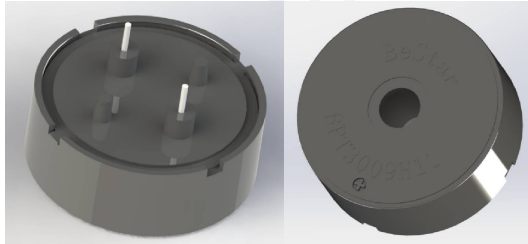


## Piezoelectric Buzzer

Product No. 035314

BPT3009H11-06B

Issue No. BS/TEP01.1091



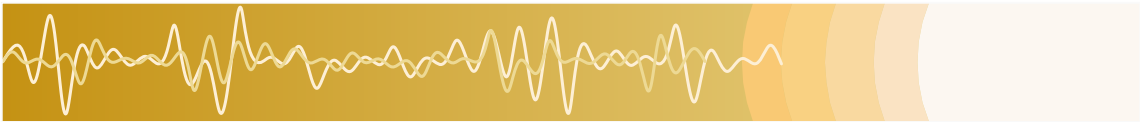
### Features:

- External driving circuit
- Loud sound output
- RoHS

BESTAR Holdings Co., Ltd.

[www.be-star.com](http://www.be-star.com) | [info@be-star.com](mailto:info@be-star.com)

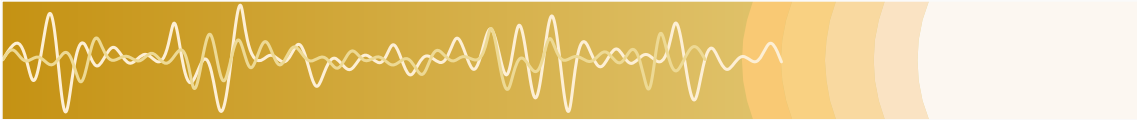




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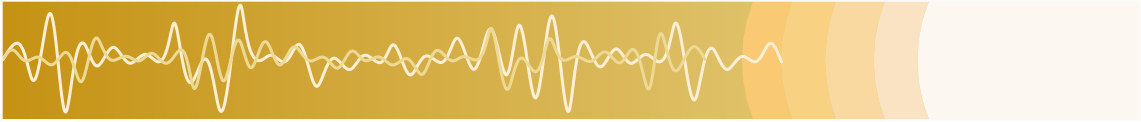
## 1. Characteristics

### 1.1 Technical terms

1. Rated Voltage (Square Wave)	12Vp-p
2. Operating Voltage	1- 35Vp-p
3. *Rated Current	≤10mA
4. *Sound Output at 10cm ,2500Hz	≥100dB
5. Resonant Frequency	2500Hz
6. Capacitance at 120Hz	50±30%nF
7. Weight	≈6g
8. Operating Temperature	-20...+70°C
9. Storage Temperature	-30...+70°C

\*Value applying at rated voltage.



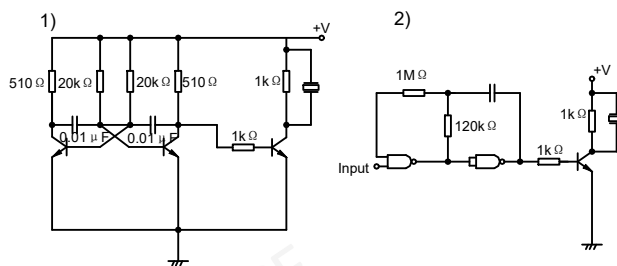


## 1.2 Test method:

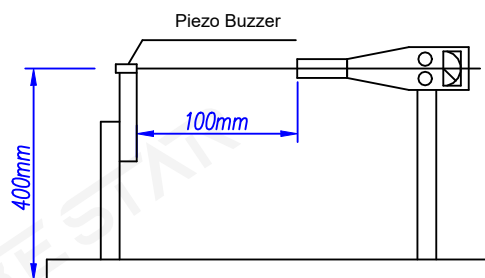
### 1.2.1.Recommended Circuit

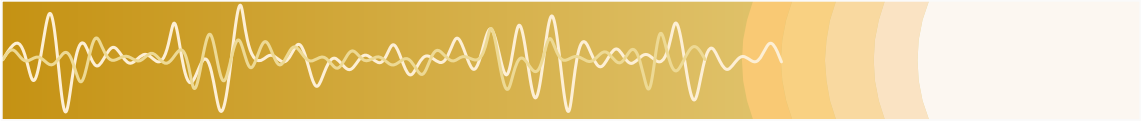
The following are examples of externally driven circuits.

- 1) Unstable multi-vibrator using Tr.
- 2) Circuits using inverters or NAND gates.



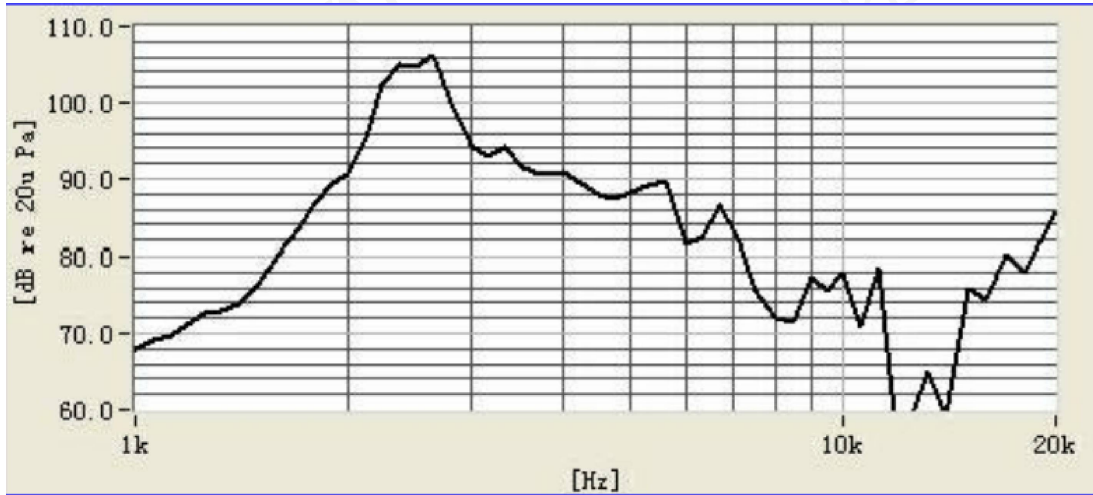
### 1.2.2.Standard text Fixture



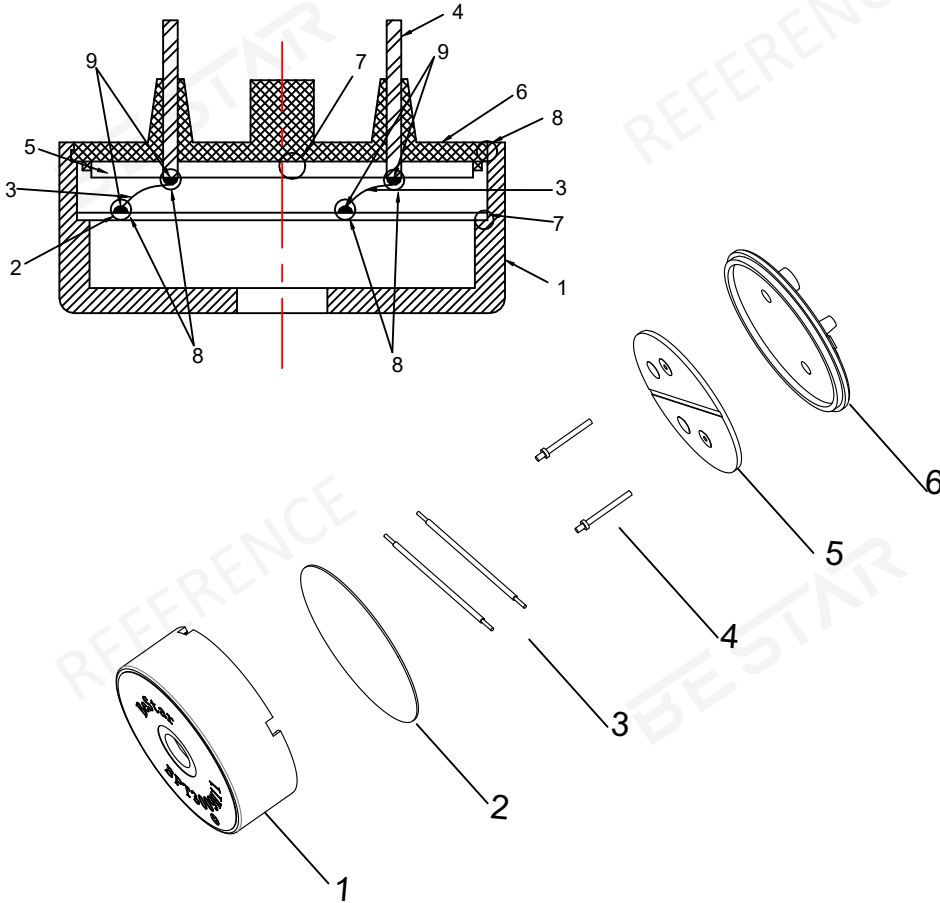


### 1.3 Frequency Response Curve (only for reference)

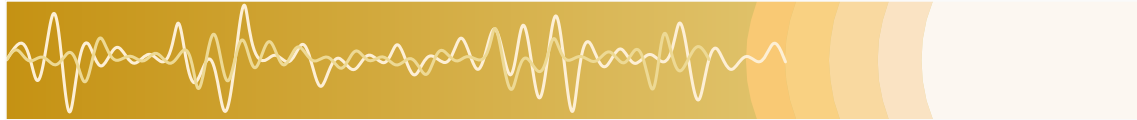
Frequency response(Square wave 12Vp-p 10cm)



## 2.Part List

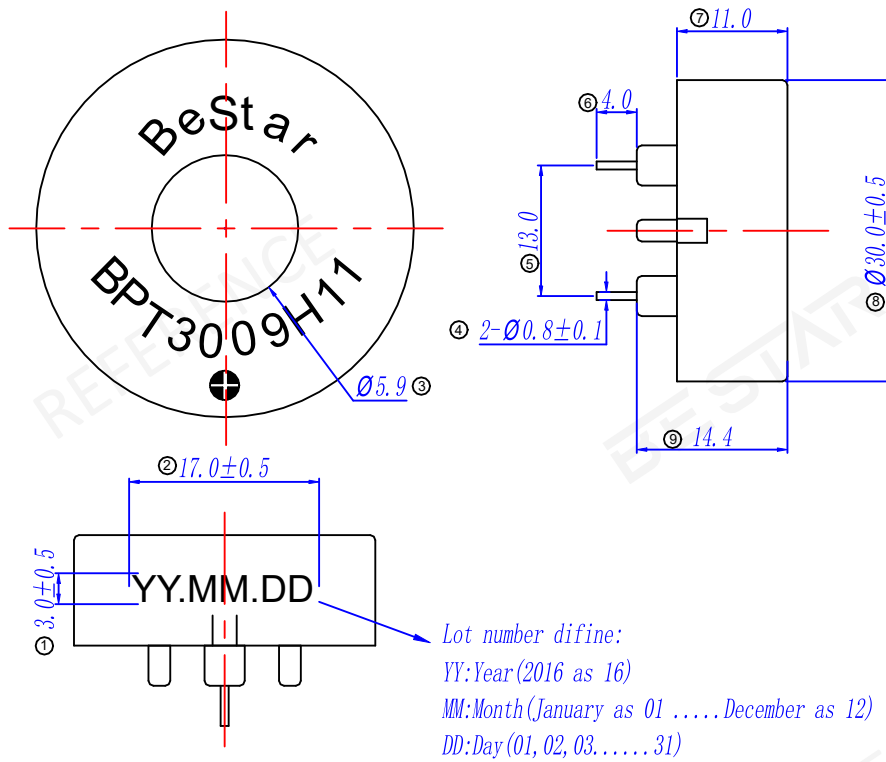


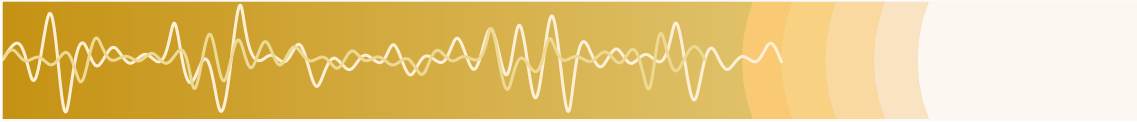
9. Tin solder	Lead free
8. Glue	5811
7. Glue	704 White
6. Plastic cover	ABS 777D Black
5. PCB	FR-4
4. Metal pins	φ0.8 copper plating TIN
3. Wires	UL3302 32# Red 25*1.5*1.5mm
2. Piezo plate	FT-27G-4.0A1(stainless steel and ceramic
1. Plastic housing	ABS 777D Black



### 3. Dimension

Tolerance:  $\pm 0.3\text{mm}$





## 4. Reliability test

### 4.1 High temperature test

Temperature	+70°C
Duration	96hrs

### 4.2 Low temperature test

Temperature	-30°C
Duration	96hrs

### 4.3 Temperature cycle test

Cycles		5
--------	--	---

### 4.4 Humidity cycles test

Cycles		5
--------	--	---

all these tests above should be measured after leaving normal temperature for 2hrs.

### 4.5 Life test in normal temperature

Power supply	Rated voltage
Duration	1000hrs

### 4.6 Vibration Test

Vibration Frequency	10~200~10Hz
Time	15min
Acceleration	5g
Direction	x.y & z 2h (total 6hrs)

### 4.7 Solderability

Temperature of soldering pot	255°C±5
Duration	3±0.5sec

### 4.8 Drop test

Height	70cm
(to 10mm thickness woodenboard)	
Direction	3





#### 4.9 Wave Soldering Condition

##### Soldering(wave soldewing)

(1)Solderings of The Sound Transducers shall conform to the soldering conditions in the individual specifications.

(2)The Sound Transducers are designed for"Wave Solderings"

(3)In the wave solderings,too high soldering temperatures and too large tempearture gradient such as rapid heating or cooling may cause electrical failures and mechanical damages of the devices.

Follwing soldering conditions are recommend;Refer to Fig.1

Temperature profile for a lead-free wave soldering process

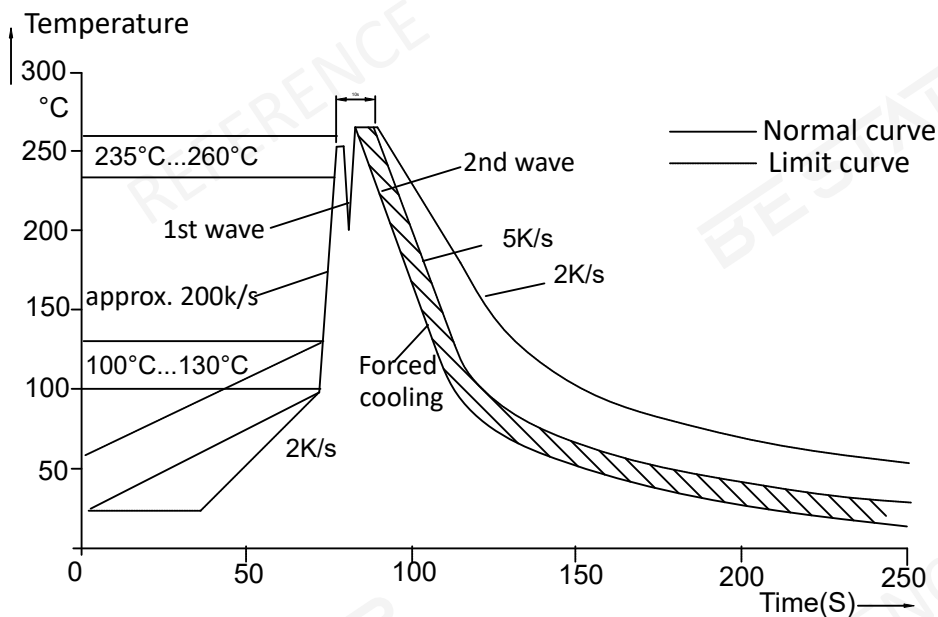
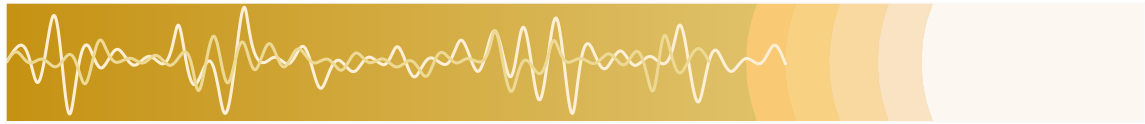


Fig. 1 Recommended soldering Temperature-Time profile (wave soldering)

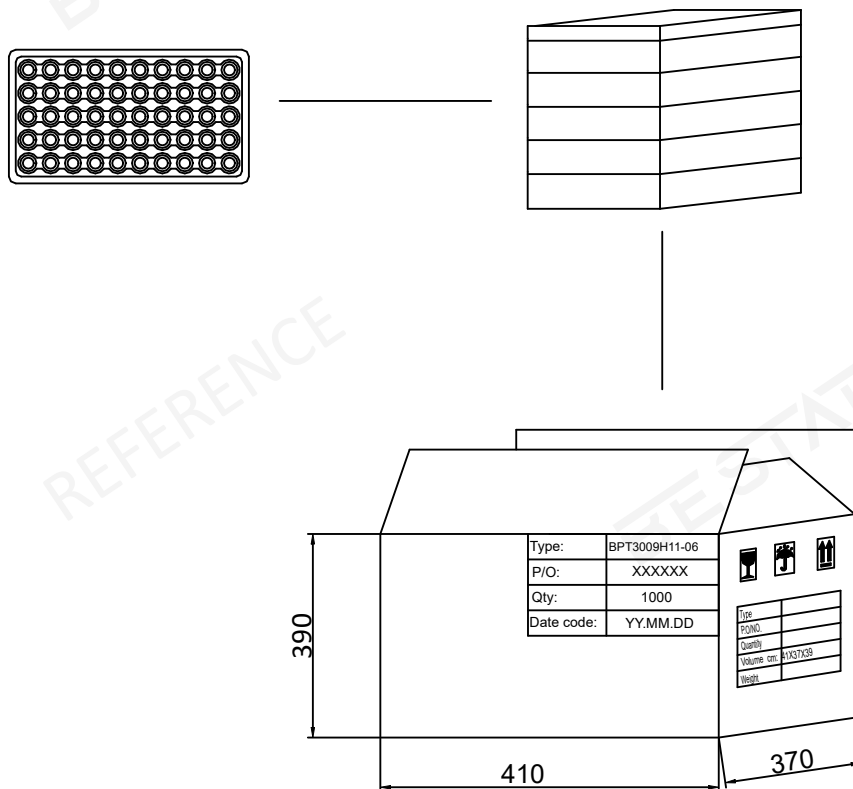
Notice: All specification must be satisfied in this condition.

SPL: allowable deviation  $\pm 10\text{dB}$  of the initial value after testing



## 5. Packing

### 5.1 Packing drawing (unit:mm)



### 5.2 Packing quantity

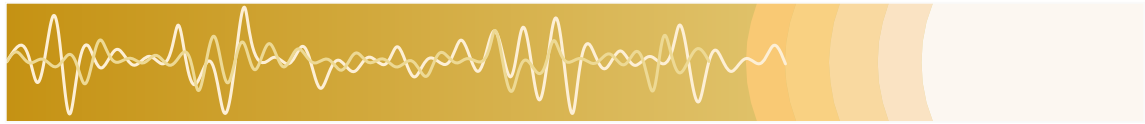
50 pcs per tray

20 trays per carton

1000 pcs per carton in total

Carton size: 410x370x390mm

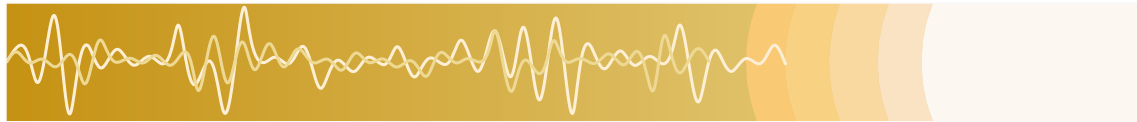




## 6. History change record

Version	Change Items	Date	Drawn	Checked	Approved
A	First Edition	2016.07.19	Coco.Sun	Chunhuan.Wei	Hansen.Tao
B	Add lettering information、Component parts and materials、Wave Soldering Condition	2016.10.12	Coco.Sun	Chunhuan.Wei	Hansen.Tao
B1	Part Number"BPT3009H11-06"changed to "BPT3009H11-06A "	2020/03/10	Coco.Sun	Chunhuan.Wei	Hansen.Tao
B2	Part Number"BPT3009H11-06A"changed to "BPT3009H11-06B " The production site was changed from Handeli to Bosu	2020/11/12	Coco.Sun	Chunhuan.Wei	Hansen.Tao
B3	Update version	2021/05/10	Coco.Sun	Chunhuan.Wei	Hansen.Tao





## 7. Important Notice

### 7.1 The products mustn't be washed

### 7.2 Store Condition ((Packaging)

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: -10 to + 40 °C Humidity: 15 to 85% R.H.

### 7.3 Expire Date on Storage

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

If you store the products for a long time (more than six months), use carefully because the products may be degraded in the solderability and/or rusty. Please confirm solderability and characteristics for the products regularly.

### 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 solderability due to storage under the poor condition.

(3) Please do not drop the products to avoid cracking of ceramic element.

### 7.5 Rated Voltage

For External Drive Circuitry Buzzer ( Vp-p)

