

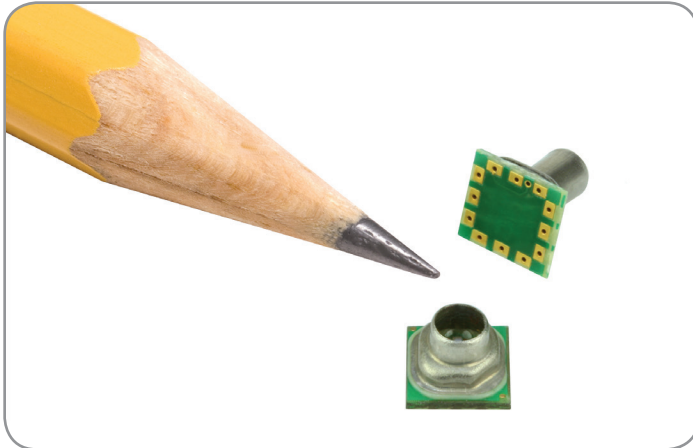
## MicroPressure Board Mount Pressure Sensors

MPR Series—Compact, High Accuracy, Compensated/Amplified

**32332628**

Issue A

**Datasheet**



### DESCRIPTION

The MPR Series is a very small piezoresistive silicon pressure sensor offering a digital output for reading pressure over the specified full scale pressure span and temperature range. It is calibrated and compensated over a specific temperature range for sensor offset, sensitivity, temperature effects, and non-linearity using an on-board Application Specific Integrated Circuit (ASIC). This product is designed to meet the requirements of higher volume medical (consumer and non-consumer) devices and commercial appliance applications.

### VALUE TO CUSTOMERS

- Very small form factor: Enables portability by addressing weight, size, and space restrictions; occupies less area on the PCB.
- Wide pressure ranges simplify use.
- Enhances performance: Output accelerates performance through reduced conversion requirements and direct interface to microprocessors.
- Value solution: Cost-effective, higher volume solution with configurable options.
- Meets IPC/JEDEC J-STD-020D.1 Moisture Sensitivity Level 1 requirements: Allows avoidance of thermal and mechanical damage during solder reflow attachment and/or repair that lesser rated sensors may incur; allows unlimited floor life when stored as specified (simplifying storage and reducing scrap); eliminates lengthy bakes prior to reflow, and allows for lean manufacturing due to stability and usability shortly after reflow.
- Low power/energy efficient: Reduces system power requirements and enables extended battery life.

### FEATURES

- 5 mm x 5 mm [0.20 in x 0.20 in] package footprint
- Calibrated and compensated
- $\pm 40$  mbar to  $\pm 2.5$  bar |  $\pm 4$  kPa to  $\pm 250$  kPa |  $\pm 0.6$  psi to  $\pm 30$  psi
- 24-bit digital I<sup>2</sup>C or SPI-compatible output
- IoT (Internet of Things) ready interface
- Low power consumption (<10 mW typ.), energy efficient
- Stainless steel pressure port
- Medical and food grade gel options
- Compatible with a variety of liquid media
- Absolute and gage pressure types
- Total Error Band after customer auto-zero: As low as  $\pm 1.5$  %FSS
- Compensated temperature range: 0°C to 50°C [32°F to 122°F]
- REACH and RoHS compliant
- Meets IPC/JEDEC J-STD-020D.1 Moisture Sensitivity Level 1

### DIFFERENTIATION

- Application-specific design addresses various application needs and challenges.
- Digital output: Plug and play feature enables ease of implementation and system level connectivity.
- Total Error Band: Provides true performance over the compensated temperature range, which minimizes the need to test and calibrate every sensor, thereby potentially reducing manufacturing cost; improves sensor accuracy and offers ease of sensor interchangeability due to minimal part-to-part variation. (See Figure 1.)

### POTENTIAL APPLICATIONS

- Consumer medical: Non-invasive blood pressure monitoring, negative-pressure wound therapy, breast pumps, mobile oxygen concentrators, airflow monitors, CPAP water tanks, and medical wearables
- Non-consumer medical: Invasive blood pressure monitors, ambulatory blood pressure measurement
- Industrial: Air braking systems, gas and water meters
- Consumer: Coffee machines, humidifiers, air beds, washing machines, dishwashers

### PORTFOLIO

The MPR Series joins an extensive line of board mount pressure sensors for potential use in medical, industrial, and consumer applications.

# MicroPressure Board Mount Pressure Sensors, MPR Series

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