HOKURIKU

SPEC.No.1401-0005

For Reference Only

Product Specification

Item ： Pressure Sensor

Product No.： HPD-100G-R02

Date ： Sep. 9 , 2014

HOKURIKU ELECTRIC INDUSTRY CO.,LTD.

1. Application

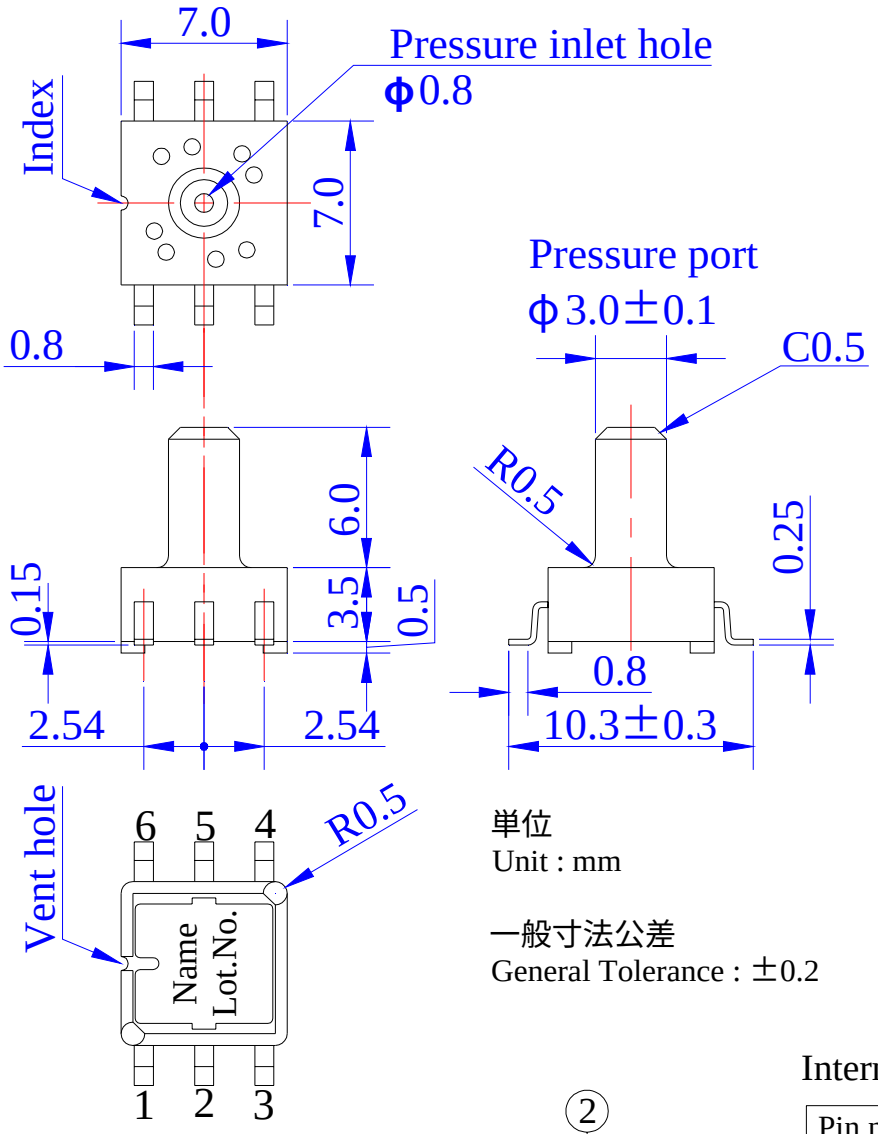
This specification shall be applied to the Semi conductive Pressure sensor used for non-corrosive gases.

2. General description

Part No.	Range of pressure	Drive current	Package
HPD-100G-R02	0 ～ 100 kPa	1.5 mA	SMD 6 pin

3. Outline dimension and Construction

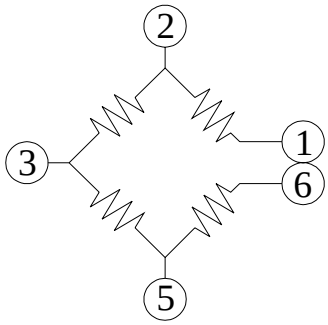
■Dimension



単位
Unit : mm

一般寸法公差
General Tolerance : ±0.2

Internal connection



Pin number	Name
1	-Out
2	+Input (Power+)
3	+Out
4	NC (Open)
5	-Input (Power-)
6	-Out

3. Rating

-1. Absolute Maximum Rating

Item	Rating			Unit	Note
	MIN	TYP	MAX		
Pressure type	Gauge Pressure			—	
Medium of pressure	Non-corrosive Gas			—	
Range of maximum pressure			200	kPa	
Maximum supply current	—	—	3	mA	
Operating temperature	-30	～	85	℃	
Storage temperature	-40	～	120	℃	

-2. Rating (Icc=1.5mA, Ta=25degrees C)

Item	Rating			Unit	Note
	MIN	TYP	MAX		
Rated pressure	0	～	100	kPa	
Drive current	—	1.5	—	mA	
Bridge resistance	4	5	6	kΩ	
Offset voltage	-20	0	20	mV	
Span voltage	60	100	140	mV	
Pressure linearity	-0.3		0.3	%FS	
Pressure hysteresis	-0.2		0.2	%FS	
Temperature characteristic of Offset voltage	-5.0		5.0	%FS	at 0～50℃
Temperature characteristic of Span voltage	-2.5		2.5	%FS	at 0～50℃

＜Definitions＞ If Pressure＝P、Temp.＝T , Output voltage＝V(P,T)

Offset voltage: Voffset = V(0,25)

Span voltage: Vspan = V(100,25) − V(0,25)

Pressure linearity: P_{LIN} = (V(50,25) − (Vspan/2 ＋ V(0,25))) / Vspan × 100

Pressure linearity: P_{HYS} = (Voff2 - Voff1) / Vspan × 100

Temperature characteristic of Offset voltage:
TCO1 = (V(0, 0) − V(0,25)) / Vspan × 100
TCO2 = (V(0,50) − V(0,25)) / Vspan × 100

Temperature characteristic of Span voltage:
Vspan(0) = V(100, 0) − V(0, 0)
Vspan(50) = V(100,50) − V(0,50)
TCS1 = (Vspan(0) − Vspan) / Vspan × 100
TCS2 = (Vspan(50) − Vspan) / Vspan × 100

5. Reliability Test Specification

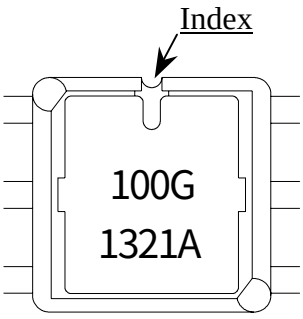
■ Test contents

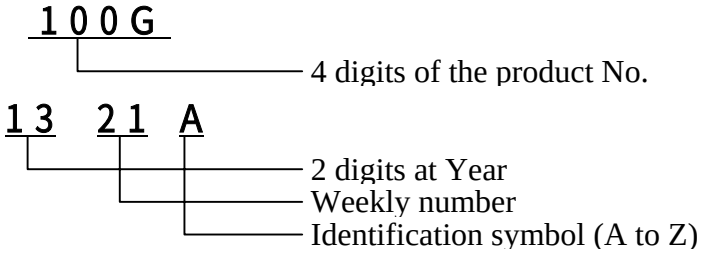
No.	Item	Test conditions	Testing time
1	High temperature strage test	85℃	300 hr
2	Low temperature strage test	-30℃	300 hr
3	High humidity strage test	40℃、95%RH	300 hr
4	Heat shock test	-30℃ ⇔ 85℃、each 30minutes	100 cyc
5	Drop test (Goods)	Dropped from100cm high to the P tile on concrete grounding	Random 3 times
6	Drop test (Packing)	Dropped from120cm high to the P tile on concrete grounding	Total 7 times

After tests , Meet this standard.

- Electrical characteristics shall be met.
- There shall be no abnormality in appearance.

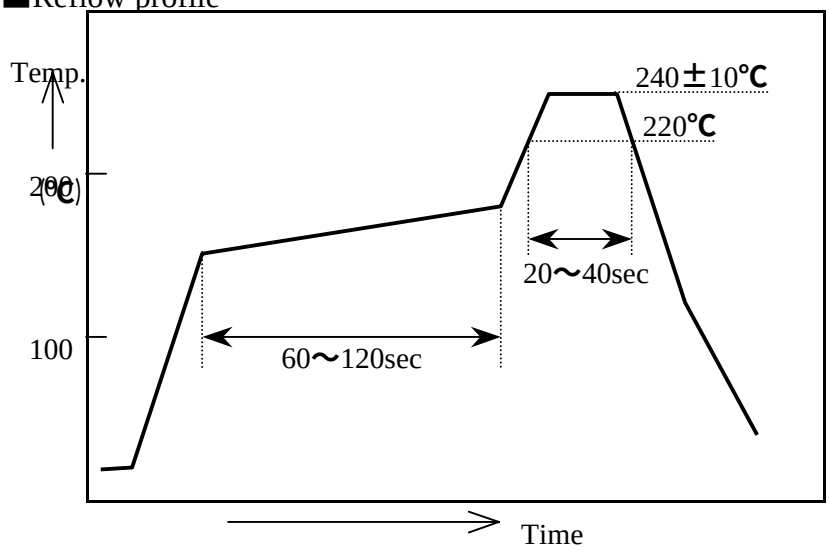
6. Marking





7. Recommended soldering conditions

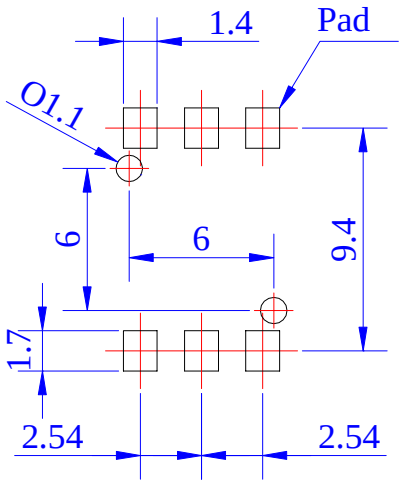
■Reflow profile



Heating
Peak250℃MAX、10sec or less
More than 220℃、20～40sec

Preheating
150～180℃、60～120sec

■Soldering pads



This footprint and Temperature profile do not guarantee of soldering quality.

Please check in advance at your factory before use.

8. Notes

* Please use this product within the range of absolute maximum ratings. There is fear of damage and the breakdown when used outside the range of absolute maximum ratings.
* There are possibilities of abnormalities or inferior performances, when irregular objects are put inside a pressure conductive hole.
* These sensors are not of drip-proof construction. When they are sprayed with water, etc., or dew drops are produced, there are possibilities where specified performances are not satisfied.
* These sensors do not correspond to washing. Please use it by no washing.
* If this product touches corrosive gas (organic solvent, sulfurous acid gas, hydrogen sulfide gas, etc.), it may have bad influence on performance.

9. Others

This product is intended to be used for general electrical equipment.
Please contact us in advance in case of the following application to be used;
Extremely-high reliability demanding applications, such as medical equipment, safety device, aerospace instrument, nuclear energy control equipment, combustion control apparatus and so on, which failure and/or malfunction could do serious damage to human life, body, property and so on, directly or indirectly.

* Details are subject to change without notice.