

# Millivolt Output Pressure Sensors



**Package A**

## Features

- Temperature Compensated
- Calibrated Zero and Span



**Package M**

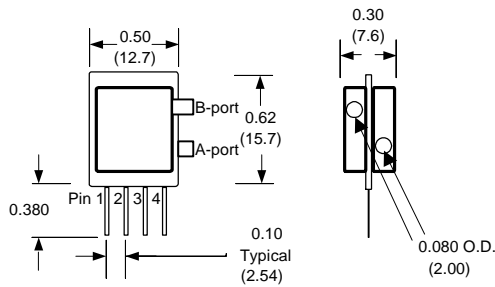
## Applications

- Non Invasive Blood Pressure

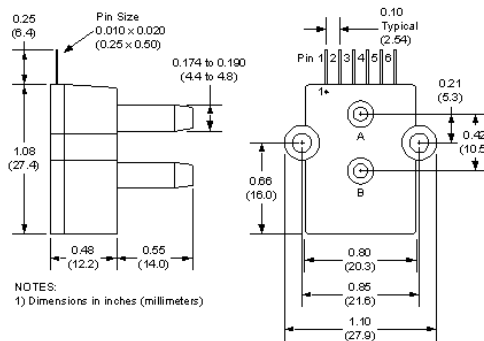
## General Description

This data sheet describes two package configuration of pressure sensors for use in non invasive blood pressure measurement.

The output voltage is ratiometric to the supply voltage and is offered in either millivolt or amplified output configuration.



- pin 1: +V supply**
- pin 2: Ground**
- pin 3: +Voutput**
- pin 4: -N/C**



- pin 1: N/C**
- pin 2: +V supply**
- pin 3: +Voutput**
- pin 4: -Vsupply**
- pin 5: -Voutput**
- pin 6: N/C**



## Pressure Sensor Characteristics Maximum Ratings

|  |           |
|--|-----------|
| Supply Voltage VS                        | see below |
| Proof Pressure                           | 1500mmHg  |
| Lead Temperature<br>(soldering 2-4 sec.) | 250°C     |

## Environmental Specifications

|                           |                                 |
|---------------------------|---------------------------------|
| <b>Temperature Ranges</b> |                                 |
| Compensated               | 10 to 50° C                     |
| Operating                 | -25 to 85° C                    |
| Storage                   | -40 to 125° C                   |
| Humidity Limits           | 0 to 95% RH<br>(non condensing) |

## Standard Package Types

| Part Number-Side Port | Package Type | Nominal Span | Supply Voltage |
|-----------------------|--------------|--------------|----------------|
| BP01-D-MV             | A            | 15mV         | 5 volts        |
| BP01-G-4V-MINI        | M            | 4.2 volts    | 5 volts        |

## Performance Characteristics for BP01-D-MV

| Parameter, note 1                                | Minimum | Nominal | Maximum | Units   |
|--|---------|---------|---------|---------|
| Operating Range, gage pressure                   |         | 300     |         | mmHg    |
| Output Span, note 4                              | 14.85   | 15.0    | 15.15   | mV      |
| Offset Voltage @ zero pressure                   |         | 0       | ±5      | mmHg    |
| Offset Temperature Shift (10°C-50°C), note 2     |         |         | ±0.2    | mmHg/°C |
| Linearity, hysteresis error 0 - 200 mmHg, note 3 |         |         | ±0.1    | %fs     |
| Linearity, hysteresis error 0 - 300 mmHg, note 3 |         |         | ±0.2    | %fs     |
| Span Shift (10°C-50°C), note 2                   |         |         | ±0.5    | %fs     |

## Performance Characteristics for BP01-G-4V-MINI

| Parameter, note 1                                | Minimum | Nominal | Maximum | Units   |
|--|---------|---------|---------|---------|
| Operating Range, gage pressure                   |         | 300     |         | mmHg    |
| Output Span, note 4                              | 4.1     | 4.2     | 4.3     | V       |
| Offset Voltage @ zero pressure                   | 0.18    | 0.25    | 0.32    | V       |
| Offset Temperature Shift (10°C-50°C), note 2     |         |         | ±0.2    | mmHg/°C |
| Linearity, hysteresis error 0 - 200 mmHg, note 3 |         |         | ±0.1    | %fs     |
| Linearity, hysteresis error 0 - 300 mmHg, note 3 |         |         | ±0.2    | %fs     |
| Span Shift (10°C-50°C), note 2                   |         |         | ±0.5    | %fs     |

## Specification Notes

NOTE 1: ALL PARAMETERS ARE MEASURED AT ROOM TEMPERATURE UNLESS OTHERWISE SPECIFIED. PRESSURE MEASUREMENTS ARE WITH POSITIVE PRESSURE APPLIED TO PORT B.

NOTE 2: SHIFT IS RELATIVE TO 25°C READINGS TAKEN AT 10°C AND 50°C.

NOTE 3: MEASURED AT ONE-HALF FULL SCALE RATED PRESSURE USING BEST STRAIGHT LINE CURVE FIT.

NOTE 4: THE VOLTAGE ADDED TO THE OFFSET VOLTAGE AT FULL SCALE PRESSURE.

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