

# BPE 0905S A

PIEZO BUZZER

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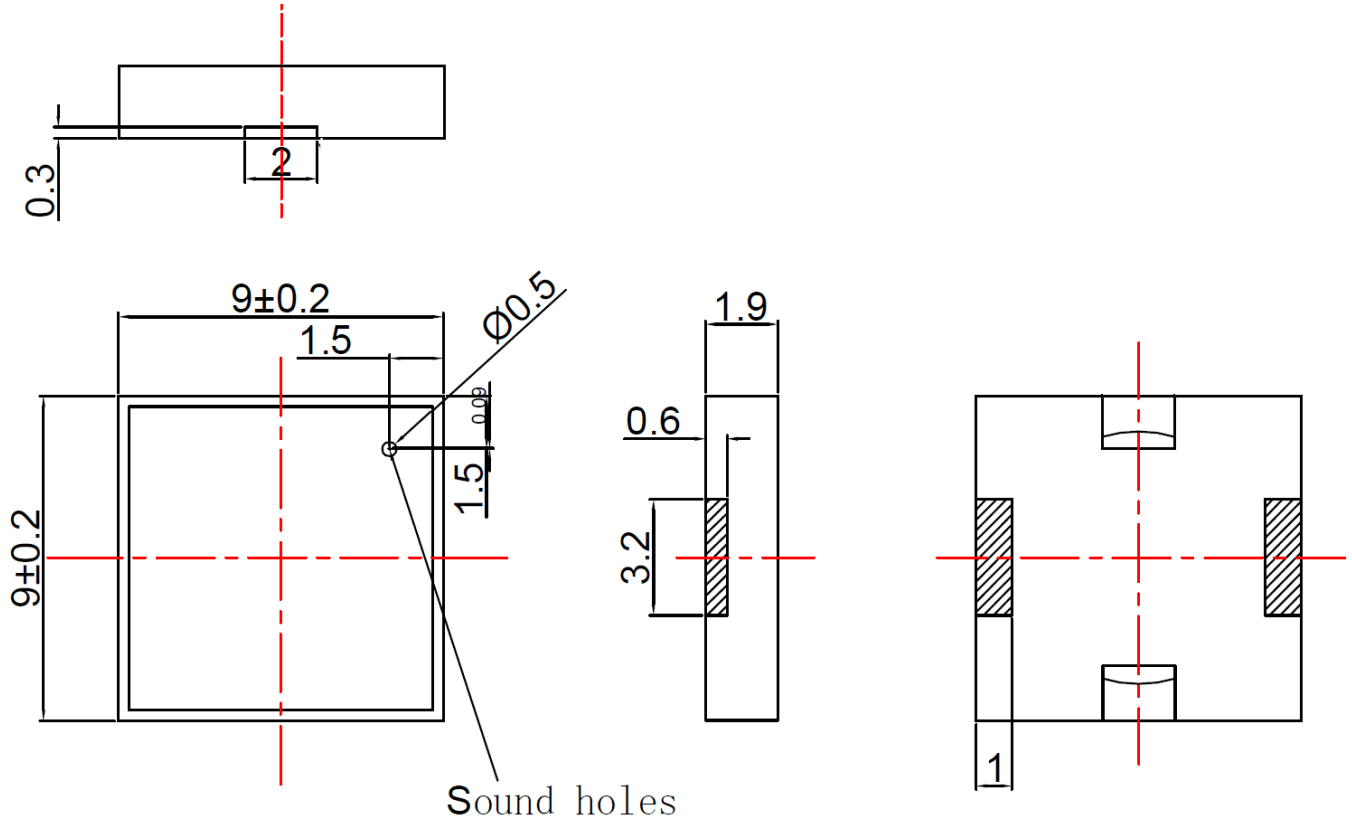


## 1. SPECIFICATIONS

Parameter	Unit	Conditions / Description	MIN	TYP	MAX
Rated Voltage	Vp-p	Square wave		5	
Operating Voltage	Vp-p		1		25
Rated Current	mA	Value applying at rated voltage (5Vp-p square wave,1/2duty)			3
Capacitance	nF	At 100Hz	8.4	12	15.6
SPL	dB	Value applying at rated voltage (5Vp-p square wave,1/2duty), at 4.100Hz In 10cm distance	68		
Resonance Frequency	Hz			4.100	
Plating layer of plate				TIN	
Contact				SMD	
Packaging				REEL	
Operating Temperature	°C		-20		+70
Storage Temperature	°C		-30		+80
Weight	g				0.3

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### 2. DRAWING



Tolerance:  $\pm 0.3$  Unit: mm

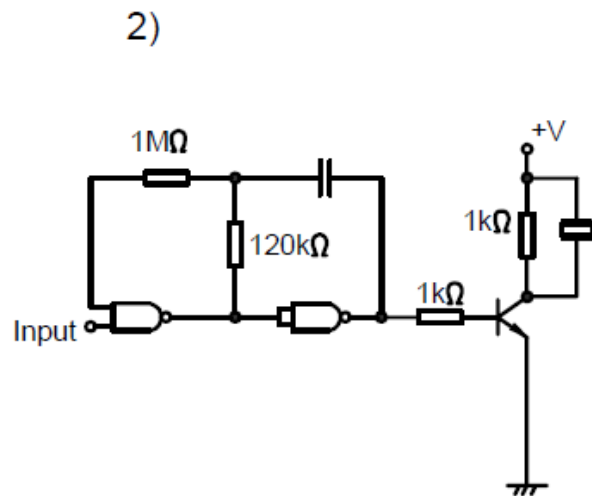
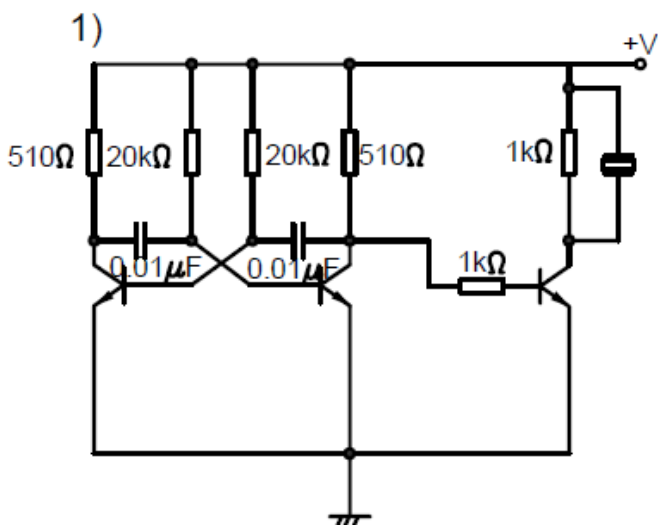
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### 3. TEST METHOD

#### 3.1 RECOMMENDED CIRCUIT

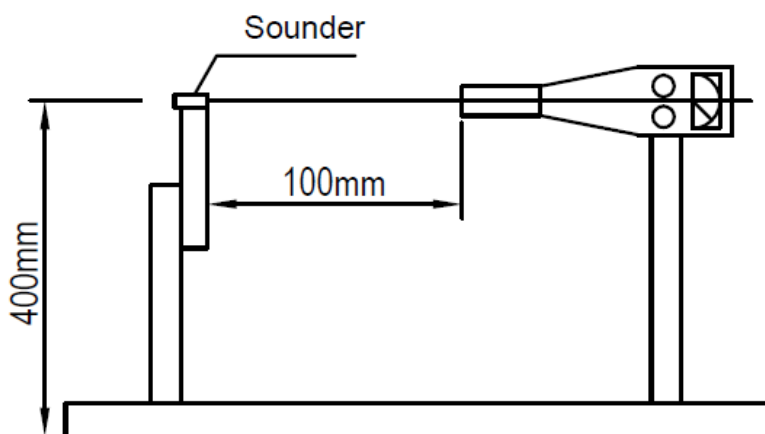
The following are examples of externally driven circuits.

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



#### 3.2 STANDARD TEST FIXTURE

No reaction in space with in 400mm in all direction



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**4. RELIABILITY TEST**

**4.1 High Temperature Test**

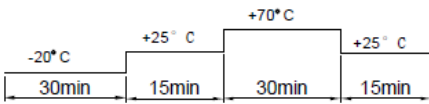
Temperature +80°C  
Duration 96 hours

**4.2 Low Temperature Test**

Temperature -30°C  
Duration 96 hours

**4.3 Temperature Cycle Test**

Cycles 5



**4.4 Humidity Test**

Temperature +40°C  
Relative Humidity 90~95% RH  
Duration 96 hours

All these tests above should be measured after leaving normal temperature for 2 hours.

**4.5 Vibration Test**

Vibration Frequency 10~55Hz  
Amplitude 1.5mm  
Duration 2 hours each of 3 axis

**4.6 Drop Test**

Height 75 cm (to 40mm thick wooden board)  
Direction 3

**4.7 Solderability**

Temperature 300 ± 5°C  
Duration 3 ± 1 seconds

**4.8 Solder Heat Resistance**

Temperature 255 ± 10°C  
Duration 30 seconds

**Notice:**

All specification must be satisfied in this condition. SPL: allowable deviation ±5dB of the initial value after testing

**5. REFLOW CONDITION**

Temperature profile for a lead-free reflow process

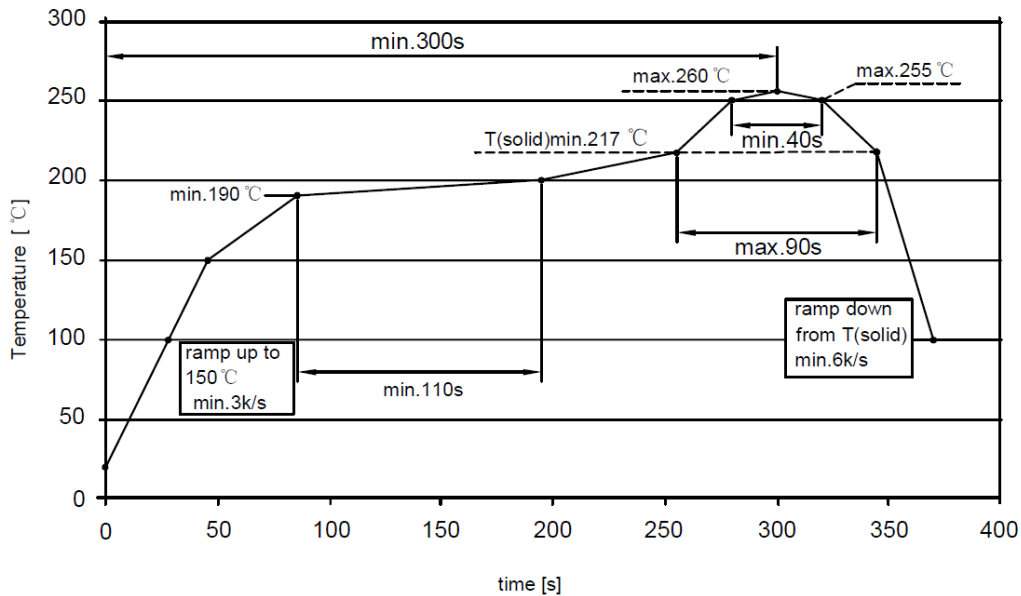
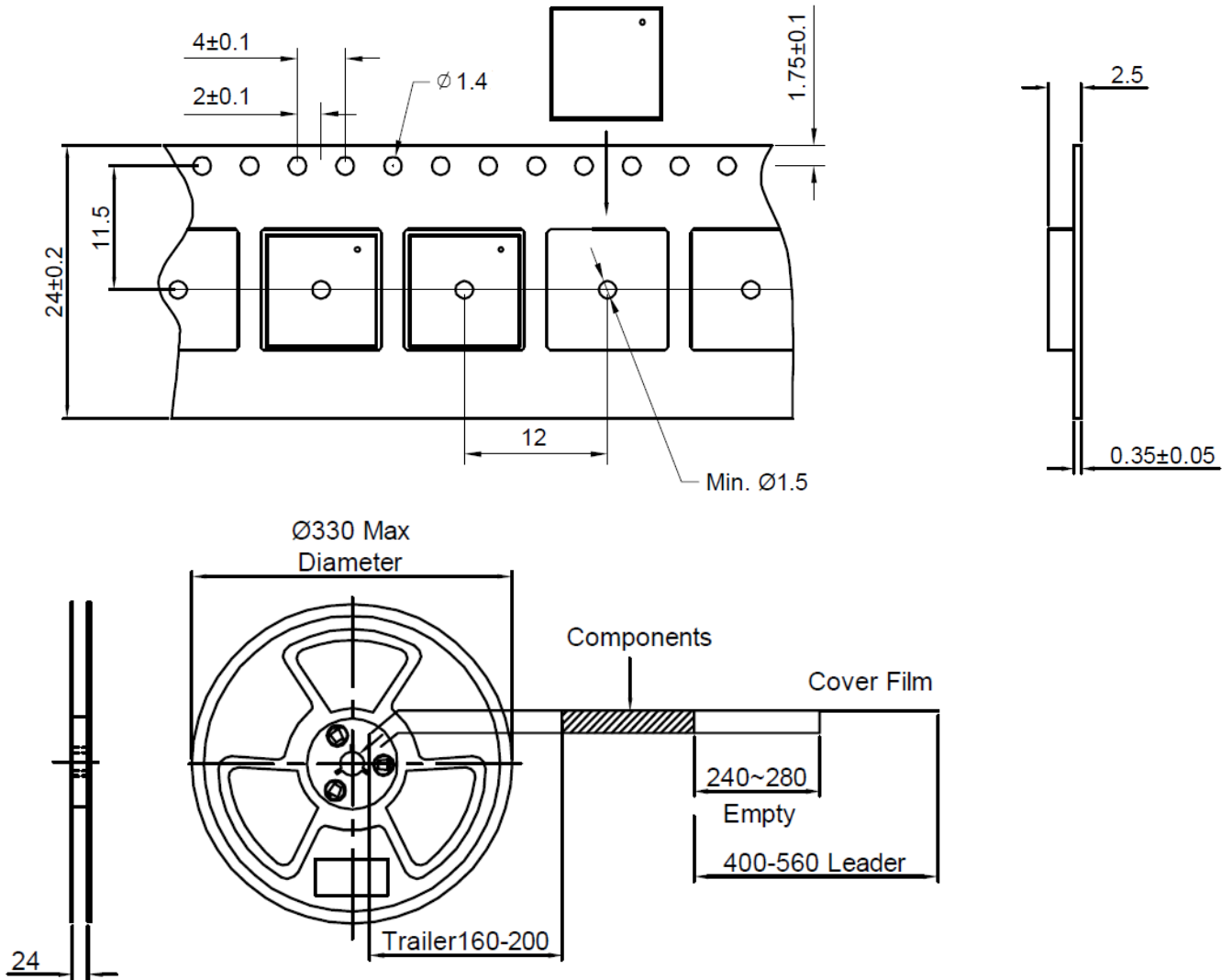


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

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6. PACKING

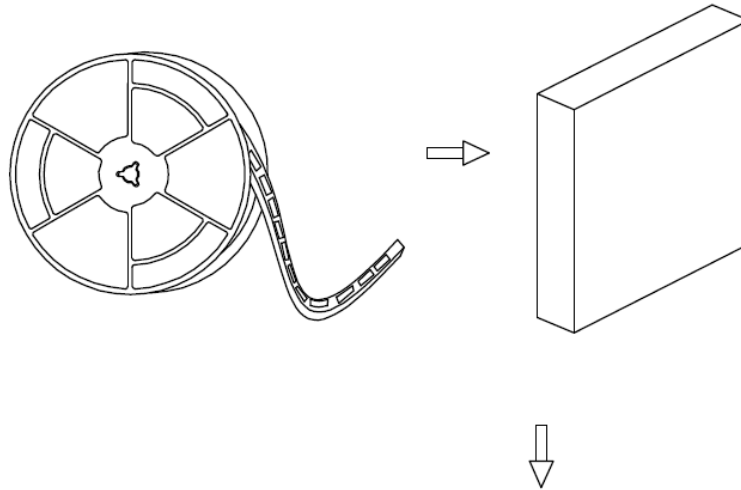
6.1 PACKING DRAWING



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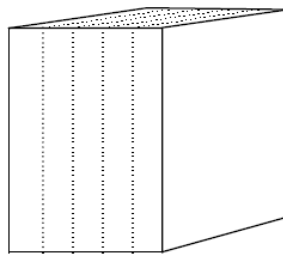
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## 6.2 PACKING QUANTITY

- 1000pcs per reel
- 5 reels per carton
- 5000pcs per carton in total
- Carton size: 38x28x37cm
- 12 cartons per tray
- Tray size: 85x77x74cm



## 7. NOTICE

### 7.1 The products mustn't be washed

### 7.2 Storage Condition

The products should be stored in a 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 delivery under the conditions of a sealed and an unopened package. Please use the products within six months after delivery. If you store the products for a long time (more than six months), Use them 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 in 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 in 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.

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8. HISTORY CHANGE RECORD

REV	CHANGE ITEMS		DATE
	BEFORE CHANGE	AFTER CHANGE	
1	Old Layout	New Layout	2019.11.07

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