

HOPE RF

HSGA0100
HSGF0100
HSGC0100

Absolute Pressure Sensor (0-1 BAR)



- 0 to 100kPa pressure range (1 bar or 15 PSI)
- Absolute pressure sensor
- Silicon/Glass Bonding wafer, high stability
- Miniature surface mount
- RoHS-compatible & Pb-free
- Provide the other gage pressure range sensor

DESCRIPTION

The Series of pressure sensor is a silicon micro-machined membrane, piezo-resistive sensor. They were designed for extremely cost sensitive applications where the sensing element is to be integral to the OEM equipment, and are intended for use with non-corrosive, non-ionic media. They also may be packaged with application specific sensor die so that the performance characteristics and output range also can be identified.

FEATURES

- Uncompensated pressure sensor
- High Sensitivity: Output Span 100 ± 30 mV @ 5V
- Temperature Range $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Linearity 1% (typical)
- Small size
- Low Cost, High reliability

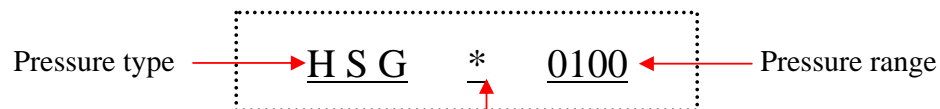
APPLICATION

- For high resolution absolute sensor systems
- Engine Controls
- Barometers, Altimeters, Variometers

Full Scale Pressure

| kPa | bar | mbar | PSI | atm | mmHg | mmH ₂ O | kg/cm ² |
|-----|-----|------|-----|-----|------|--------------------|--------------------|
| 100 | 1 | 1000 | 15 | 1 | 750 | 10207 | 1 |

Part number System



- A: Absolute pressure sensor DIE
- F: mounted on FR4 carrier
- C: mounted on ceramic carrier

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Characteristics

| Parameter | Value | Units | Notes |
|--|-------------------------------------|--------|----------------|
| General | | | |
| Pressure Range | 15 | Psi | |
| Maximum Overpressure | 45 | Psi | rated pressure |
| Electrical | | | |
| Excitation | 5 | VDC | |
| Input Impedance | 2.5~5.5 | kΩ | |
| Output Impedance | 2.5~5.5 | kΩ | |
| Environmental | | | |
| Operating Temperature Range | -40~+125 | °C | |
| Storage Temperature Range | -40~+125 | °C | |
| Mechanical | | | |
| Media Compatibility | Clean, dry air & noncorrosive gases | | |
| PERFORMANCE | | | |
| Zero Offset | ≤50 | mV | |
| Span | 100±30 | mV | |
| Bridge Resistance | 2.5~5.5 | kΩ | |
| Non-Linearity | -2.5~2.5 | %FS | |
| | -1~1 | %FS | |
| | -0.2~0.2 | %FS | |
| Temperature Coefficient of Zero Offset | -0.08~+0.08 | %FS/°C | 0°C—80°C |
| Temperature Coefficient of Span | -0.06~-0.24 | %FS/°C | 0°C—80°C |

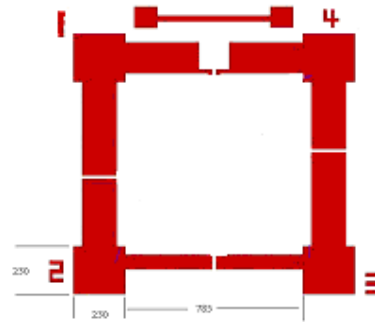
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WAFER ELECTRICAL CONNECTIONS

1. Best fit straight line.
2. Coefficients are typical values between -10°C and 40°C.

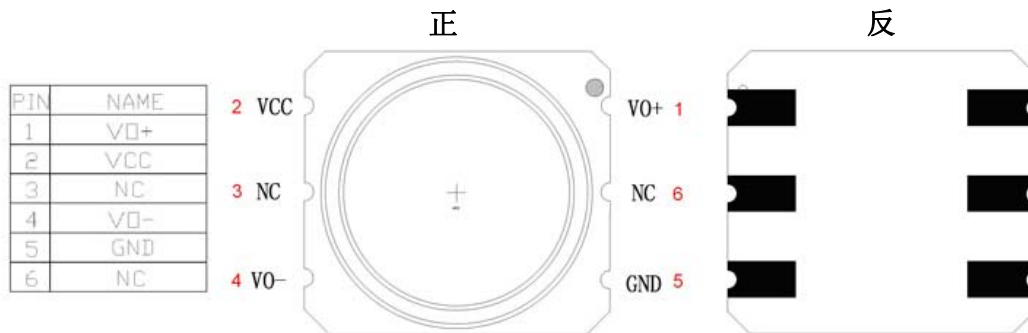
Schematic and Wire Bond Diagram

| Pad | Connection |
|-----|------------|
| 1 | Vout- |
| 2 | GND |
| 3 | Vout+ |
| 4 | VCC |

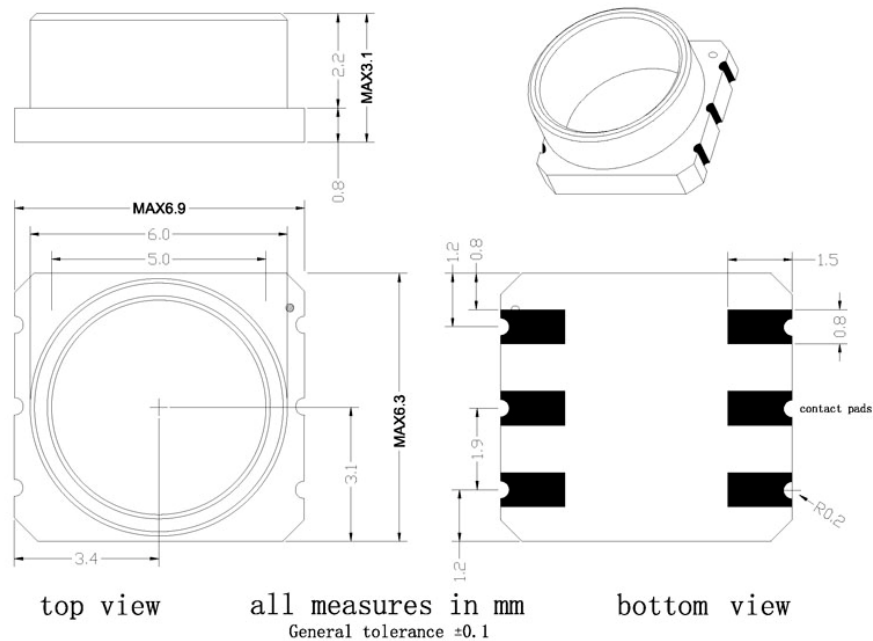


Wafer Size: 1.5mm*1.5mm*0.9mm

Pin Configuration



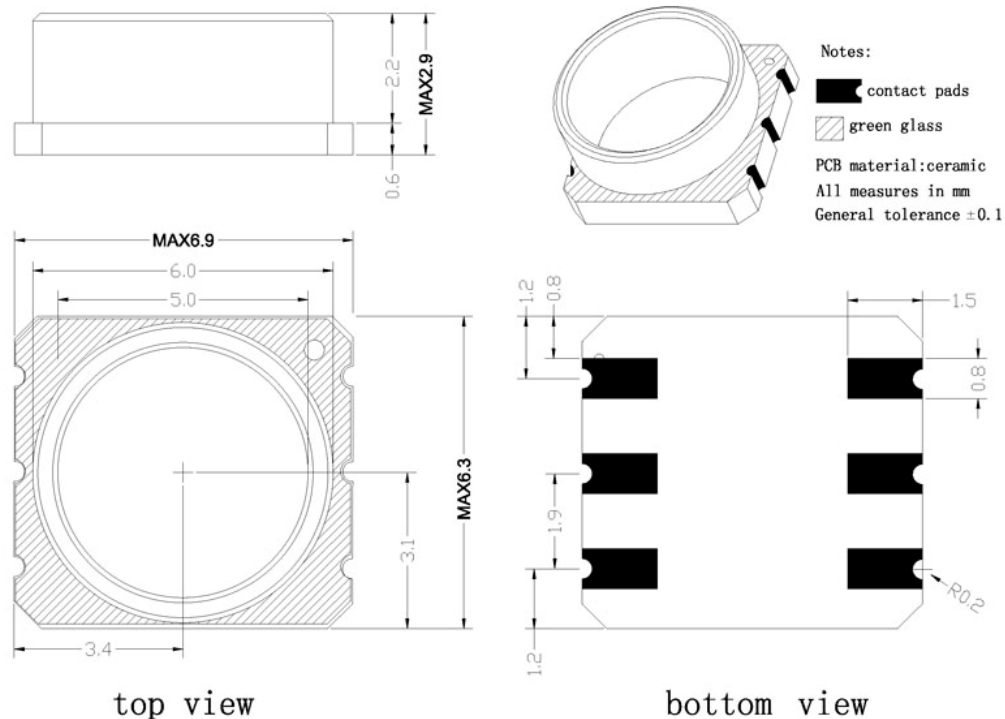
FR4 Package Outlines



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Ceremic Package Outlines



ORDERING INFORMATION

| Product Code | Description |
|--------------|---|
| HSGA0100 | 100kpa Absolute Pressure Sensor Die |
| HSGF0100 | 100kpa SMD pressure sensor mounted on FR4 Carrier |
| HSGC0100 | 100kpa SMD pressure sensor mounted on ceramic Carrier |

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