

Highly Stable Pressure Sensor, 0-3.5MPa,  
Gauge, Compensated, 19mm diameter



## PS781 Series IOT Pressure Sensors Technical Data Sheet

**PS781-13G0L1**

### Features

- Pressure range 0-3.5MPa
- Gauge pressure sensor
- Constant current / Constant Voltage power supply
- Isolated construction, enable to measure various media
- F19mm standard OEM pressure sensor
- Full stainless steel 316L
- Wide temperature compensation
- Long-term stability  $\pm 0.1\%$ FS/year

### Applications

- Industrial process control
- Level measurement
- Pressure checking meter
- Pressure calibrator
- Liquid pressure system and switch
- Cooling equipment and air conditioning system
- Aviation and navigation inspection

### Description

PS781-13G0L1 is a highly stable piezo-resistive pressure sensor with wide temperature compensation and zero correction. It contains a highly stable silicon die, stainless steel 316L housing with diameter 19mm. The measured pressure is transmitted onto the silicon die through the 316L diaphragm and inner media. This transforms the measured pressure into an electrical signal.

### Product Configuration

|                       |                               |
|-----------------------|-------------------------------|
| Application:          | Highly Stable Pressure Sensor |
| Pressure Type:        | Gauge                         |
| Electrical Connector: | 0.5mm Kovar Pin               |

### General Specifications\*

| Description              | Minimum | Typical    | Maximum     | Unit             |
|--------------------------|---------|------------|-------------|------------------|
| Pressure Range           | 0       |            | 3.5         | MPa              |
| Linearity                |         | $\pm 0.15$ | $\pm 0.2$   | % Full Scale     |
| Repeatability            |         | $\pm 0.05$ | $\pm 0.075$ | % Full Scale     |
| Hysteresis               |         | $\pm 0.05$ | $\pm 0.075$ | % Full Scale     |
| Full Scale Output        | 70      |            |             | mV DC            |
| Zero Output              |         |            | 2           | mV DC            |
| Zero Thermal Error @35°C |         | $\pm 0.75$ | $\pm 1$     | % Full Scale/°C  |
| Span Thermal Error @35°C |         | $\pm 0.75$ | $\pm 1$     | % Full Scale/°C  |
| Compensated Temp Range   | -10     |            | 80          | °C               |
| Long Term Stability      |         | $\pm 0.1$  | $\pm 0.2$   | %Full Scale/year |
| Overpressure             |         | 1.5        |             | xFull Scale      |

\*General Specifications hold under the following Nominal Conditions

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### \*Nominal Conditions

| DESCRIPTION                      | DESCRIPTION                       |
|----------------------------------|-----------------------------------|
| Media Temperature: (35±1)°C      | Environment Temperature: (35±1)°C |
| Shock: 0.1g(1m/s²)Max            | Humidity: (50%±10%)RH             |
| Locail air pressure: (86-106)kPa | Power supply: (1.5±0.0015)mADC    |

### Electrical Specifications

| Description                   | Minimum | Typical | Maximum | Unit |
|-------------------------------|---------|---------|---------|------|
| Power Supply/Excitation Level |         |         | 10      | VDC  |
| Power Supply Current          |         |         | 2       | mA   |
| Input Impedance               | 2,000   |         | 6,000   | Ω    |
| Output Impedance              | 3,500   |         | 6,000   | Ω    |
| Response 10%-90%              |         |         | 1       | msec |
| Insulation Resistance 100VDC  |         | 100     |         | MΩ   |

### Material Specifications

| Description  | Material             |
|--------------|----------------------|
| Diaphragm    | Stainless Steel 316L |
| Plug Housing | Stainless Steel 316L |
| Tubing       | Stainless Steel 316L |
| Pin          | Kovar                |
| O-Ring       | Viton                |

### Mechanical Specifications

Weight 0.035 lbs [15.88 g]



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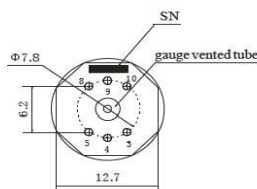
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### Electrical Connection

| Pin | Connection | Wire Color |
|-----|------------|------------|
| 4   | +OUT       | Red        |
| 5   | -IN        | Yellow     |
| 8   | +IN        | Black      |
| 9   | -Out       | Blue       |



### Environmental Specifications

|                         |                                  |
|-------------------------|----------------------------------|
| Temperature (Operating) | -40°C to 125°C                   |
| Temperature (Storage)   | -40°C to 125°C                   |
| Shock                   | No change at 10gRMS, (20-2000)Hz |
| Impact                  | 100g, 11ms                       |

Notes: Media compatibility-the gas or liquid which is compatible with stainless steel and Viton

|                |                |
|----------------|----------------|
| Certifications | ROHS Compliant |
|                | CE Compliant   |

The Infinite Electronics portfolio includes coaxial cable assemblies, connectors, adapters and custom products, as well as our wireless product line which includes antennas, RF amplifiers, lightning and surge protectors, and NEMA rated enclosures.

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# PS781-13G0L1 CAD Drawing

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