

MINIATURE PRESSURE SENSORS

Barometric Pressure Sensors Prime Grade



Features

- 600 to 1,100 mbar Pressure Range
- 0.25 % linearity
- Temperature Compensated
- Calibrated Zero and Span

Applications

- Medical Instrumentation
- Environmental Controls
- Weather Station
- Altimeters

General Description

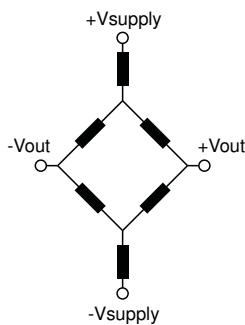
The Miniature series pressure sensors are based upon a proprietary technology to reduce the size of the sensor and yet maintain a high level of performance. This model provides a calibrated millivolt output with superior output characteristics. In addition the sensor utilizes a silicon, micromachined (MEMS) structure to provide a very linear output to measured pressure.

These calibrated and temperature compensated sensors give an accurate and stable output over a wide temperature range. This series is intended for use with non-corrosive, non-ionic working fluids such as air, dry gases and the like. The PRIME GRADE is the highest accuracy version of the millivolt output pressure sensors.

The output of the device is ratiometric to the supply voltage and operation from any D.C. supply voltage to 16 volts.

| Pressure Sensor Characteristics Maximum Ratings | Environmental Specifications |
|---|--|
| Supply Voltage VS 16 Vdc Lead Temperature (soldering 2-4 sec.) 270°C | Temperature Ranges Compensated 0 to 70° C Operating -25 to 85° C Storage -40 to 125° C Humidity Limits 0 to 95% RH (non condensing) |

Equivalent Circuit



Input Resistance 15.0 k ohm
 Output Resistance 3.0 k ohm

Approvals

| MKT | DATE | MFG | DATE | ENG | DATE | QA | DATE |
|---|------|---|------|---|------|---|------|
| <input type="checkbox"/> As Is <input type="checkbox"/> With Change | | <input type="checkbox"/> As Is <input type="checkbox"/> With Change | | <input type="checkbox"/> As Is <input type="checkbox"/> With Change | | <input type="checkbox"/> As Is <input type="checkbox"/> With Change | |

Standard Pressure Ranges

| Part Number | Operating Range | Proof Pressure | Burst Pressure |
|------------------------|------------------|----------------|----------------|
| BARO-A-PRIME-MINI | 600 to 1100 mbar | 45 PSI | 60 PSI |
| BARO-AF-PRIME-DIP-MINI | 600 to 1100 mbar | 45 PSI | 60 PSI |
| BARO-AF-PRIME-MINI | 600 to 1100 mbar | 45 PSI | 60 PSI |

Performance Characteristics

BARO-A-PRIME-MINI, BARO-AF-PRIME-DIP-MINI, BARO-AF-PRIME-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|-------------------------------------|---------|---------|---------|---------|
| Output Voltage @ 1100 mbar | 94.7 | 95.7 | 96.7 | mV |
| Output Voltage @ 600 mbar | 51.2 | 52.2 | 53.2 | mV |
| Output Voltage 0 to 1100 mbar | -- | 0.087 | -- | mV/mbar |
| Linearity, hysteresis error, note 3 | -- | 0.05 | 0.25 | %fs |
| Output Shift (0°C-70°C), note 2 | -- | -- | ±1 | %fs |

Specification Notes

NOTE 1: ALL PARAMETERS ARE MEASURED AT 12.0 VOLT EXCITATION, FOR THE NOMINAL FULL SCALE PRESSURE AND ROOM TEMPERATURE UNLESS OTHERWISE SPECIFIED. PRESSURE MEASUREMENTS ARE WITH POSITIVE PRESSURE APPLIED TO PORT B.

NOTE 2: SHIFT IS RELATIVE TO 25°C.

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

All Sensors reserves the right to make changes to any products herein. All Sensors 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.

