

# SPECIFICATION FOR APPROVAL

**Customer :**

**Description :** Piezo Audio Transducer

**Soberton Part No. :** PB-1408-1

**Date :** 2007-03-31

**Customer Model No. :**

<b>Date of Approval</b>	
<b>Authorization Signature</b>	

Soberton Inc.

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<b>Approved</b>	<b>Checked</b>	<b>Issue</b>
<b>Wang Xue Wen</b> 2007/03/31	<b>Shi Cong</b> 2007/03/31	<b>Tang Yu Jing</b> 2007/03/31

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## 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

	Item	Unit	Specifications
1-1	Rated Voltage	V	12
1-2	Operating Voltage	V	3-16
1-3	* Rated Current ( Max )	mA	7
1-4	* Min Sound Output at 10cm	dB	80
1-5	* Resonant Frequency	Hz	4000±500
1-6	Tone Nature		Single
1-7	Operating Temperature	°C	-20~+70
1-8	Storage Temperature	°C	-30~+80
1-9	Weight	g	1
1-10	Housing Material	Noryl (Black)	
1-11	Lead Pin Material	Red Copper	

\* Value Applying at Rated Voltage(DC) ( resonant frequency , 1/2 duty , square wave )

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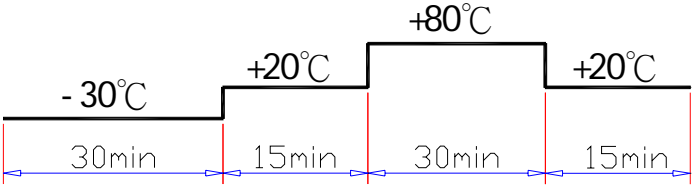
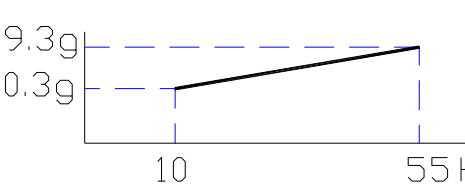
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## ENVIRONMENTAL TEST

	Item	Specifications
2-1	Storage in High temp.	Storage in $+80^{\circ}\text{C}\pm 2^{\circ}\text{C}$ test box for 240 hours , then expose to the room temperature for 2 hours without applying power.
2-2	Storage in Lower temp.	Storage in $-30^{\circ}\text{C}\pm 2^{\circ}\text{C}$ test box for 240 hours , then expose to the room temperature for 2 hours without applying power.
2-3	Storage in Humidity	Storage in $+40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ 90-95%RH test box for 96 hours, then expose to the room temperature for 2 hours without applying power.
2-4	Thermal cycle test.	 <p>Make this test for 5 cycles without applying power, then expose to the room temperature for 2 hours.</p>
2-5	Vibration test	 <p>Amplitude:1.5mm Time :1min/axis</p> <p>Make this test for the directions of X,Y, Z for 2 hours each (total 6 hours).</p>
2-6	Drop test	Free drop a unit from the height 100cm to the surface of 10mm thick board ,three directions(X,Y,Z).
2-7	Solderability test	Soldering temp.: $260\pm 5^{\circ}\text{C}$ Heat applying time: $3\pm 0.5\text{sec}$ .

PASS CRITERION :

After these tests , the change of S.P.L shall be within  $\pm 5$  dB .

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## 3.MEASURING METHOD(BUZZER MODE)

### 3-1 .Test Condition

#### 3-1-1.STANDARD

Temperature :  $25\pm 3^{\circ}\text{C}$

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

#### 3-1-2.JUDGEMENT

Temperature :  $15 \sim 35^{\circ}\text{C}$

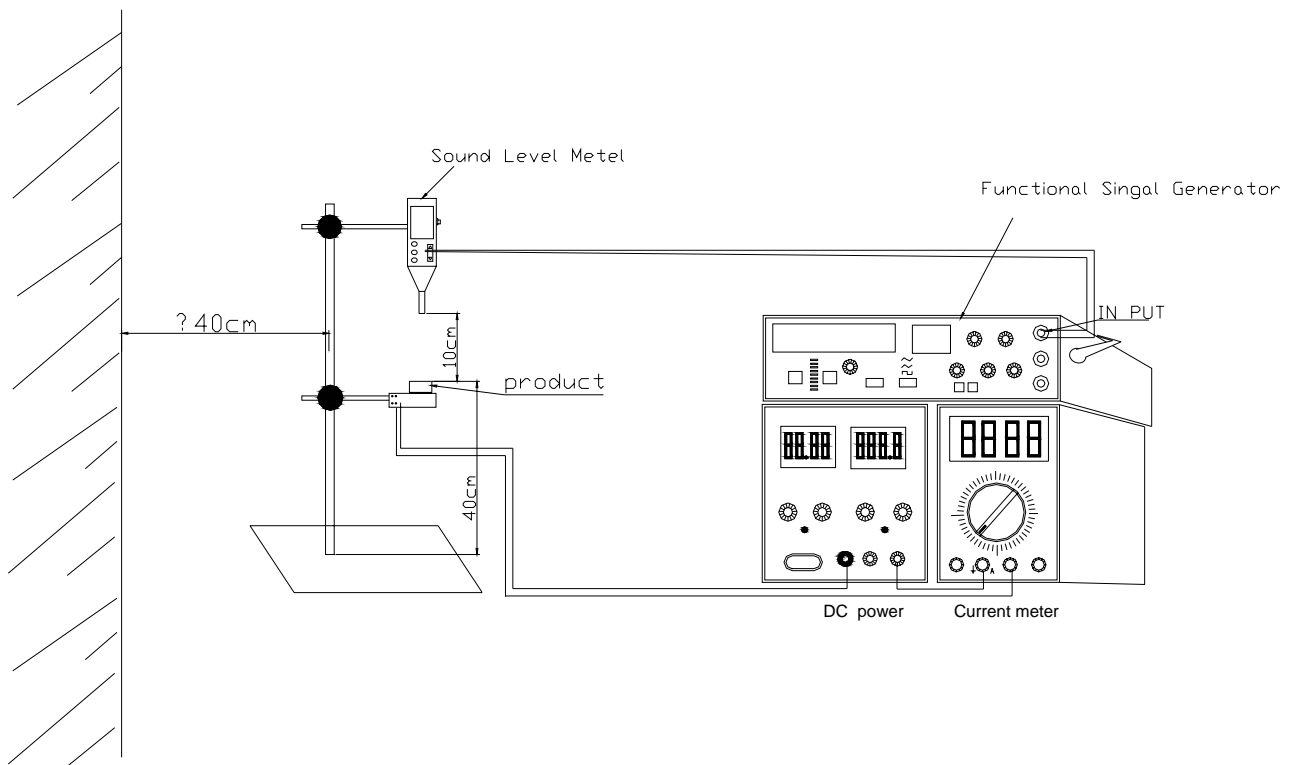
Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### 3-2 . Standard Test Fixture

1.rated Voltage(Square wave): 12V

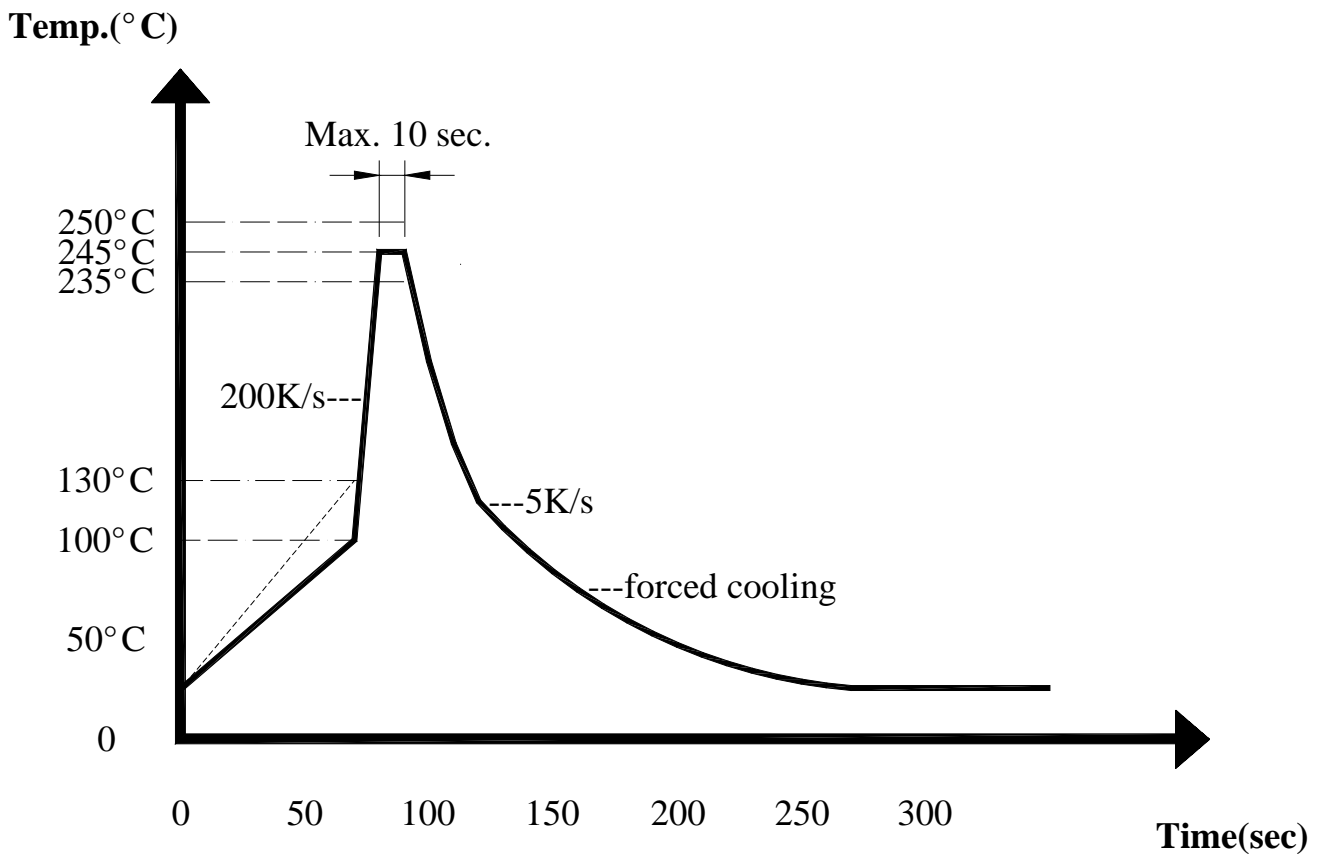
2.Resonant Frequency:  $4000\text{Hz}\pm 500$



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## 4. WAVE SOLDER CURVE

### \* Wave Soldering profile of lead-free



Recommendable wave soldering condition is as follows.

Note 1: It is requested that wave soldering should be executed after heat of product goes down to normal temperature.

Note 2: Peak wave temperature of 235°C ~ 250°C maximum of 10 sec. .

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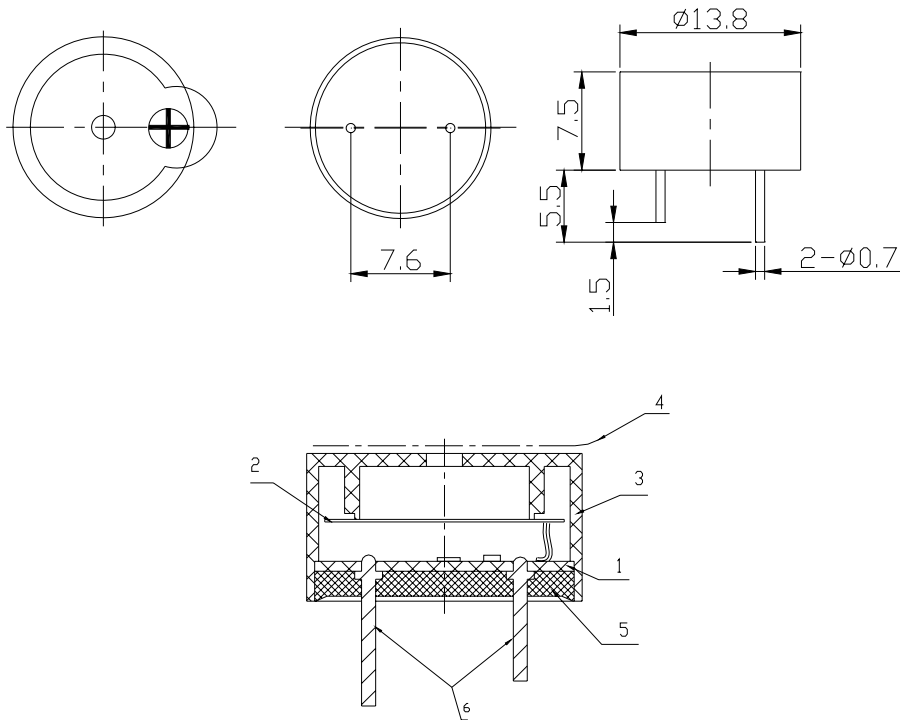
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## 5.DIMENSIONS

Unless otherwise specified, Tolerance:±0.5(Unit: mm)



6	Lead pin	2	Red Copper	
5	Epoxy		Resin	
4	Masking label	1	Paper	
3	Housing	1	Black Noryl	
2	Piezo element	1	Nickel	
1	PCB	1	Epoxy Board	
Part No.	Part Name	Q'TY	Material	Remark

1 : All parts must be meet to ROHS.

2 : Wave solder allowed , wash not allowed.

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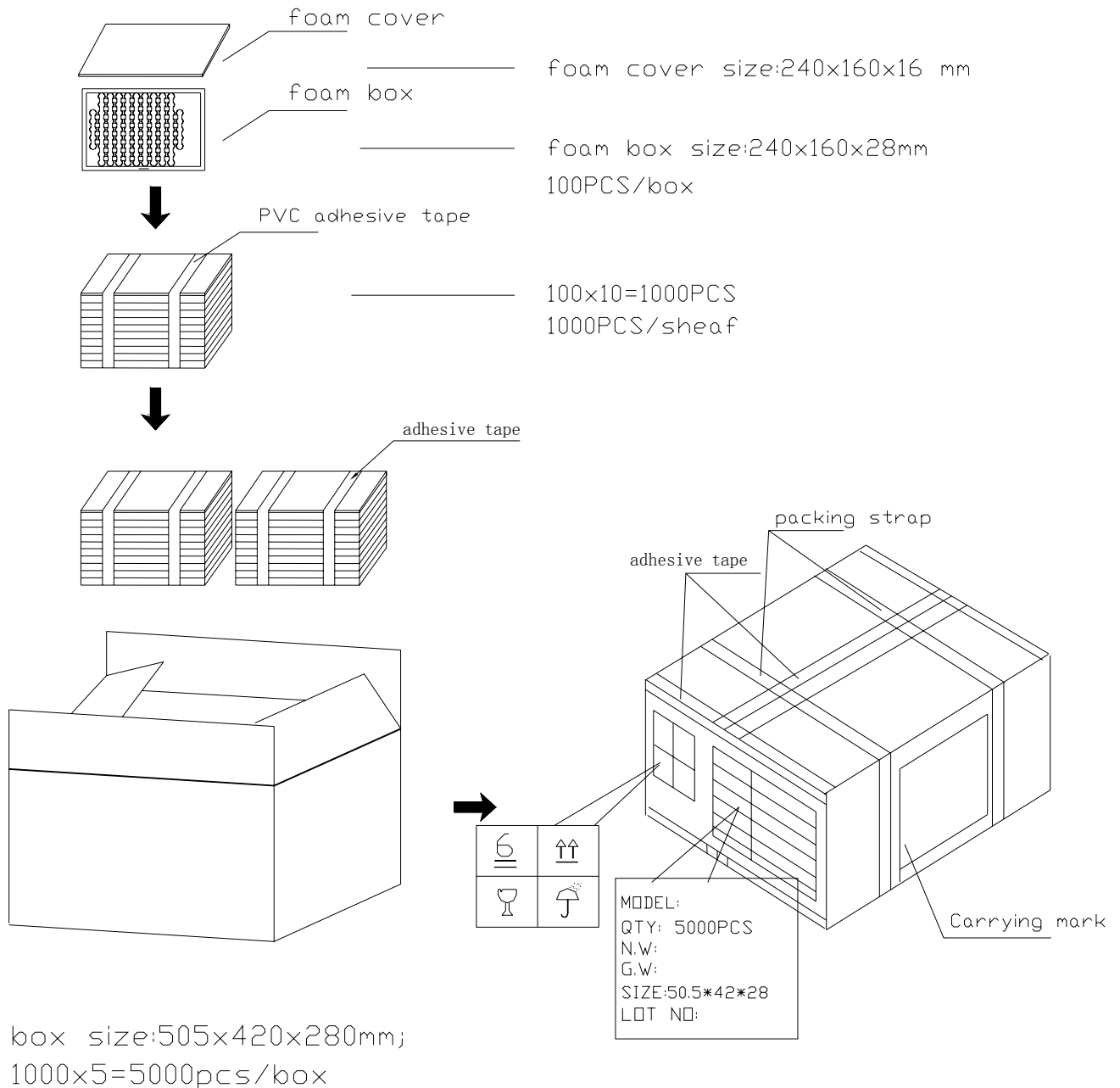
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## 6.PACKING



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