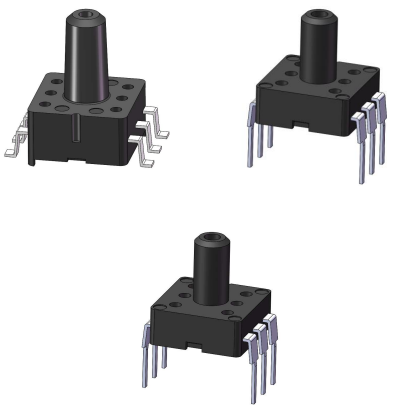
BANNING
PRESSURE SENSOR
BLWP040



BANNING

DESCRIPTION

BLWP040 series pressure sensor is a MEMS pressure sensor with all-silicon structure. The external ambient temperature is -45°C~125°C, which can achieve accurate pressure measurement and show a good linear relationship with the output voltage. This series of pressure sensor adopts open loop detection, SOP6, DIP6 package, broaden the product application way.

CHARACTERISTICS

- Measuring range: 0~40kPa，-40~0kPa，-40~40kPa
- Type of pressure: gauge pressure
- High sensitivity
- High reliability
- High stability
- Constant voltage source or constant current source
- Low cost

PREFORMANCE

Parameter	Minimum	Typical	Maximum	Unit	Note
Supply voltage	-	5	10	Vdc	
Working curren		1		mAdc	
Bridge arm resistance	4.5	5	5.5	kΩ	
Zero bias	-10	0	+10	mV	
Full scale output	50	70	90	mV	@100/200kpa
Non linearity	-	0.1	0.2	%FS	
Zero output temperature coefficient TCO	-0.08	-0.03	0.08	%FS/°C	Constant pressure mode
	-0.08	-0.04	0.08	%FS/°C	Constant current mode
Full scale output temperature coefficient TCS	-0.27	±0.22	-0.17	%FS/°C	Constant pressure mode
	-0.03	±0.02	0.03	%FS/°C	Constant current mode
Resistance temperature coefficient	1500	2000	2500	ppm/°C	
Hysteresis	-	0.05	0.1	%FS	
Operating temperature	-45	-	125	°C	
Temperature of storage	-55	-	150	°C	
Stability of	0.2			%FS/Y	

Note：Unless otherwise specified, all values in this table are tested at a voltage of 5Vdc and a temperature of 25±3°C

APPLICATION

- Medical equipment
- Industrial control
- Household electronics
- Automotive electronics

SCHEMATIC DIAGRAM

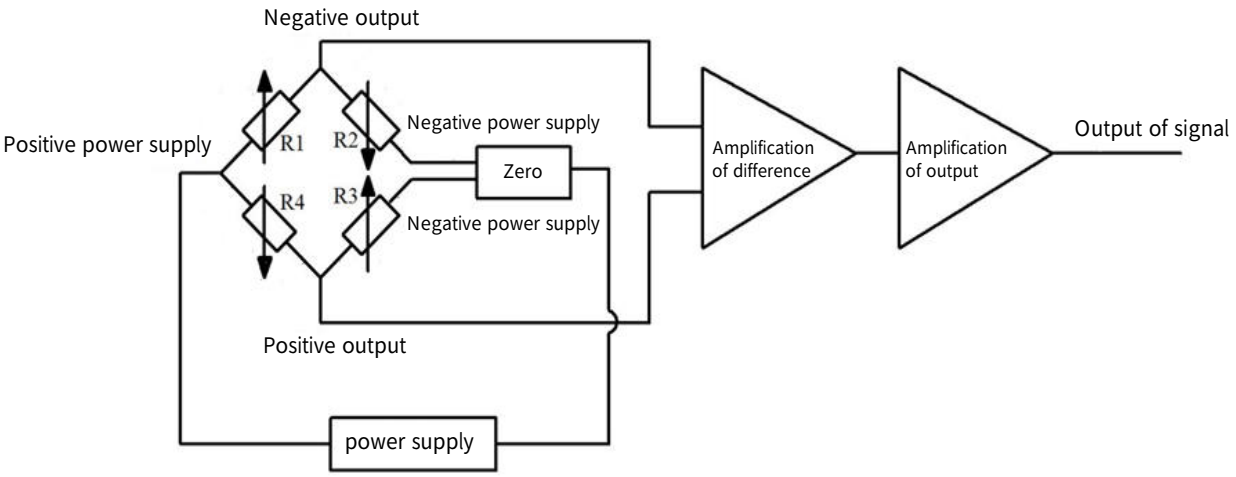
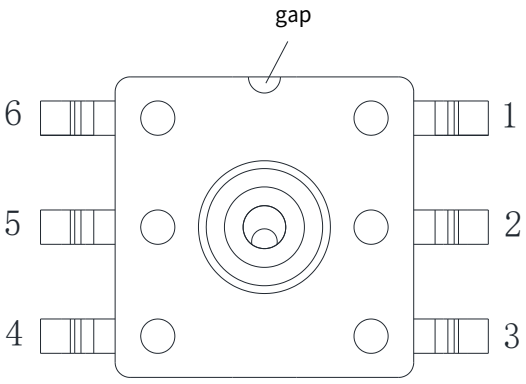
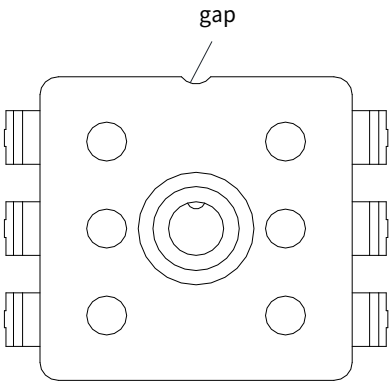


Figure.1 Pressure sensor circuit (dual power supply with negative input)

PIN DEFINITION





Pin number	Pin definition
1	GND
2	Vout+
3	Vin+
4	NC
5	Vout -
6	GND

Foot position definition one (GND open loop)

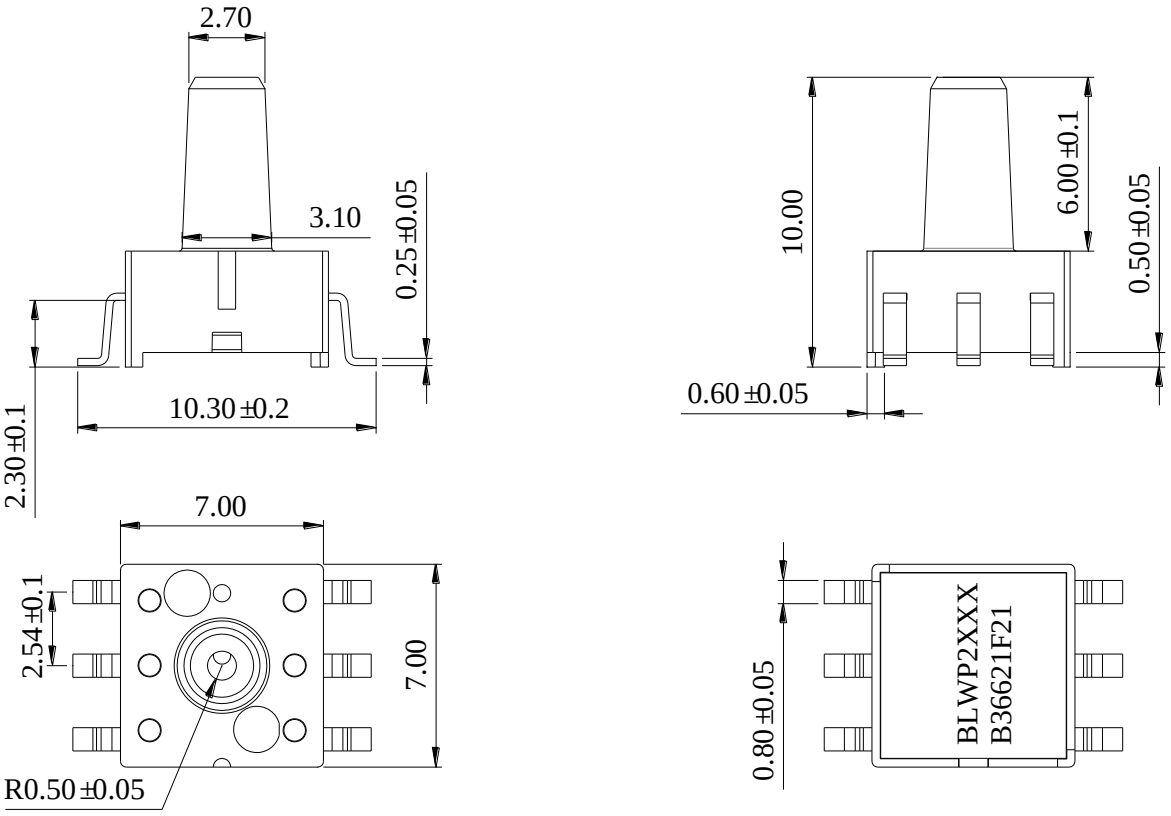
Pin number	Pin definition
1	Vout -
2	Vin+
3	Vout+
4	NC
5	GND
6	Vout -

Foot definition II (Vout- open loop)

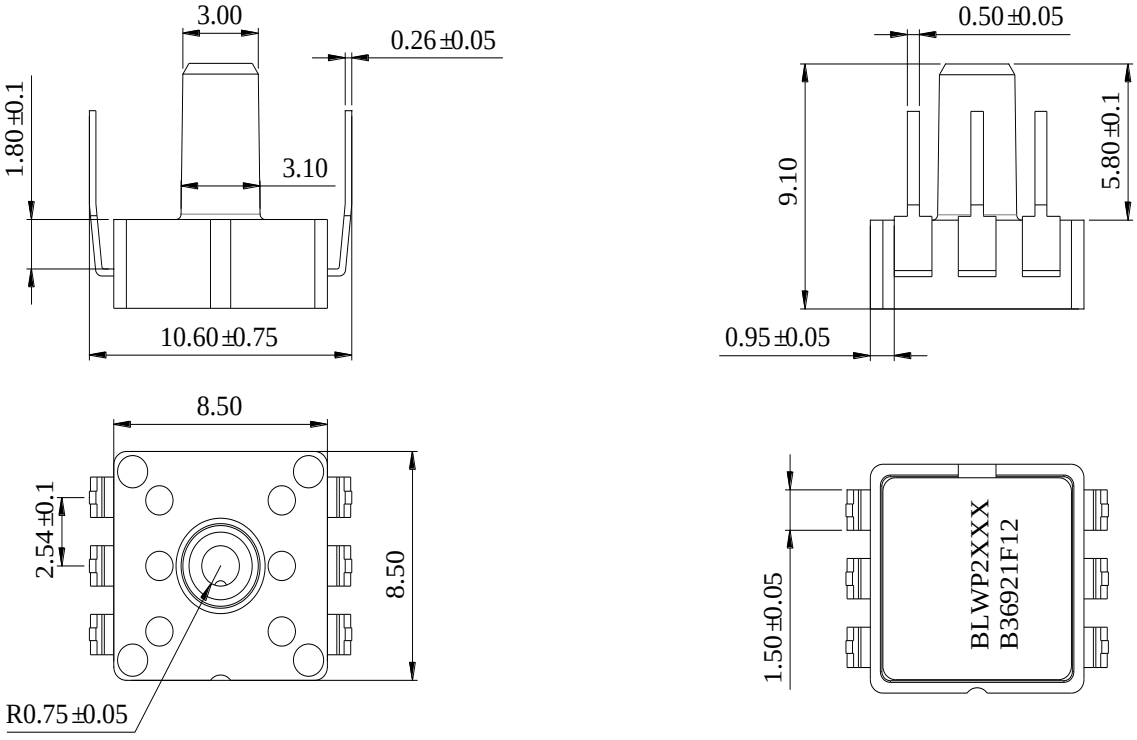
Note: When 0~40kpa range is applied, the circuit is designed according to the above pin definition. When -40~0 kpa range is applied, the two pins of Vout+ and Vout- are switched in the design circuit.

DIMENSIONS（mm）

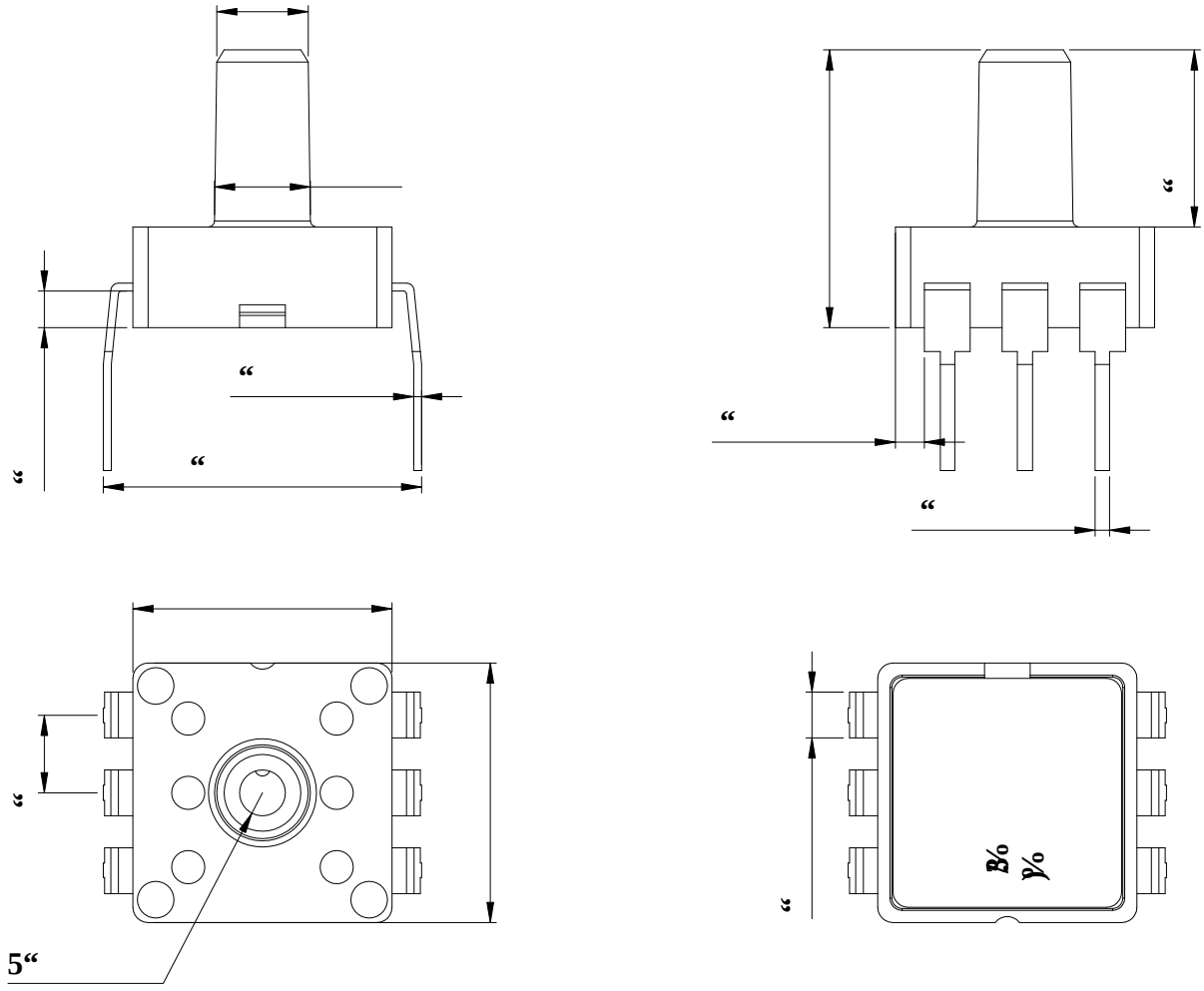
- **SOP6 package size**



- **DIP6-R package size**



- **DIP6-F Package size**



Note: The dimensional tolerance of ±0.05mm is not indicated

ORDER

Pressure transducer	Range	Method of packing	Minimum packing quantity
BLWP040	0~40kPa	Roll loading/Tube loading	P:600PCS； L:1400PCS
BLWP040	-40~0kPa	Tube loading	L:1120PCS
BLWP040	-40~40kPa	Tube loading	L:1120PCS

NOTE：
- 1: S: SOP6 package; R: DIP6-R encapsulation; F: DIP6-F encapsulation
- 2: P: roll; L: material pipe loading;

GEAR DESCRIPTION

Zero point / Full scale	-10~0mV	0~10mV
55~60mv	CX	CX
60~65mv	C1	C0
65~70mV	C1	C1
70~80mv	C2	C2
80~90mv	C3	C3

METHOD OF PACKING

1、SOP6 products adopt two packaging methods: tape and material tube:

(1) Roll packing: 600PCS/ roll;

(2) Material tube packaging: 1400PCS/ box (20 tubes per box, 70PCS per tube)

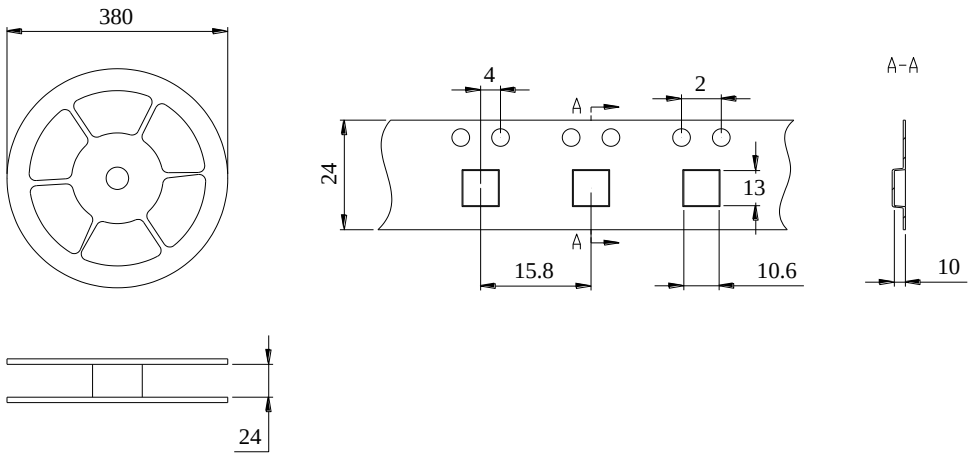


Figure 1. SOP6 tape packing diagram

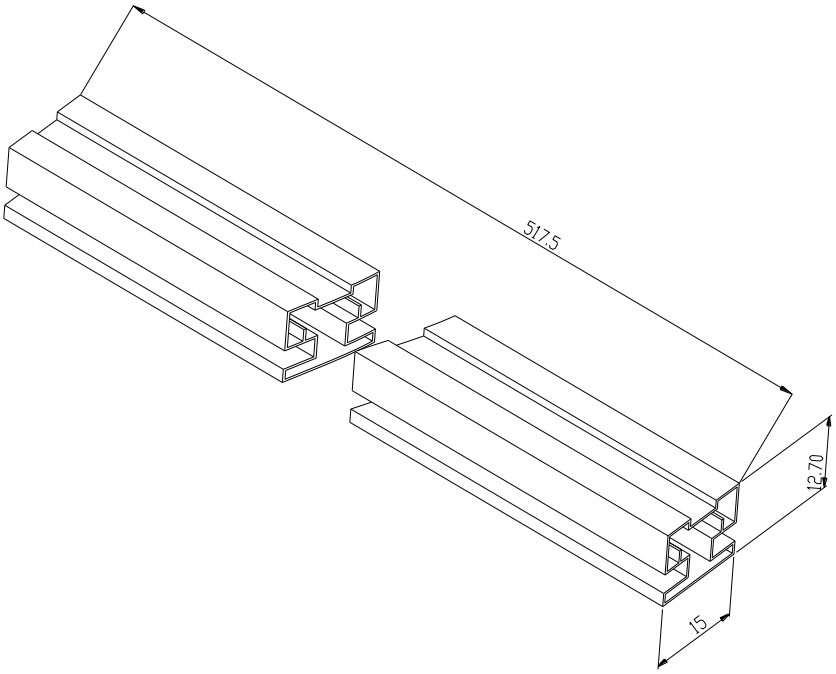


Figure 2. Schematic diagram of SOP6 single tube packaging

2、DIP6 products are packed with material tubes: 1220PCS/ box (20 tubes per box, 56PCS per tube).

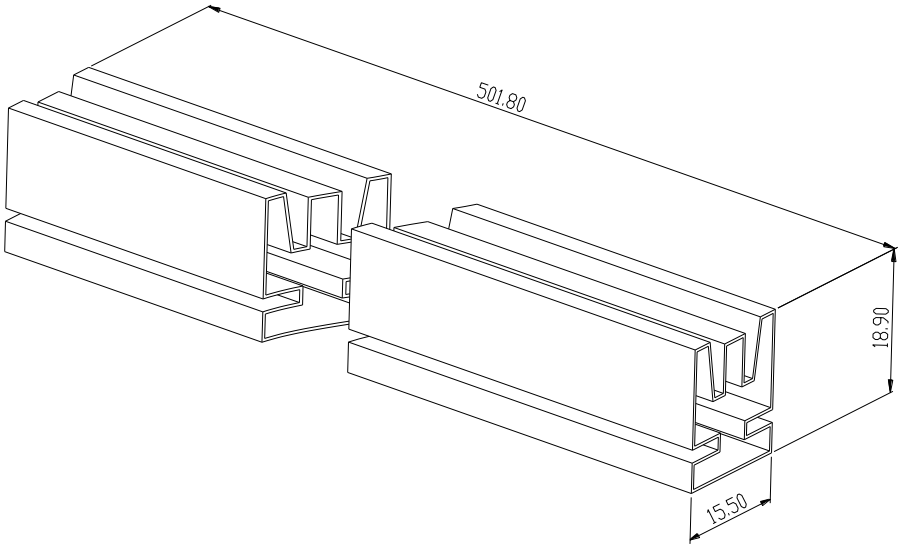


Figure 3. DIP6 single pipe packing diagram

PRECAUTIONS FOR USE

Requirements for reflow welding

The maximum welding temperature of BLWP040 series is not higher than 235°C, which can be set by referring to Figure 4

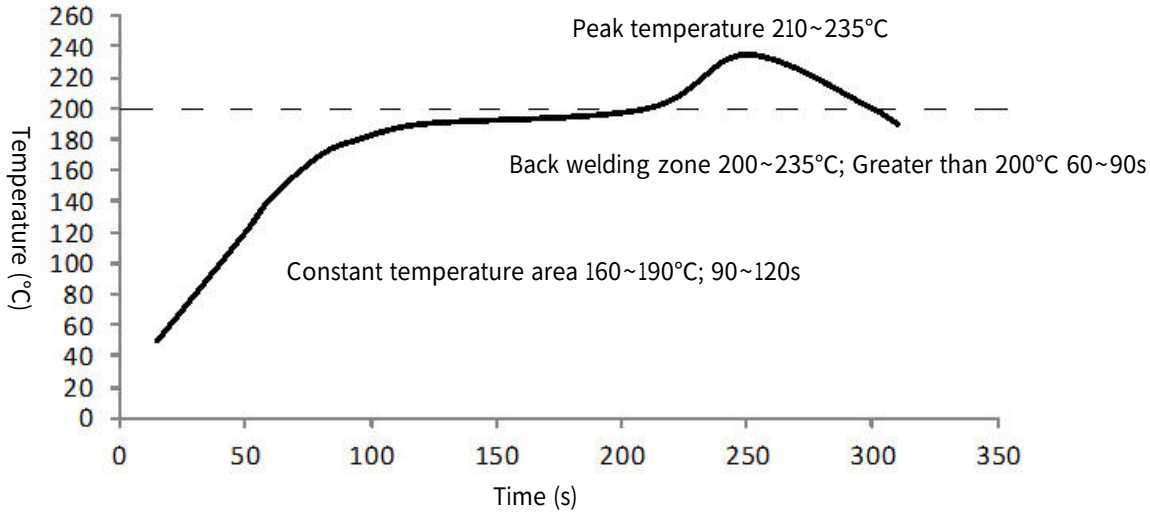
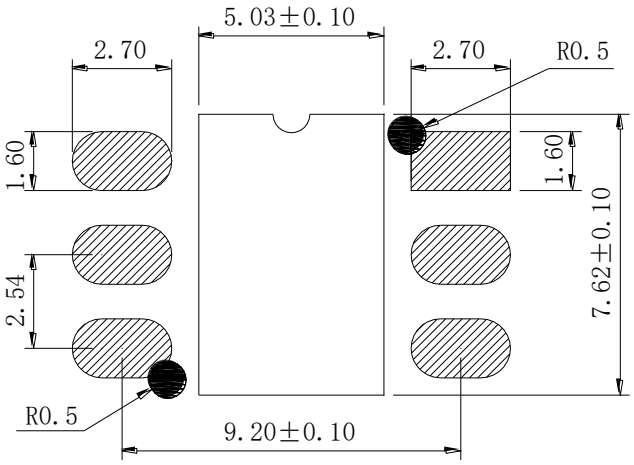


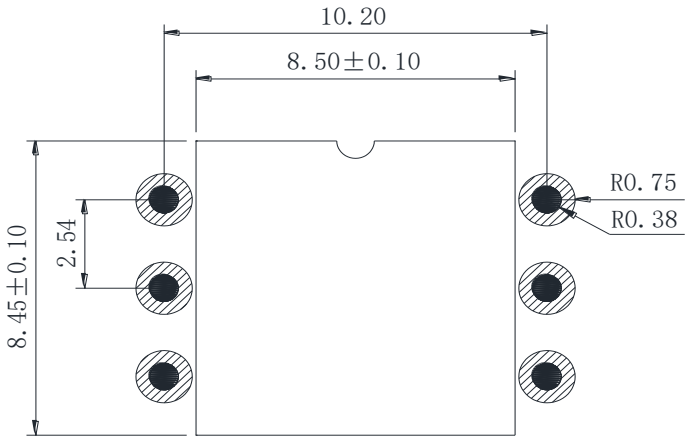
Figure 4. Welding temperature curve

INSTALLATION

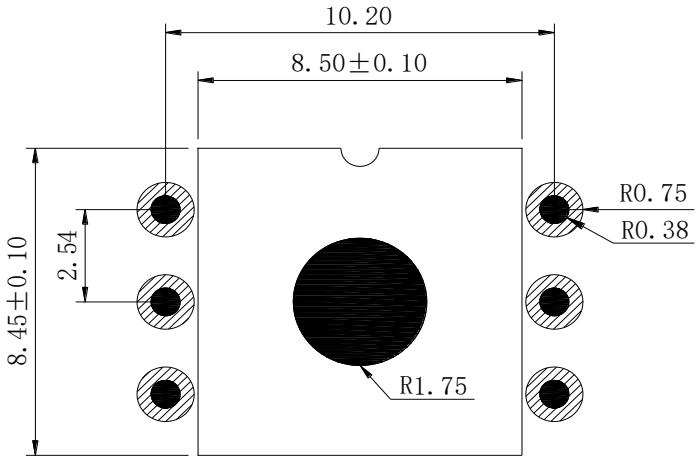
The surface mount layout is a key part of the overall design. Use the correct liner geometry to ensure safe and reliable welding connections to avoid Bridges and short circuits between weld points.



SOP6 Circuit Pad Layout Recommended drawing (mm)



DIP6-F Circuit Pad Layout Recommended drawing (mm)



DIP6-R Circuit Pad Layout Recommended drawing (mm)

Note: ●stands for perforation

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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