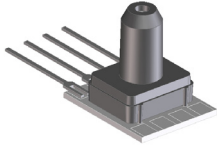


MINIATURE PRESSURE SENSORS

C-Grade
Pressure Sensors



Features

- 0 to 4" H₂O to 0 to 100 PSI Pressure Ranges
- 1 % linearity version
- Temperature Compensated
- Calibrated Zero and Span

Applications

- Medical Instrumentation
- Environmental Controls
- HVAC

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 offset characteristics. Output offset errors due to change in temperature, stability to warm-up, stability to long time period, and position sensitivity are all significantly reduced when compared to conventional compensation methods. In addition the sensor utilizes a silicon, micromachined, stress concentration enhanced 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 C-GRADE is a lowest cost 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.

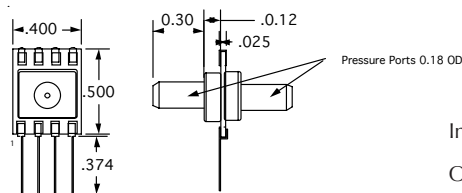
Physical Dimensions

all dimensions in inches



No Pressure Port

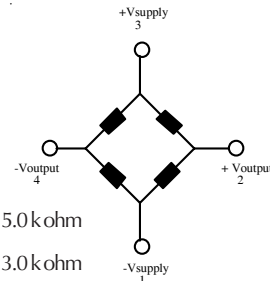
- Marking:
right dot: Silver C-Grade
left dot:
L04: white
L10: yellow
0.3: pink
1.0: green
05: blue
15: purple
30: orange
100: brown



Dual Pressure Port



Single Pressure Port



Input Resistance 5.0 k ohm
Output Resistance 3.0 k ohm

Equivalent Circuit



Pressure Sensor Characteristics Maximum Ratings

| | |
|--|---------|
| Supply Voltage VS | 16 Vdc |
| Common-mode pressure | 50 psig |
| Lead Temperature (soldering 2-4 sec.) | 250°C |

Environmental Specifications

| | |
|---------------------------|---------------------------------|
| 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) |

Standard Pressure Ranges

| No Pressure Port | | Single Pressure Port | | Dual Pressure Port | Proof Pressure |
|-----------------------|--------------------|------------------------|-----------------------|--------------------|----------------|
| Part Number | Operating Pressure | Part Number | Part Number | Part Number | |
| 4 INCH-G-CGRADE-MINI | 0-4 "H2O | 4 INCH-GF-CGRADE-MINI | 4 INCH-D-CGRADE-MINI | | 3 PSI |
| 0.3 PSI-G-CGRADE-MINI | 0-0.3 PSI | 0.3 PSI-GF-CGRADE-MINI | 0.3 PSI-D-CGRADE-MINI | | 3 PSI |
| 10 INCH-G-CGRADE-MINI | 0-10 "H2O | 10 INCH-GF-CGRADE-MINI | 10 INCH-D-CGRADE-MINI | | 5 PSI |
| 1 PSI-G-CGRADE-MINI | 0-1 PSI | 1 PSI-GF-CGRADE-MINI | 1 PSI-D-CGRADE-MINI | | 10 PSI |
| 5 PSI-G-CGRADE-MINI | 0-5 PSI | 5 PSI-GF-CGRADE-MINI | 5 PSI-D-CGRADE-MINI | | 20 PSI |
| 15 PSI-A-CGRADE-MINI | 0-15 PSIA | 15 PSI-AF-CGRADE-MINI | | | 60 PSI |
| 15 PSI-G-CGRADE-MINI | 0-15 PSIG | 15 PSI-GF-CGRADE-MINI | 15 PSI-D-CGRADE-MINI | | 60 PSI |
| 30 PSI-G-CGRADE-MINI | 0-30 PSIG | 30 PSI-GF-CGRADE-MINI | 30 PSI-D-CGRADE-MINI | | 60 PSI |
| 100 PSI-G-CGRADE-MINI | 0-100 PSIG | 100-GF-CGRADE-MINI | | | 150 PSI |

Performance Characteristics for 4 INCH-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 4.0 | | "H2O |
| Output Span, note 5 | 23 | 25 | 27 | mV |
| Offset Voltage @ zero differential pressure | | | ±1.5 | mV |
| Offset Temperature Shift (0°C-50°C), note 2 | | | ±1.5 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-50°C), note 2 | | | ±2 | %fs |

Performance Characteristics for 10 INCH-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 10.0 | | "H2O |
| Output Span, note 5 | 18 | 20 | 22 | mV |
| Offset Voltage @ zero differential pressure | | | ±1.5 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1.5 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %fs |

Performance Characteristics for 0.3 PSI-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 0.3 | | PSI |
| Output Span, note 5 | 18 | 20.0 | 22 | mV |
| Offset Voltage @ zero differential pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %fs |

Performance Characteristics for 1 PSI-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 1.0 | | PSI |
| Output Span, note 5 | 16 | 18 | 20 | mV |
| Offset Voltage @ zero differential pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %fs |

Performance Characteristics for 5 PSI-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 5.0 | | PSI |
| Output Span, note 5 | 57 | 60 | 63 | mV |
| Offset Voltage @ zero differential pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %fs |

Performance Characteristics for 15 PSI-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, gage pressure | | 15.0 | | PSIG |
| Output Span, note 5 | 85 | 90.0 | 95 | mV |
| Offset Voltage @ zero gage pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %fs |



Performance Characteristics for 15 PSI-A-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|---------|
| Operating Range, absolute pressure | | 15.0 | | PSIA5mV |
| Output Span, note 5 | 85 | 90.0 | 94 | mV |
| Offset Voltage @ zero absolute pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | %fs |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | |

Performance Characteristics for 30 PSI-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, gage pressure | | 30.0 | | PSI |
| Output Span, note 5 | 85 | 90.0 | 95 | mV |
| Offset Voltage @ zero pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %fs |

Performance Characteristics for 100 PSI-G-CGRADE-MINI

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, gage pressure | | 100.0 | | PSI |
| Output Span, note 5 | 95 | 100.0 | 105 | mV |
| Offset Voltage @ zero pressure | | | ±1 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±1 | mV |
| Linearity, hysteresis error, note 4 | | 0.5 | 1.0 | %fs |
| Span Shift (0°C-70°C), note 2 | | | ±2 | %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: SHIFT IS WITHIN THE FIRST HOUR OF EXCITATION APPLIED TO THE DEVICE.

NOTE 4: MEASURED AT ONE-HALF FULL SCALE RATED PRESSURE USING BEST STRAIGHT LINE CURVE FIT.

NOTE 5: THE VOLTAGE ADDED TO THE OFFSET VOLTAGE AT FULL SCALE PRESSURE.

Pressure Response: for any pressure applied the response time to get to 90% of pressure applied is typically less than 100 useconds.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
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- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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