

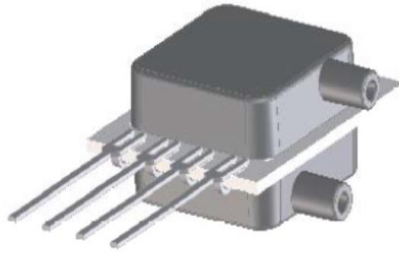
## “BLVR” Series Alternative to BASIC”” Series Pressure Sensor

Both series utilize our proprietary CoBeam2™, low pressure sensing die. Two internal pressure die are electrically cross-coupled to reduce zero offset errors due to changes in time, temperature, and position. These models are designed for low cost applications, where the customer wants a stable, low pressure sensor with excellent linearity, and will perform their own zero and span calibration. No additional compensation is performed on the zero balance, temperature, or span. See data sheets for zero offset and span range. Other models are available with compensation for zero, span and temperature are also available. Outputs are available in mV, V, or digital I2C and SPI bus.

The BLVR offers a higher typical sensitivity than the BASIC series, allowing you to operate the sensor at lower excitation voltage.

The pin out is different, so using the BLVR requires a pcb change.

|                  | Typical Output in Millivolts |                     |                 |
|------------------|------------------------------|---------------------|-----------------|
| BLVR P/N         | BLVR @ 3.3 V input           | BASIC @ 4.5 V input | BASIC P/N       |
| BLVR-L01D-B1NS-N | 8                            | 7                   | 1 INCH-G-BASIC  |
| BLVR-L05D-B1NS-N | 24                           | 22.5                | 5 INCH-G-BASIC  |
| BLVR-L10D-B1NS-N | 32                           | 30                  | 10 INCH-G-BASIC |
| BLVR-L20D-B1NS-N | 38                           | 30                  | 20 INCH-G-BASIC |
| BVLR-L30D-B1NS-N | 42                           | 30                  | 30 INCH-G-BASIC |
|                  |                              |                     |                 |
| Pin              | BLVR                         | BASIC               |                 |
| 1                | V in -                       | Vin-                |                 |
| 2                | V out -                      | Vout +              |                 |
| 3                | V in +                       | Vin +               |                 |
| 4                | V out +                      | V out -             |                 |

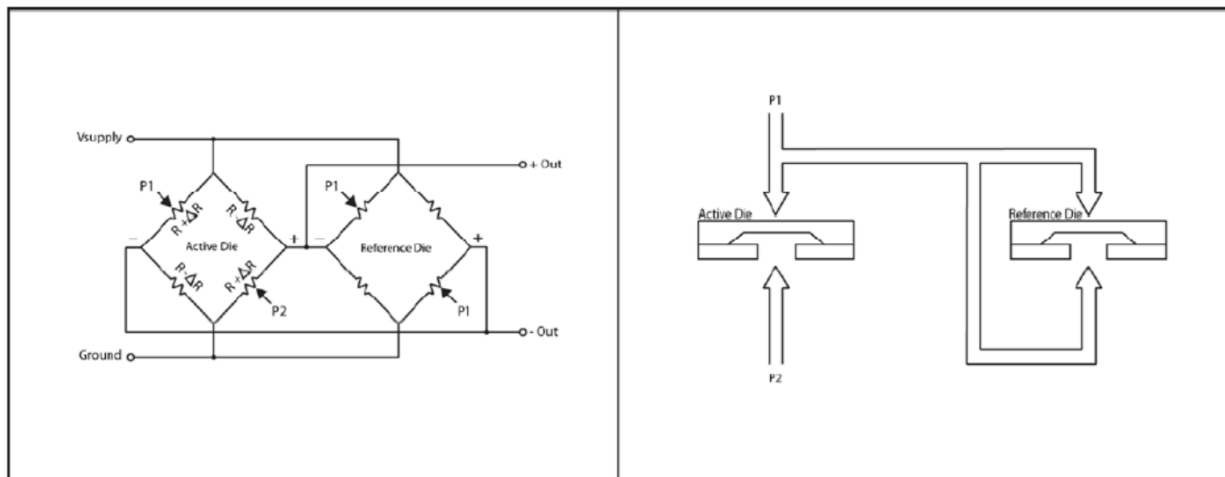


## Features

- 0 to 1 "H<sub>2</sub>O to 0 to 30 "H<sub>2</sub>O Pressure Ranges
- Low Supply Voltage (1.8V to 3.3V)
- 40% Less Power Than Mini-Basic Series
- 0.3% Linearity
- Improved Front to Back Linearity
- Offset Compensated
- Superior Position Sensitivity
- Improved Warm-Up Shift Distribution
- Parylene Coating Available Upon Request

## Applications

- Medical Instrumentation
- Environmental Controls
- HVAC
- Portable / Hand Held Devices



**Figure 1**

Electrical cross coupling compensation of active die using reference die

### Reference Dual Die Compensation using electrical cross coupling:

Figure 1 shows the schematic for passive dual die compensation. The active die provides an output signal proportional to pressure while the reference die is used to virtually eliminate all common mode errors of the active die. This compensation is done by electrically cross coupling the outputs of the two sensors. To provide the highest degree of compensation accuracy the two die are selected as adjacent die on the same wafer. This form of compensation will correct for output signal offset errors associated with long term drift, warm-up drift, and offset drift over temperature. This compensation is used in lieu of active dual die compensation when there are package size limitations and the output signal is acceptable at one-half the single die level. For the lowest pressures, one inch of water or less full scale, generally active dual die compensation is the preferred approach.