DATASHEET

GP6M

VERSION A

AIoTSensing

AIoTSensing Inc.
Website: http://www.aiotsensing.com



1. Features

- Pressure ranges from -100KPa to 1000kPa
- Gage or Differential pressure type
- mV Output
- Package size is 7.0mm x10.3mm x10.0mm

2. Applications

- Medical Breathing
- Industrial Controls
- HVAC
- Environmental Controls
- Portable Equipment

3. Descriptions

	Min	Nominal	Max	Unit
Excitation Voltage		5	10	V
Excitation Current		1.00	2.00	mA
Bridge Impedance	4	5	6	kΩ
Span[1]				
1 psi	20	30	40	mV
5.8 psi	50	70	90	mV
15 psi	40	70	100	mV
15 psi **	130	170	210	mV
30 psi	70	100	130	mV
Offset	-30	0	30	mV
TC Span[2] (Constant Voltage)	-0.17	-0.22	-0.27	%FS/°C
TC Span[2] (Constant Current)	-0.05	±0.02	+0.05	%FS/°C
TC Offset[2]	-0.08	-0.02	+0.08	%FS/°C
Linearity[3]	-0.3	±0.1	+0.3	%FS
Hysteresis	-0.3	±0.1	+0.3	%FS
Proof Pressure			2X	Rated FS
Burst Pressure			3X	Rated FS
Operating Temperature	-40		125	°C
Storage Temperature	-55		150	°C

[1] Unless otherwise specified, span is measured at 5.0V Constant Voltage supply at 25°C. Sensor outputs a positive signal when diaphragm deflects upward.

[2] Unless otherwise specified, temperature coefficients are measured from 0°C to 50°C @ 5V Constant voltage excitation.

[3] Defined as best straight line.

**15 psi high sensitivity type, linearity characterized at 700mbar and 1100mbar

AIoTsensing

4. Pin Configuration and Description

Pin	Name	Type	Function
1	-Vexc	P	mv output sensor Power Ground
2	-Sig	O	mv output sensor negative output
3	NC	NC	Not Connect
4	+Vexc	P	mv output sensor Positive supply voltage
5	+Sig	O	mv output sensor Positive output
6	-Vexc	P	mv output sensor Power Ground

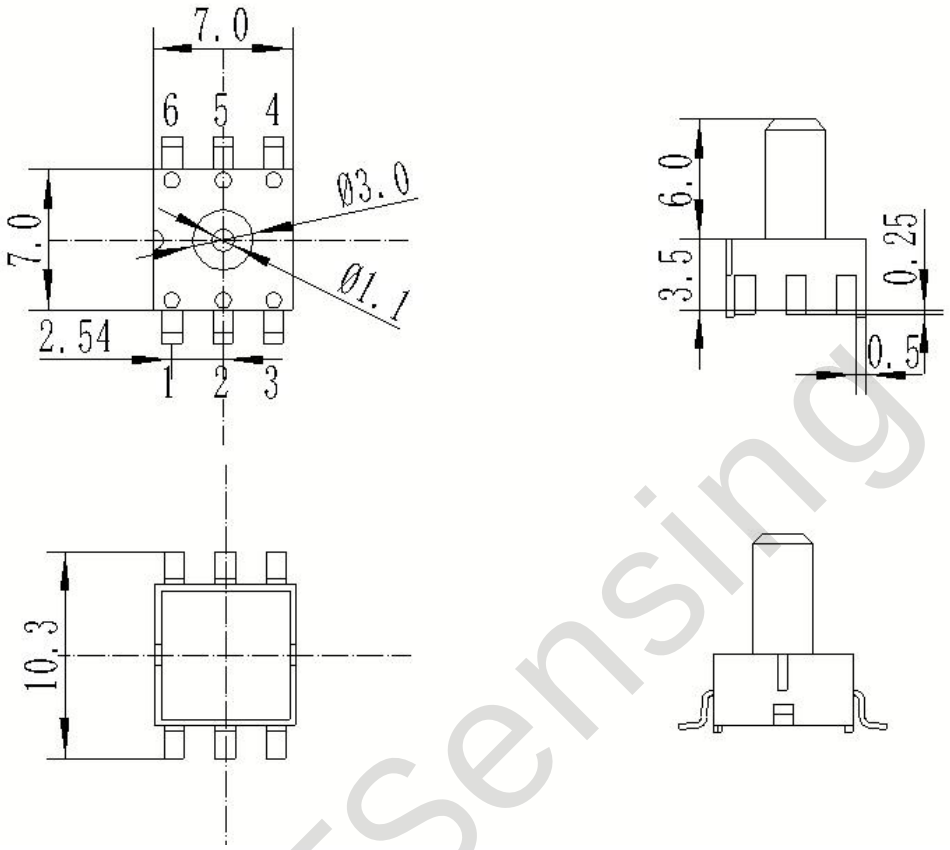
NOTE:

• Do not connect to NC pins.

AIoTSensing

5. Package Outline (SOIC16 mm)

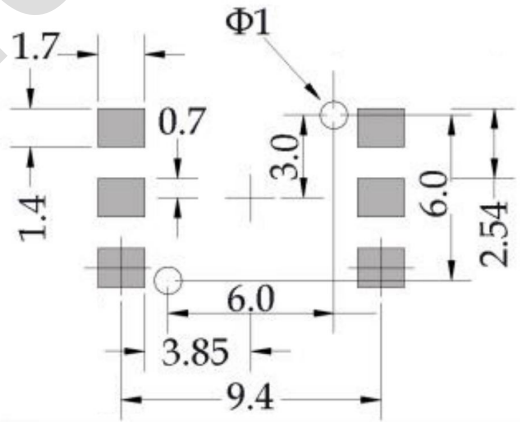
5.1 DP6/GP6



NOTES:

• All dimensions in units of [mm]

12.2Recommended Pad Layout (unit: mm)



AIoTSensing

6.Packing Options

TUBE



Real

7.How to Order

Refer to Table 5 for standard part numbers offered which includes the pressure range and package.

Example P/N with options: GP6M-200KG

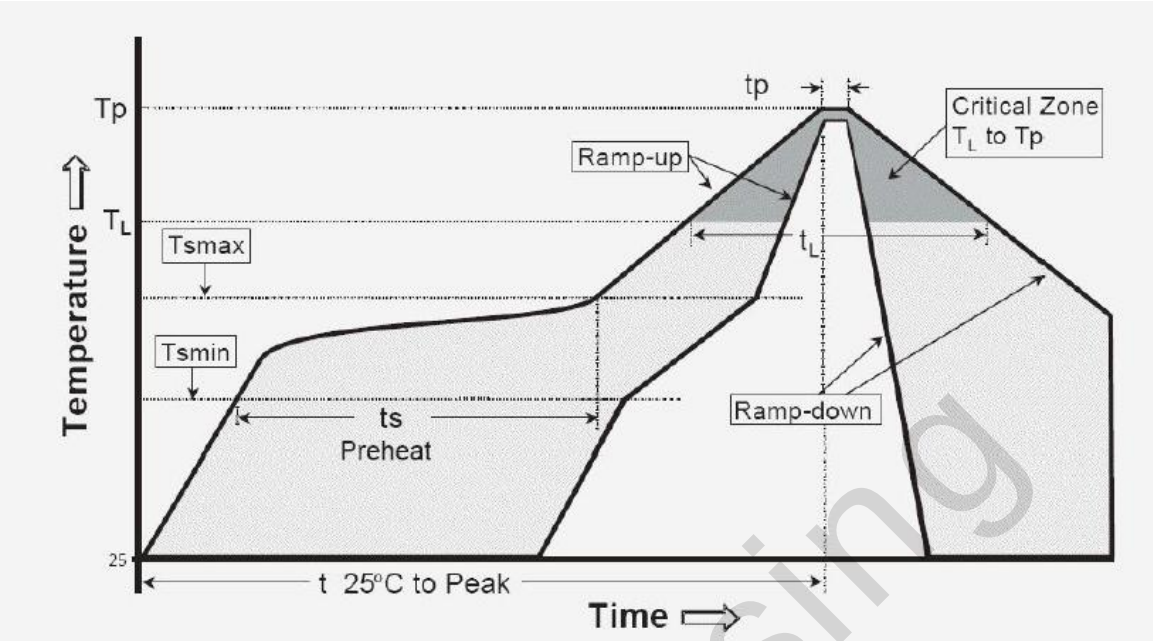
Table 5 - Part Numbering Scheme:

GP6M	-	001	P

		Range	Unit
		006	5.8psi
		015	15psi
		H15	15Psi High sensitivity type
		030	30psi

AIoTSensing

8. Soldering Recommendation（IPC/JEDEC J-STD-020D）



IPC/JEDEC J-STD-020D	Pb-Free Assembly
Average Ramp-up rate（TL-Tp）	1~3℃/s（Max.）
Preheat –Temperature Min. (Tsmin) –Temperature Max. (Tsmax) –Time (Min. to Max.) (ts)	 140℃ 170℃ 60-90 seconds
Tsmax to TL –Tp	3℃/s（Max.）
Time maintained above: –Temperature (TL) –Time (tL)	 200℃ above 40-90 seconds
Peak temperature (Tp)	200~220℃
Time of Real peak temperature within 5℃ (tp)	60 seconds
Average Ramp-down rate（Tp-TL）	2~4℃/s（Max.）
Time 25℃ to peak temperature	4min.（Max.）

Note：

1) It is recommended that only one time reflow soldering, no more than two times.
2) After reflow soldering or other high temperature processes, wait for at least 48 hours (or as required by the data sheet) before data reading and processing.
3) Spot cleaning by hand if necessary, DO NOT wash or submerge sensor in cleaning liquid.
4) It is recommended to use the medium temperature solder paste.

AIoTSensing

9.Legal Disclaimer

1)For the export of products which are controlled items subject to foreign and domestic export laws and regulations, you must obtain approval and/or follow the formalities of such laws and regulations.

2)Products must not be used for military and/or antisocial purposes such as terrorism, and shall not be supplied to any party intending to use the products for such purposes.

3)Unless provided otherwise, the products have been designed and manufactured for application to equipment and devices which are sold to end-users in the market.

4)Before using products, which were not specifically designed for use in automotive applications, please contact an AIOT sales representative.

5)This specification is subject to change without notice.

AIoTSensing

AIoTSensing Inc.

TEL：+86 0551-65336537

Email：sales@aiotsensing.com

Website：http://www.aiotsensing.com

Address: 2nd Floor, Building 4, Mingzhu Industrial Park, No. 106, Chuangxin Avenue, High-tech Zone, Hefei City, 230088 China

Appendix

1.Environment requirement

1) Please avoid places where there are corrosive gases (organic solvent gas, sulfurous acid gas, hydrogen sulfide gas, etc.) that have adverse effects on the product It shall be used in and kept.
2) This product is not drip proof, so please do not use it in places where it may be splashed with water.
3) Do not use in the environment that produces condensation. In addition, when the moisture attached to the sensor chip freezes, the sensor output may change move or destroy.
4) When the chip of the pressure sensor is exposed to light in structure, the output will change. Especially when applying pressure through transparent sleeve, please avoid the light touches the chip of the sensor.
5) Please avoid using methods such as ultrasonic wave to impose high-frequency vibration.

2.Attention

1) If the pressure range and installation method are wrong, accidents may occur, so please pay attention.
2) The only pressure medium that can be used directly is dry air. Other media, especially in corrosive gas (organic solvent gas, sulfurous acid gas, hydrogen sulfide gas, etc.) and media containing water and foreign matters will cause failure and damage when used, so please avoid the above environment use.
3) The pressure sensor chip is arranged inside the pressure inlet. Inserting foreign matters such as needles from the pressure inlet will cause chip damage and inlet blockage plug, so please absolutely avoid the above operation. In addition, avoid blocking the air inlet when using.
4) For the working pressure, please use it within the range of rated pressure. Damage may occur when used outside the scope.
5) Due to the damage caused by static electricity, please pay attention to the following items when using.

- During storage, please use conductive materials to short circuit terminals, or use aluminum foil to cover them as a whole. Because plastic containers are easily charged,therefore, do not use it during storage and transportation.
- When using, please ground the live objects on the table and the operators to make the surrounding static electricity discharge safely.

6) According to the pressure used, please pay full attention to the fixation and casing of the product, and the fixation and selection of the inlet pipe. In addition, if you have any questions, please contact us.

AIoTSensing