



US9173 Silicon Pressure Sensor

Features

- ◆ Low cost
- ◆ Gauge Version and Absolute Version
- ◆ Constant Current or Constant Voltage Drive
- ◆ High Output
- ◆ Wide Pressure Range Available From 1psi to 60psi

Applications

- ◆ Medical Instrumentation
- ◆ Altimeter
- ◆ Weather Forecast
- ◆ Tire Gauge
- ◆ Pressure Gauge
- ◆ Industrial Sensor
- ◆ Home Appliances



US9173

Silicon Pressure Sensor

Specification

| | |
|------------------|---------------------------------|
| Type of pressure | Gauge type or Absolute type |
| Dimension | 1.9mm × 1.9mm × 1.1mm (typical) |
| Pressure medium | Dry air or non-corrosive gas |

| | Min | Nominal | Max | Unit |
|---|-------|---------|-------|----------|
| Excitation Voltage | | 5 | 10 | V |
| Excitation Current | | 1.00 | 2.00 | mA |
| Bridge Impedance | 4 | 5 | 6 | kΩ |
| Span ¹ | | | | |
| 1 psi | 20 | 30 | 40 | mV |
| 5.8 psi | 50 | 70 | 90 | mV |
| 5.8 psi * | 75 | 100 | 125 | mV |
| 15 psi | 75 | 100 | 125 | mV |
| 15 psi ** | 130 | 170 | 210 | mV |
| 30 psi | 70 | 100 | 130 | mV |
| 60 psi | 140 | 190 | 240 | mV |
| Offset | -30 | 0 | 30 | mV |
| TC Span ² (Constant Voltage) | -0.17 | -0.22 | -0.27 | %FS/°C |
| TC Span ² (Constant Current) | -0.05 | ±0.02 | +0.05 | %FS/°C |
| TC Offset ² | -0.08 | -0.02 | +0.08 | %FS/°C |
| Linearity ³ | -0.3 | ±0.1 | +0.3 | %FS |
| Hysteresis | -0.3 | ±0.1 | +0.3 | %FS |
| Proof Pressure | | | 2X | Rated FS |
| Burst Pressure | | | 3X | Rated FS |
| Operating Temperature | -40 | | 125 | °C |
| Storage Temperature | -55 | | 150 | °C |

¹ Unless otherwise specified, span is measured at 5.0V Constant Voltage supply at 25°C. Sensor outputs a positive signal when diaphragm deflects upward.

² Unless otherwise specified, temperature coefficients are measured from 0°C to 50°C @ 5V Constant voltage excitation.

³ Defined as best straight line.

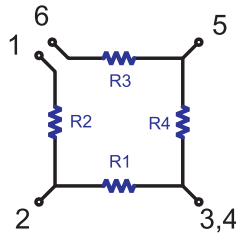
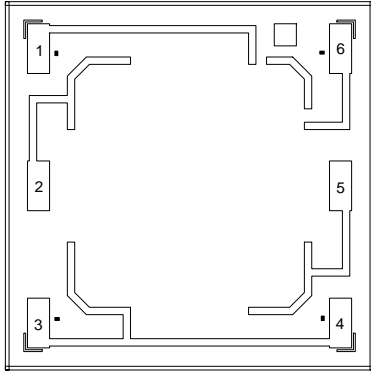
* 5.8 psi high sensitivity type

** 15 psi high sensitivity type, linearity characterized at 700mbar and 1100mbar



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Pads Layout and Definition



Positive output

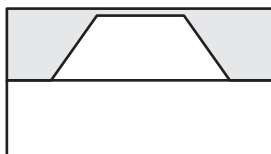
| Pad # | Definition |
|-------|------------|
| 1 | Gnd |
| 2 | S+ |
| 3 | Ext |
| 4 | Ext |
| 5 | S- |
| 6 | Gnd |

Ordering Information

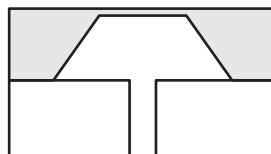
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| | |
|-----|-------------------------------|
| 001 | 1 psi |
| 006 | 5.8 psi |
| H06 | 5.8 psi High sensitivity type |
| 005 | 15 psi |
| H15 | 15 psi High sensitivity type |
| 030 | 30 psi |
| 060 | 60 psi |

| | |
|---|-----------------|
| A | Absolute type |
| G | Gauge type |
| E | None glass type |



Absolute type



Gauge type



None glass type