°C reading.
5. Repeatability, the deviation in output readings for successive application of any given input pressure (all other conditions remaining constant). Hysteresis, the error defined by the deviation in output signal obtained when a specific pressure point is approached first with increasing pressure, then with decreasing pressure or vice versa (all other conditions remaining constant).
6. Response time for 0 to full-scale pressure step change, readings taken at 10 % and 90 % of full-scale pressure.
7. Long term stability of offset and span over a period over one year.
8. The sensors might be used on both ports, for media compatible with the components, specified under "Service" (page 1).

OUTLINE DRAWING



mass: 0.5 g

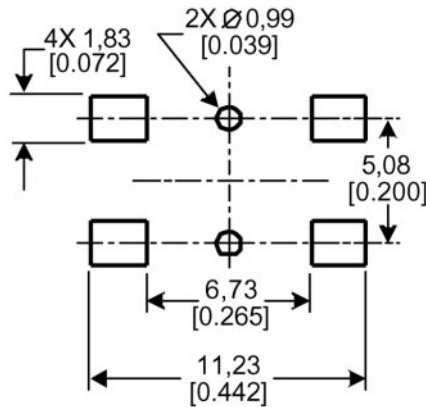
dimensions in mm (inches)

24PC SMT Series *(psi)*

Unamplified, uncompensated pressure sensors

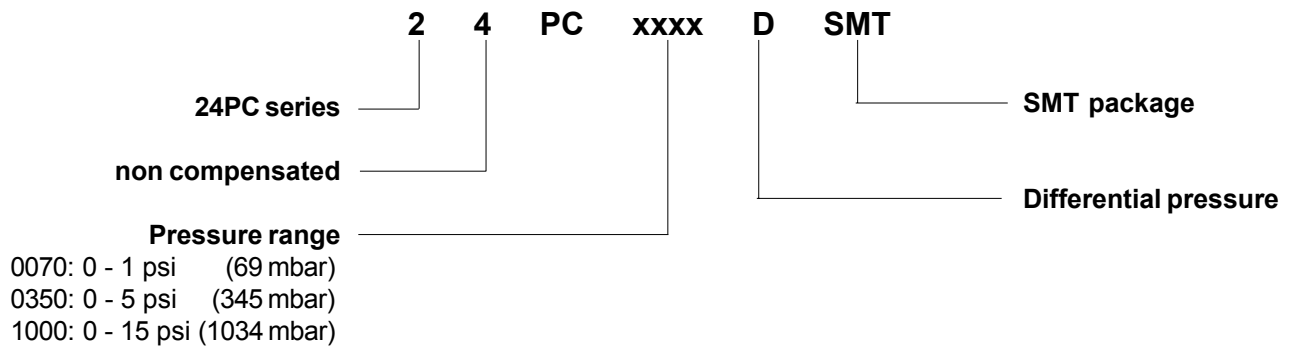


SUGGESTED LAND PATTERN



dimensions in mm (inches)

ORDERING INFORMATION



Sensortech reserves the right to make changes to any products herein. Sensortech does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.