

HOPE RF

HSSA0150-YT
HSSF0150-YT
HSSC0150-YT

Absolute Pressure Sensor (0-1.5 BAR)



- 0 to 150kPa pressure range (1.5bar or 21PSI)
- MEMS technique absolute pressure sensor
- Silicon/Silicon Bonding wafer or Modules
- High reliability, low drift
- RoHS-compatible & Pb-free
- Provide the other gage pressure range sensor

DESCRIPTION

The SMD pressure sensor series is designed for pressure sensor systems with highest demands on resolution and accuracy. The device consists of Hope's pressure sensor die mounted on a 6.3 x 6.9 mm FR4 or ceramic carrier protected by a metal cap. The HSSXX can be delivered in different pressure range mode.

FEATURES

- Uncompensated pressure sensor
- High Sensitivity: Output Span 100 ± 20 mV @ 5V
- Temperature Range $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Linearity 0.15% (typical)
- Small size
- Low Cost, High reliability

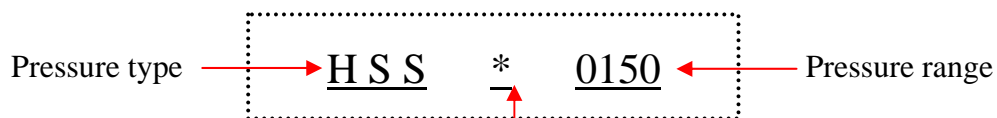
APPLICATION

- 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 |
|-----|-----|------|-----|-----|------|--------------------|--------------------|
| 150 | 1.5 | 1500 | 21 | 1.5 | 1125 | 153.7 | 1.5 |

Part number System



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

Characteristics

(Reference conditions: Supply Voltage VS+ = 5 Vdc; Ambient Temperature Ta = 23°C)

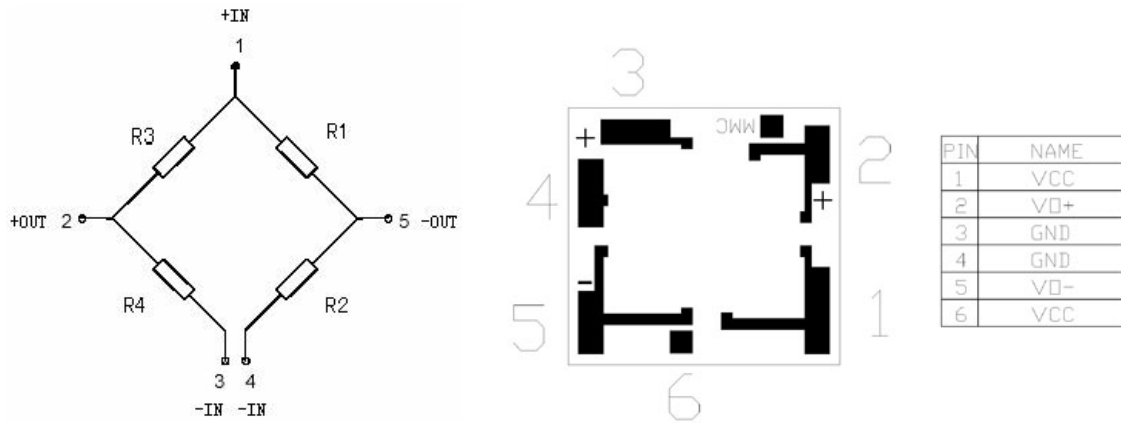
| | | Min | Typ | Max | Unit | Remarks |
|-----------------------|--------|-------|-------|-------|-----------|---------|
| Excitation voltage | | | 5.0 | | V | |
| Excitation current | | | 1 | | mA | |
| Span | 150KPa | 80 | 100 | 120 | mV | 1 |
| Offset | | -35 | | 35 | mV | |
| TC Span | | -24 | -19 | -15.5 | %FS/100°C | 2 |
| TC Offset | | -7 | | +7 | %FS/100°C | 2 |
| TC R | | +24 | +27.5 | +33 | %FS/100°C | 2 |
| Linearity | | -0.45 | -0.15 | +0.45 | %FS | 3 |
| Bridge impedance | | 4 | 5 | 6 | KΩ | |
| Proof pressure | | 2X | | | Fixed FS | |
| Burst pressure | | 4X | | | Fixed FS | |
| Operating temperature | | -40 | | +125 | °C | |
| Storage temperature | | -55 | | +150 | °C | |

Notes:

1. Measured at 5V constant voltage excitation.
2. Measured from 0 to 60 C
3. Defined as best straight line.

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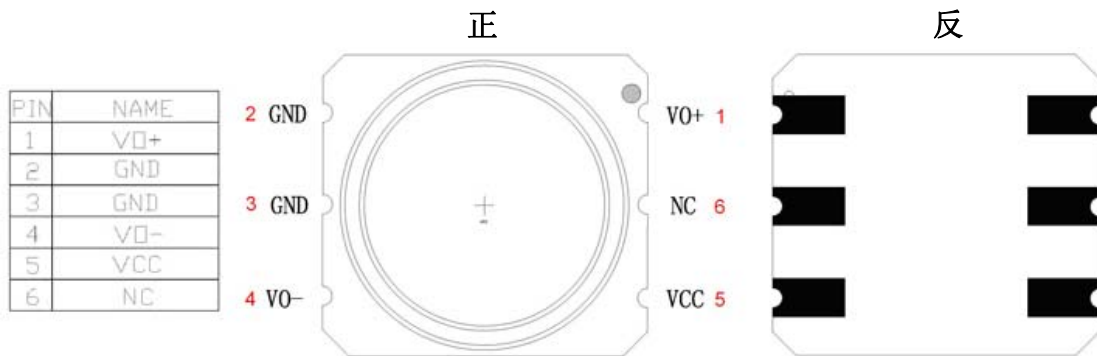
WAFER ELECTRICAL CONNECTIONS



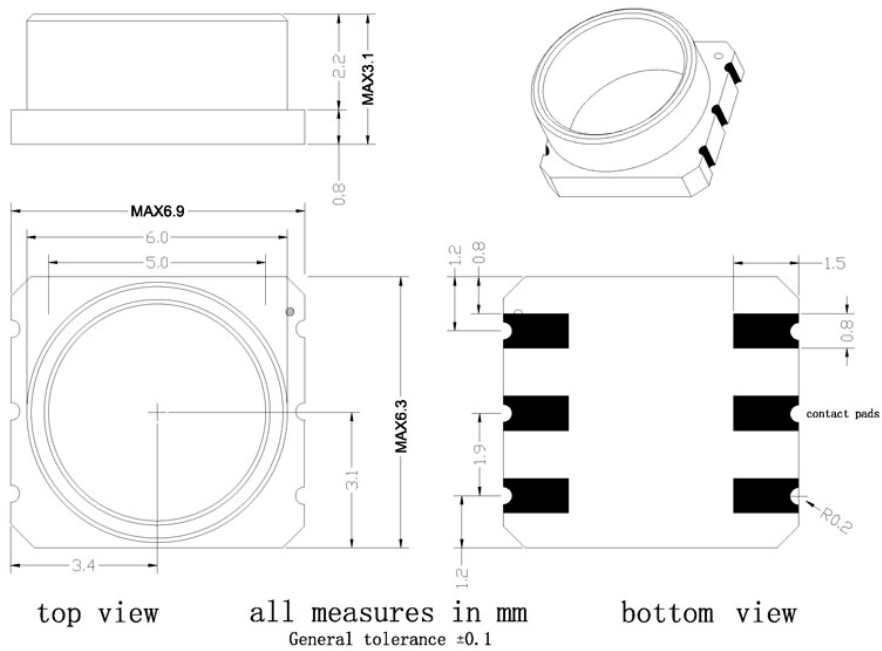
Chip dimensions: 1x1x0.6mm

Bonding Area Size: 0.3x0.105mm

Pin Configuration

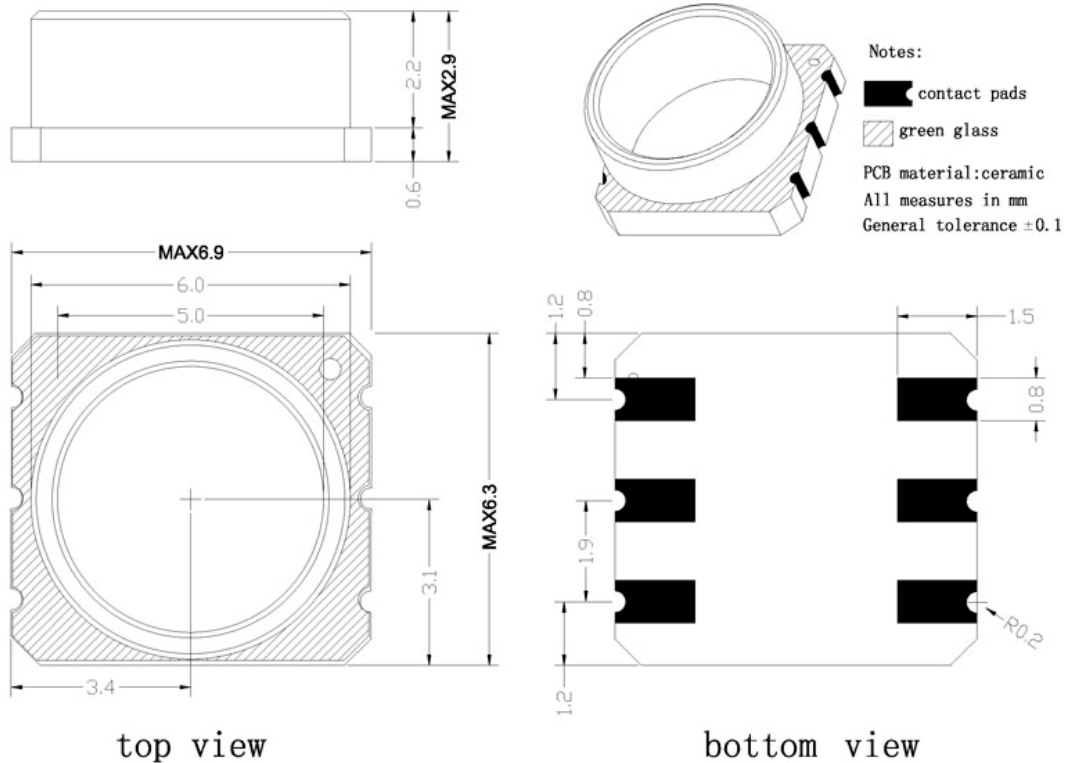


FR4 Package Outlines



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Ceremic Package Outlines



ORDERING INFORMATION

| Product Code | Type | product |
|--------------|--------------------------------|-------------------------------------|
| HSSA0150 | DIE | 150kpa Absolute Pressure Sensor Die |
| HSSF0150 | SMD mounted on FR4 Carrier | 150kpa SMD pressure sensor |
| HSSC0150 | SMD mounted on ceramic Carrier | 150kpa SMD pressure sensor |

HOPE MICROELECTRONICS CO.,LTD

4/F, Block B3, East Industrial Area,
Huaqiaocheng, Shenzhen, Guangdong,
China

Tel: 86-755-82973805

Fax: 86-755-82973550

Email: sales@hoperf.com

Website: <http://www.hoperf.com>

<http://www.hoperf.cn>

<http://hoperf.en.alibaba.com>

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