

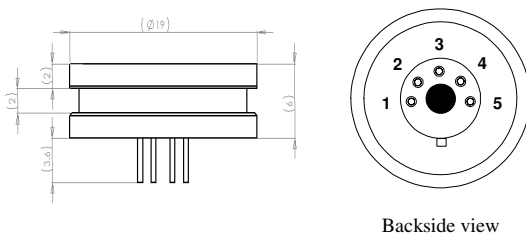


Preliminary

MS51-GP
Piezoresistive OEM
Gauge Pressure Sensors
 硅压阻式表压传感器

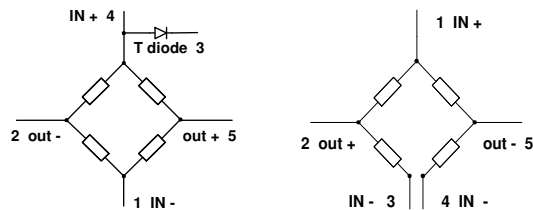


Dimension / 尺寸



Housing type 1 / 壳体类型 1

Electrical connection / 引线方式



C – Close bridge 闭桥

O – Open bridge 开桥

Feature

- Pressure range from 1 bar to 40 bar
- Piezoresistive silicon chip as sensing elements
- Specific for 5V or 1.5 mA excitation
- Steel less 316L housing 19 mm
- Sensing elements protected by steel less diaphragm
- Silicon Oil filling
- high resistance against aggressive media
- High flexibility for customized version

特性

- 压力范围 1 - 40bar
- 硅压阻芯片作为敏感元件
- 5V 电压或 1.5mA 电流被设计为硅压阻电桥的最佳供电条件
- 直径为 19 毫米与膜片使用不锈钢 316L 材料
- 敏感元件通过不锈钢膜片与测量介质隔离
- 介质压力通过硅油传递到传感器芯片上
- 很高的抗介质腐蚀的能力
- 方便用户自行灵活设计和生产变送器

Typical applications

The OEM sensors are used for building up the industrial pressure transducers for the applications as:

- aviation electronic
- servo control, robotics
- hydraulics
- sanitary
- pharmaceutical engineering
- chemistry
- injection engineering
- as well as level measurements

应用范围

应用 OEM 传感器组成工业压力变送器有以下用途:

- 航空电子
- 传动控制, 摇控设备(机器人)
- 液压系统
- 环境卫生
- 医药工程
- 石油、化学工业
- 汽车工业
- 液位测量



Preliminary

Specifications / 特性

| | Unit 单位 | Min. 最小值 | Typ. 典型值 | Max. 最大值 |
|---|------------|-------------|-------------|-------------|
| Bridge resistance / 桥路电阻 | k Ω | 2.7 | 3.2 | 3.7 |
| Offset / 零点输出 | mV | -25 | - | +25 |
| Sensitivity / 灵敏度 | mV/bar | 0.3 | - | 64 |
| Span / 满量程 0.16 bar to 1 bar | mV | 45 | | 750 |
| Repeatability / 重复性 | %FS | | ± 0.02 | |
| Pressure Hysteresis / 压力回滞 | %FS | | ± 0.05 | |
| Offset Temperature Error / 零点温度误差 (0 – 70 °C) | %FS/°C | - 0.02 | | 0.02 |
| Offset Temperature Error / 零点温度误差 (-20 – 80 °C) | %FS/°C | - 0.03 | | 0.03 |
| Span Temperature Error / 满量程温度误差 (0 – 70 °C) | %FS/°C | -0.18 | | -0.13 |
| Span Temperature Error / 满量程温度误差 (-20 – 80 °C) | %FS/°C | -0.27 | | -0.10 |
| Long term stability Offset / 零点长期稳定性 | %FS | | ± 0.1 | |
| Offset Thermal Hysteresis / 零点温度回滞 | %FS | | ± 0.3 | |
| Span Thermal Hysteresis / 满量程温度回滞 | %FS | | ± 0.5 | |
| Operating temperature / 工作温度 | °C | -40 | | +120 |
| Storage temperature / 存储温度 | °C | -50 | | +130 |
| Testing temperature / 测试温度范围 | °C | -20 | | +80 |
| Temperature coefficient of the diode / 温度 二极管的温度灵敏度 $I_f=50 \mu A$ | mV/°C | | 2.2 | |

Standard ranges / 标准量程

| Pressure range 压力量程范围 P [Bar] | Full scale 满量程 V [mV] | Over pressure 过载能力 Bar | Non-linearity 非线性 [% FS] |
|-------------------------------------|-----------------------------|------------------------------|--------------------------------|
| 1 | 60 | 3 x FS | ± 0.1 |
| 1.6 | 120 | 3 x FS | ± 0.1 |
| 2.5 | 120 | 3 x FS | ± 0.1 |
| 4 | 120 | 3 x FS | ± 0.1 |
| 6 | 120 | 3 x FS | ± 0.1 |
| 10 | 120 | 3 x FS | ± 0.1 |
| 16 | 120 | 3 x FS | ± 0.1 |
| 25 | 120 | 3 x FS | ± 0.1 |
| 40 | 120 | 3 x FS | ± 0.1 |

Test conditions/试验条件: $T_a = 25 \text{ }^\circ\text{C}$, $V_{DD} = 5 \text{ V}$
(or $I_{DD} = 1.5 \text{ mA}$)

*be possible to specify another full scale value

Ordering information / 订货信息

MS51 - GP 10.0 - 1 O

