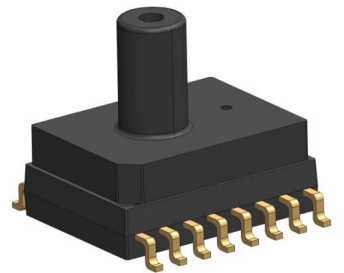




**BANNING**  
PRESSURE SENSOR  
BLWLP7xxxGV



**BANNING**

## DESCRIPTION

BLWLP7xxxGV series integrated low pressure and high precision pressure sensor, the high performance MEMS pressure sensitive chip and special conditioning chip are encapsulated in the single gas nozzle SOP16 shell structure. The sensor has a single vertical pressure port at the top. The measured medium is only exposed on the back of the sensor to prevent damage to the circuit and components on the upper surface of the sensor.

BLWLP7xxxGV uses a unique algorithm to achieve multi-stage temperature compensation for the sensor, and outputs in the form of analog proportional voltage. Gauge pressure intake is provided.

## PERFORMANCE

Parameter	Minimum	Nominal	Maximum	Unit
Supply voltage	3.0	3.3 or 5.0	5.25	V
Power supply current		4.5		mA
Zero point output		10		%VDD
Full scale output		90		%VDD
Temperature of compensation	-10		+ 65	
Operating temperature	-20		85	
Storage temperature	-40		125	
Accuracy <sup>(a)</sup>			± 2.5	%FS

Note : Unless otherwise specified, all values in this table are tested at a voltage of 5.0V DC and a temperature of 25

- a. Accuracy data is only applicable to the compensated temperature range. Accuracy includes linearity, repeatability and hysteresis of pressure.

## APPLICATION

Medical :

- ventilator / respirator
- ventilation

Medical :

- Air flow measurement
- Pressure switch

Consumer category :

- Sports equipment

## CHARACTERISTICS

- Measuring range: 0~12.5cmH<sub>2</sub>O, 0~20cmH<sub>2</sub>O, 0~40cmH<sub>2</sub>O, etc
- Type of pressure: gauge pressure
- Output form: Rail to rail analog ratio output 10%-90%VDD
- High accuracy
- Calibrated compensation

- Gas flow instrument

- Air flow monitoring

- Gas meter

- Gas flow meter

- Household appliances

## RANGE PARAMETER

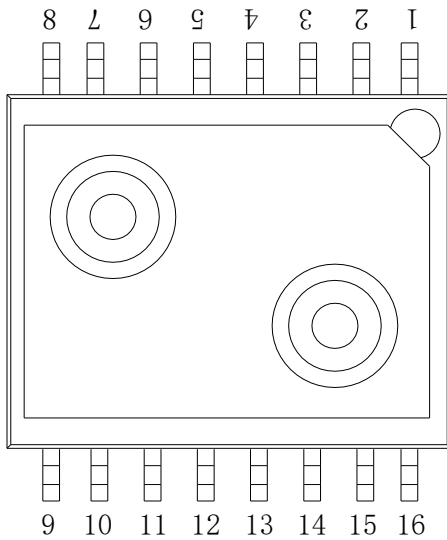
Model	Working pressure	Pressure tolerance <sup>(bc)</sup>	Burst pressure <sup>(bd)</sup>
BLWLP7001GVC1	0~12.5cmH <sub>2</sub> O	± 300 cmH <sub>2</sub> O	± 400 cmH <sub>2</sub> O
BLWLP7002GVC1	0~20cmH <sub>2</sub> O	± 300 cmH <sub>2</sub> O	± 400 cmH <sub>2</sub> O
BLWLP7004GVC1	0~40cmH <sub>2</sub> O	± 300 cmH <sub>2</sub> O	± 400 cmH <sub>2</sub> O

Note : b. Sample test

c. Tolerance pressure refers to the maximum pressure under which the sensor can still work after the pressure is restored to the working pressure range after the device exerts such pressure for a short time.

d. Burst pressure refers to the pressure exerted on the sensor beyond this range, which will cause permanent damage to the sensor.

## PIN DEFINITION

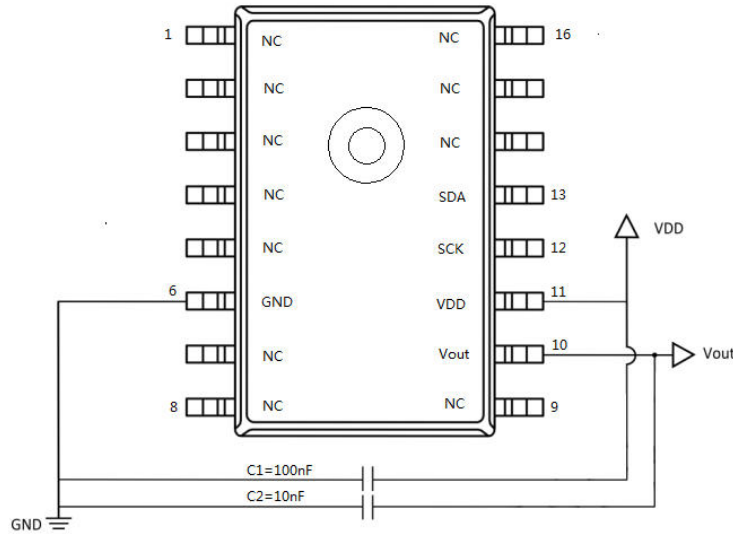


Pin Definition (face view)

Pin number	Pin definition	Instructions
6	GND	Ground
10	Vout	Output end
11	VDD	Positive power supply
12	NC	IIC SCK
13	NC	IIC SDA
1,2,3,4,5,7,8 9,14,15,16	NC	-

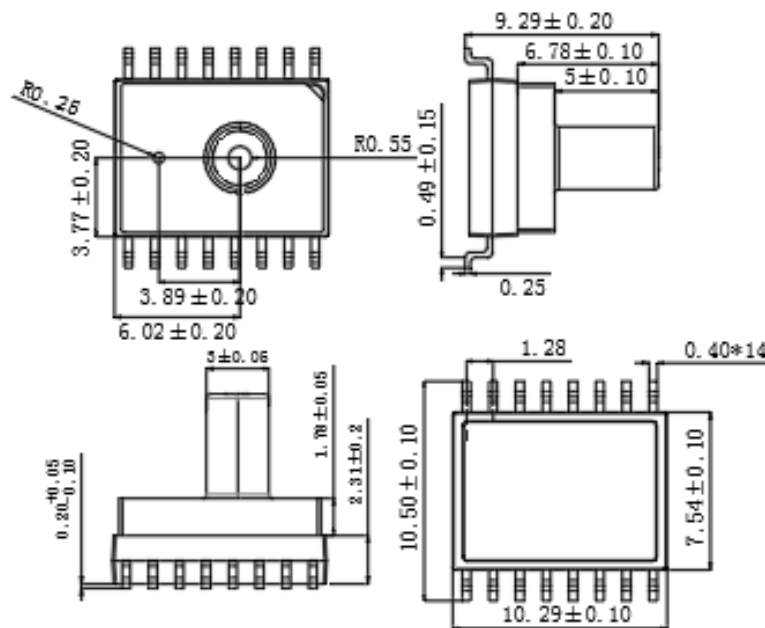
# FUNCTION DESCRIPTION

## Recommended circuit



- (1) If the filter capacitor C1 is considered between VDD and GND, the capacitor value is 100nf.
- (2) R1 and R2 can be 4.7 or 10 K based on the requirements. The actual resistance value can be adjusted based on the I<sup>2</sup>C clock frequency.

## DIMENSION(mm)



## Description:

- (1) The unit of all dimensions is mm, the tolerance position is not marked, the dimensional tolerance is  $\pm 0.05\text{mm}$ ,
- (2) B is the air pipe connected to the bottom of the sensor, and T is the air pipe connected to the top of the sensor. The top trachea T is defined as a high pressure interface.

# ORDER

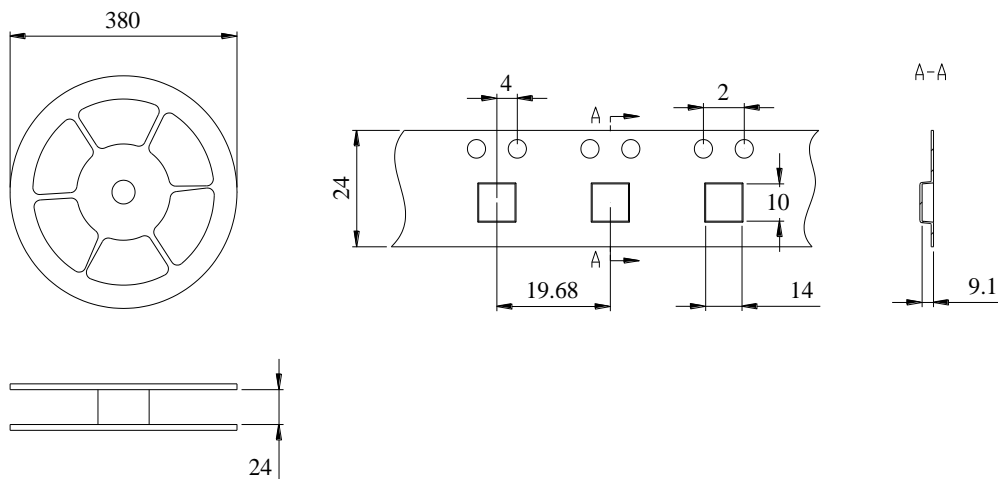
Model	Working pressure	Method of packing	Minimum packing quantity
BLWLP7001GVC1	0~12.5 cmH <sub>2</sub> O	volume	450 PCS/volume
BLWLP7002GVC1	0~20 cmH <sub>2</sub> O		
BLWLP7004GVC1	0~40 cmH <sub>2</sub> O		

Unit	10cmH <sub>2</sub> O	20cmH <sub>2</sub> O	40cmH <sub>2</sub> O	100cmH <sub>2</sub> O	140cmH <sub>2</sub> O
PSI	0.14	0.3	0.6	1.4	2
kPa	1	2	4	10	14
mbar	10	20	39	98	137
bar	0.01	0.02	0.04	0.1	0.14
in*H <sub>2</sub> O	4	8	16	39	55
mm*Hg	7.4	15	29	74	103
hPa	10	20	39	98	137
in*Hg	0.29	0.58	1.16	2.9	4
Pa	981	1961	3923	9807	13729

Output range unit comparison table

## METHOD OF PACKING

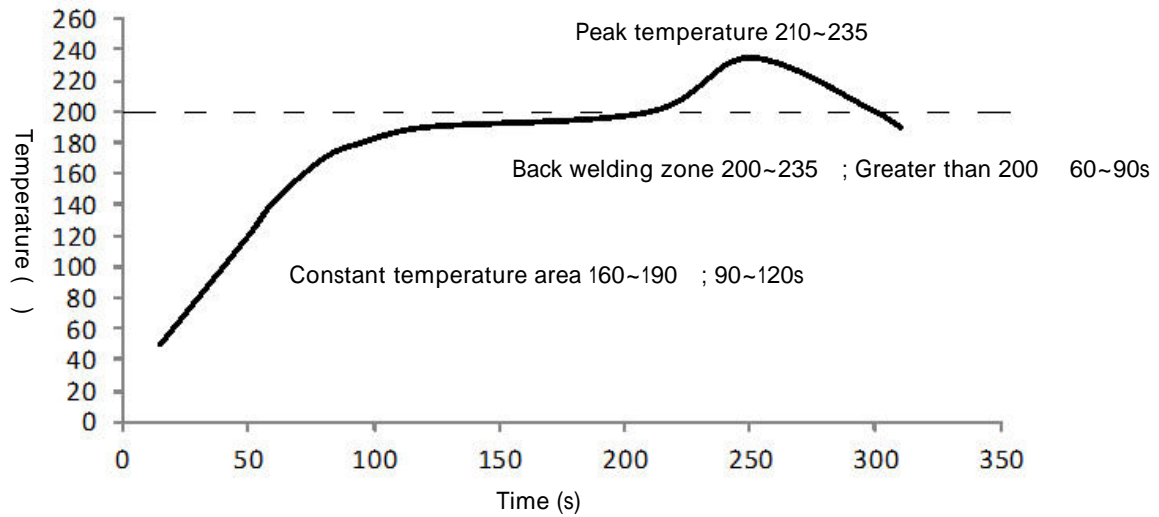
BLWLP7xxxGV adopts reel and tape packing, with a minimum packing quantity of 450pcs.



# PRECAUTIONS FOR USE

## Requirements for reflow welding

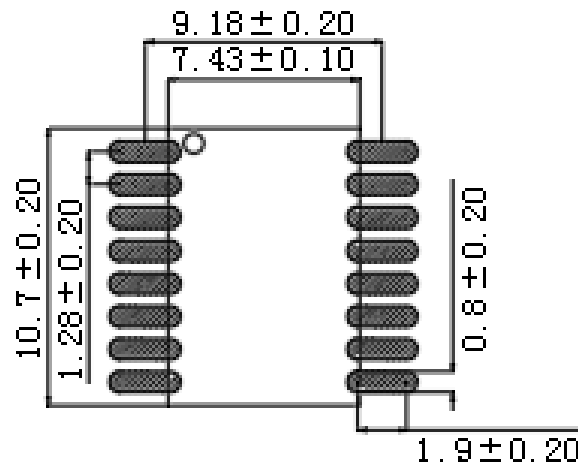
The maximum welding temperature of BLWLP7xxxXV series is not higher than 235 °C, which can be set by referring to Figure 1.



## Gas path requirements

It is recommended to use silicone hose as the air inlet pipe for BLWLP7xxxGV series products. Rigid PVC pipes are not recommended.

## Patch pad size (mm)



Size drawing of patch pad

# DISCLAIMER

## Warning

### LIFE OR PROPERTY RISK

- Please ensure that this product has been designed as part of whole system and already considered related risks, make sure the product has the correct ratings and is designed based on the entire system. It must not be used when applications related to serious life or property damage risks.

Failure to follow this instruction can result in death or serious injury.

## Warning

### PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to follow this instruction can result in death or serious injury.

## Warning

### MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to follow this instruction can result in death or serious injury.

## Warranty/Remedy

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