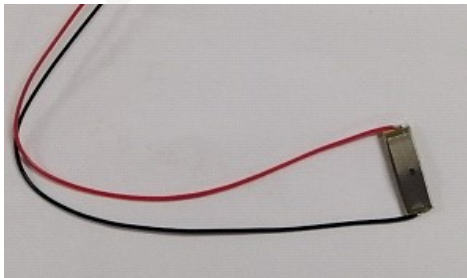


Piezo Haptic Element

Product No. 034340

BPH1204T138MW100 HF

Issue No. BS/TEY01.1246



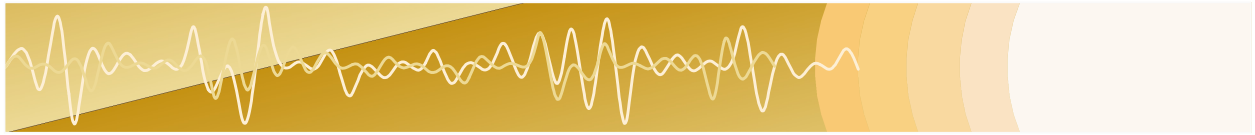
Features:

- High reliability
- High sensitivity
- Less power consumption
- Temperature performance
- RoHS

BESTAR Sensortech Co., Ltd.

www.bestarsensor.com | feng.gao@bestarsensor.com

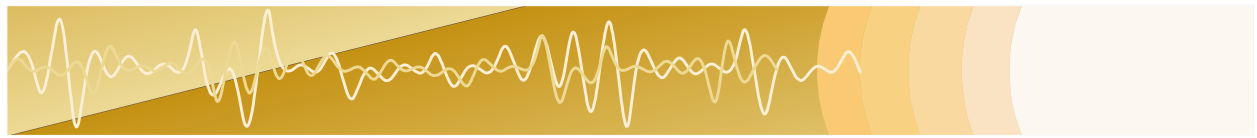




Content:

1 Characteristics	3
1.1 Technical terms	3
1.2 Test method	4
2 Part List	6
3 Dimension	7
4 Reliability Test	8
5 Packing	9
5.1 Packing drawing	9
5.2 Packing quantity	9
6 History change record	10
7 Important Notice	11



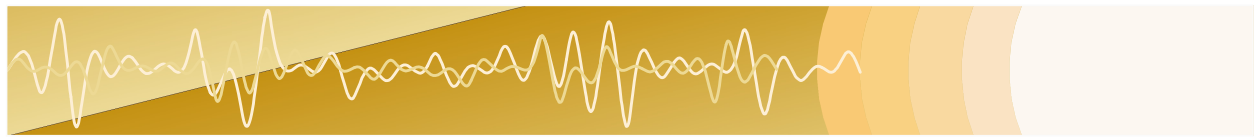


1.Characteristics

1.1Technical terms

1. Capacitance at 1KHz/1Vrms	420±20% nF
2. Acceleration unipolar	
100 g, single pulse sine wave, 200 Hz, 0...60 V	5~10g(peak)
Acceleration bipolar	
100 g, single pulse sine wave, 200 Hz, -10..10 V	2~4g(peak)
3. Curie Temperature	>280 °C
4. D33	>450 pC/N
5. Resonant frequency	38±0.5KHz
6. Operating Voltage	-10...+60 V
7. Electrode	Ag
8. Positive mark	Ink pot
9. PZT Material	PZT 5
10. Weight	0.6g
11. Operating Temperature	-40...+85 °C
12. Storage Temperature	-40...+125 °C





1.2 Test method:

1.2.1 Resonant Frequency

Piezoelectric should be hung vertically downwards from the electrical connection and measure its frequency by using impedance analyzer at room temperature.

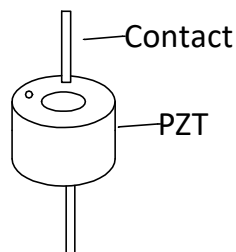
Input frequency shall be swept within 30-45kHz and the step size is less than 50 Hz, where the resonant frequency is defined.

1.2.2 Capacitance

An electrostatic capacity capacitance shall be measured at 1KHz by using LCR meter, such as DF2812A LCR numerical bridge or equivalent. The part shall be clamped in the same way as the measurement of resonant frequency mentioned in section 1.2.1.

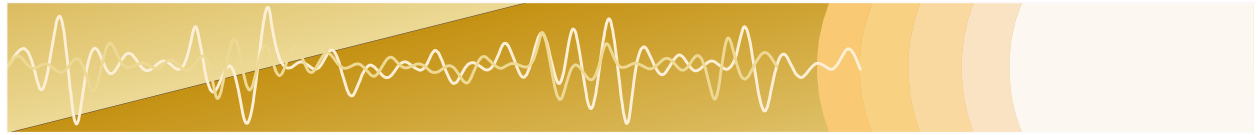
1.2.3 Positive Test

The positive test should be measured by using d33 quasi static instrument. The part shall be clamped on the vibrating table. The positive mark side is up.

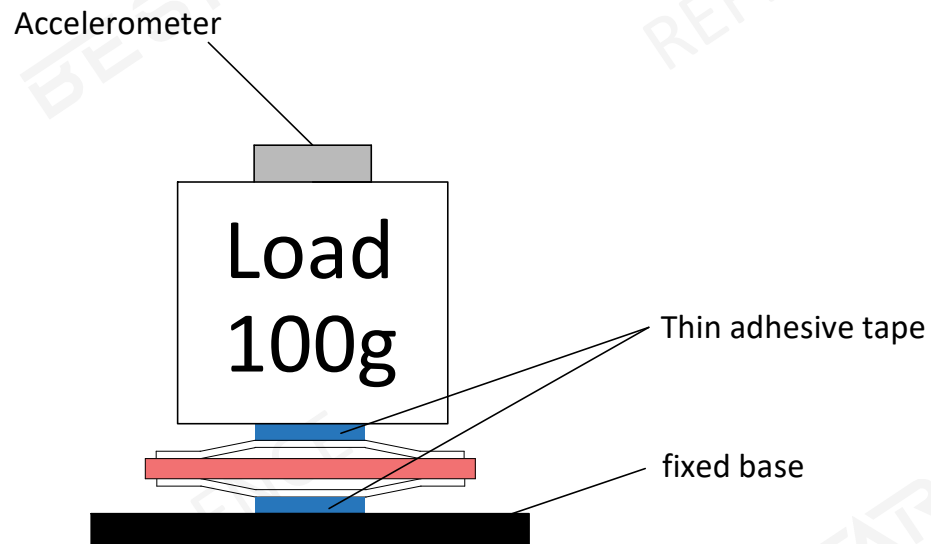


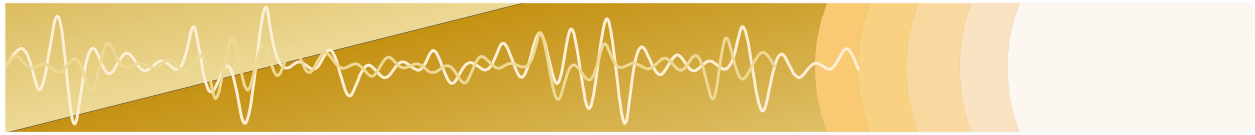
Parts shall be measured under a condition (Temperature: +15°C to +30°C, Humidity: 60 to 90% R.H.) unless the standard condition (Temperature: +25±3°C, Humidity: 60±10% R.H.) is regulated to measure.



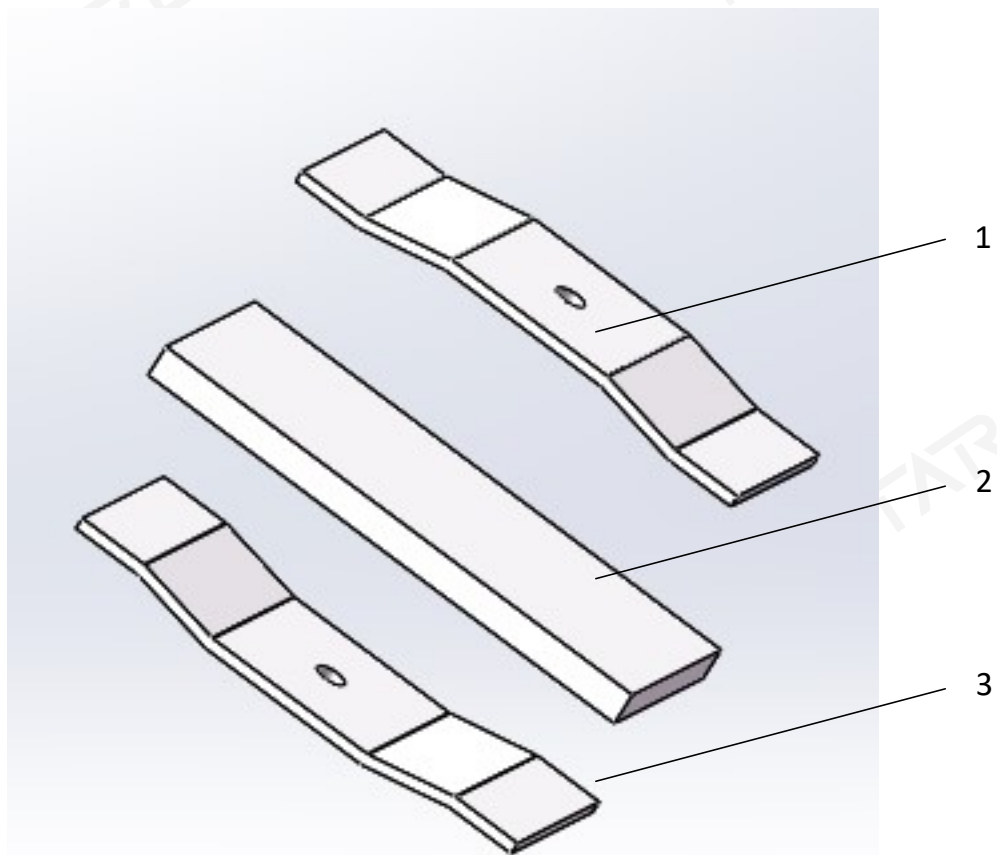


1.2.4 Acceleration test





2.Part List

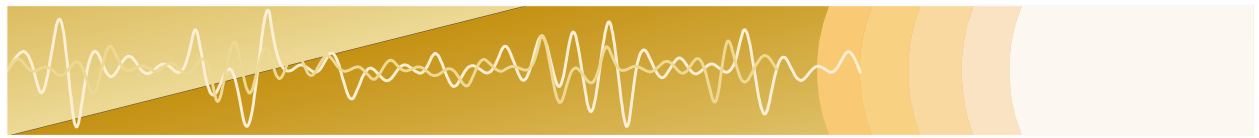


3. sheetmetal

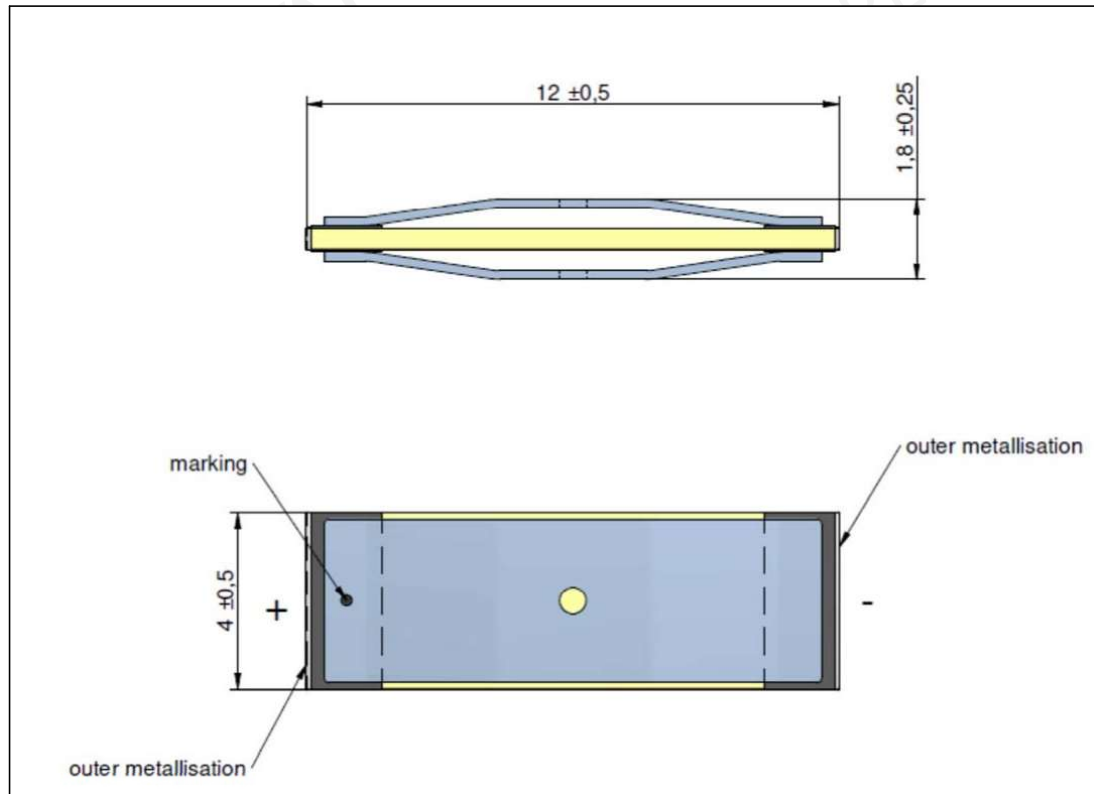
2. PZT

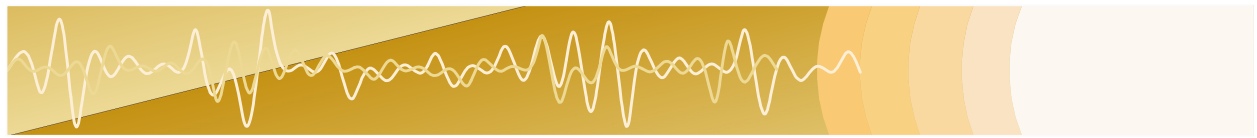
1. sheetmetal





3. Dimension





4. Reliability test

4.1 High temperature test

Temperature

+85°C

Duration

240hrs

4.2 Low temperature test

Temperature

-40°C

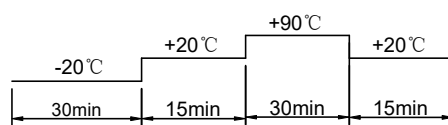
Duration

240hrs

4.3 Temperature cycle test

Cycles

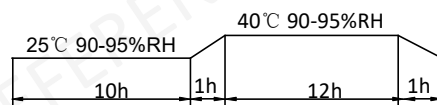
15



4.4 Humidity cycle test

Cycles

5



4.5 Accelerated Life Test (ALT)

Temperature

200°C

Duration

2hrs

4.6 Vibration Test

Vibration Frequency

10-55Hz

Amplitude

1.5mm

Duration x,y&z directions

30min

4.7 Solderability test

Solderability temperature

245±5°C

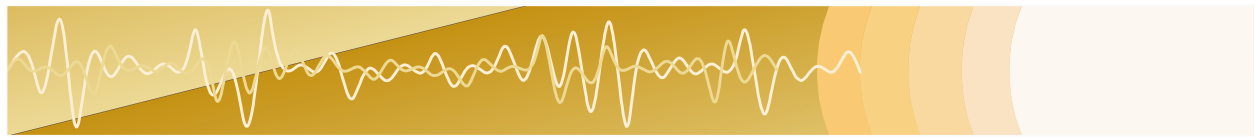
Heat applying time

3±0.5sec

All test should be carried out after 24 hours when the PZT picked up from the experiment box.

All specifications must be satisfied in this condition.



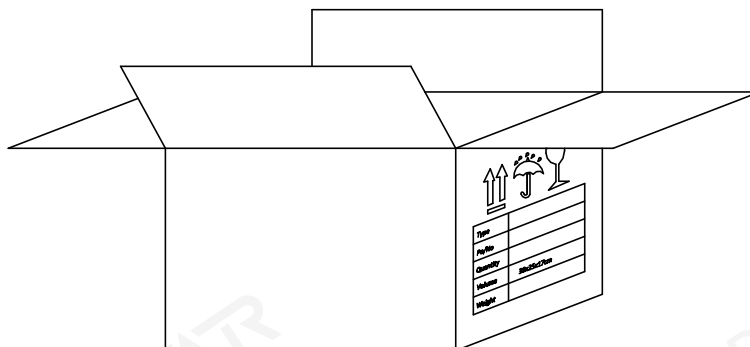


5. Packing

5.1 Packing drawing (unit:mm)

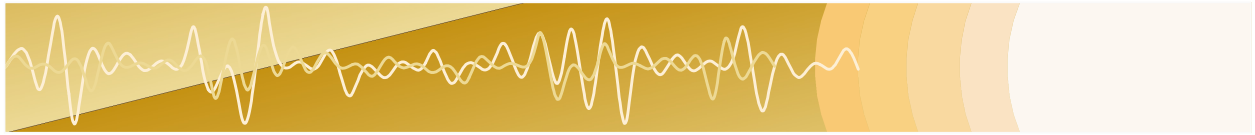


5.2. Packing quantity



Quantity: { 100 PCS/Plastic case(180*110*30mm)
20 Plastic case /Box
2000 PCS/Box(390*250*170mm)

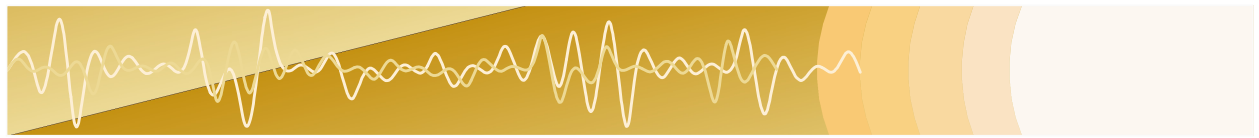




6. History change record

Version	Change Items	Date	Drawn	Checked	Approved
A	First Edition	2021.07.22	Caishuqi	Qiujun	Gaofeng





7.Important Notice

7.1 The products mustn't be washed

7.2 Store Condition (packing)

The products should be stored in the room ,where the temperature/humidity is stable.

And avoid such places where there are large temperature changes. Please store the products at the following conditions:

Temperature: -30 to + 85℃ Humidity: 15 to 85% R.H.

7.3 Expire Date on Storage

Expire date (Shelf life) of the products is twelve months after delivered under the conditions of a sealed and an unopened package. Please use the products within twelfth months after delivered.

7.4 Notice on Product Storage

(1) Please do not store the products in a chemical atmosphere (Acids, Alkali, Bases, Organic gas, Sulfides and so on), because the characteristics may be reduced at quality, and/or be degraded in the solderability due to the storage in a chemical atmosphere.

(2) Please use the products immediately after the package is opened, because the characteristics may be reduced at quality, and/or be degraded in the electrode pull-off force due to storage under the poor condition.

7.5 Notice on Transfer

PZT is fragile. Please be careful when transfer. Keep the PZT away from the damage

