

# SPECIFICATION FOR APPROVAL

**Customer :**

**Description : Piezo Audio Transducer**

**Soberton Part No. : PT-1625**

**Date : 2007-11-25**

**Customer Model No. :**

|                                    |  |
|------------------------------------|--|
| <b>Date of Approval</b>            |  |
| <b>Authorization<br/>Signature</b> |  |



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|                           |                                 |                              |
|---------------------------|---------------------------------|------------------------------|
| <b>Approved</b>           | <b>Checked</b>                  | <b>Issue</b>                 |
| <b>Ryan</b><br>2007/11/29 | <b>Wang Cheng</b><br>2007/11/29 | <b>Song Qi</b><br>2007/11/29 |

# SPECIFICATIONS

Model No.

PT-1625

Page

1/6

## 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

|      | Item                              | Unit      | Specifications |
|------|-----------------------------------|-----------|----------------|
| 1-1  | Rated Voltage ( Square Wave )     | Vp-p      | 3.0            |
| 1-2  | Operating Voltage                 | Vp-p      | 3-25           |
| 1-3  | * Rated Current ( Max )           | mA        | 1              |
| 1-4  | * Min Sound Output at 4.0kHz/10cm | dB        | 73             |
| 1-5  | * Resonant Frequency              | Hz        | 4000±500       |
| 1-6  | Capacitance at 120Hz              | pF        | 15000±30%      |
| 1-7  | Operating Temperature             | ℃         | -20~+75        |
| 1-8  | Storage Temperature               | ℃         | -40~+85        |
| 1-9  | Weight                            | g         | 1.0            |
| 1-10 | Housing Material                  | Black LCP |                |
| 1-11 | Pin Type                          | SMD       |                |
| 1-12 | Tone Nature                       | Single    |                |
|      |                                   |           |                |
|      |                                   |           |                |
|      |                                   |           |                |
|      |                                   |           |                |

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

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| Issue No | Description | Date     | Issue   | Check      | Approval |

# SPECIFICATIONS

Model No.

PT-1625

Page

2/6

## 2.ENVIRONMENTAL TEST

|     | Item                   | Specifications                                                                                                                                                 |
|-----|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-1 | Storage in High temp.  | Storage in $+85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ test box for 120 hours , then expose to the room temperature for 2 hours without applying power.         |
| 2-2 | Storage in Lower temp. | Storage in $-40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ test box for 120 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 120 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<br/>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.: $235\pm 5^{\circ}\text{C}$<br>Heat applying time: $2.0\pm 0.5\text{sec}$ .                                                                    |

### PASS CRITERION :

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

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| Issue No | Description | Date     | Issue   | Check      | Approval |

# SPECIFICATIONS

Model No.

PT-1625-P

Page

3/6

## 3.MEASURING METHOD

### 3-1 .Test Condition

#### 1. STANDARD

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

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

#### 2. JUDGEMENT

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

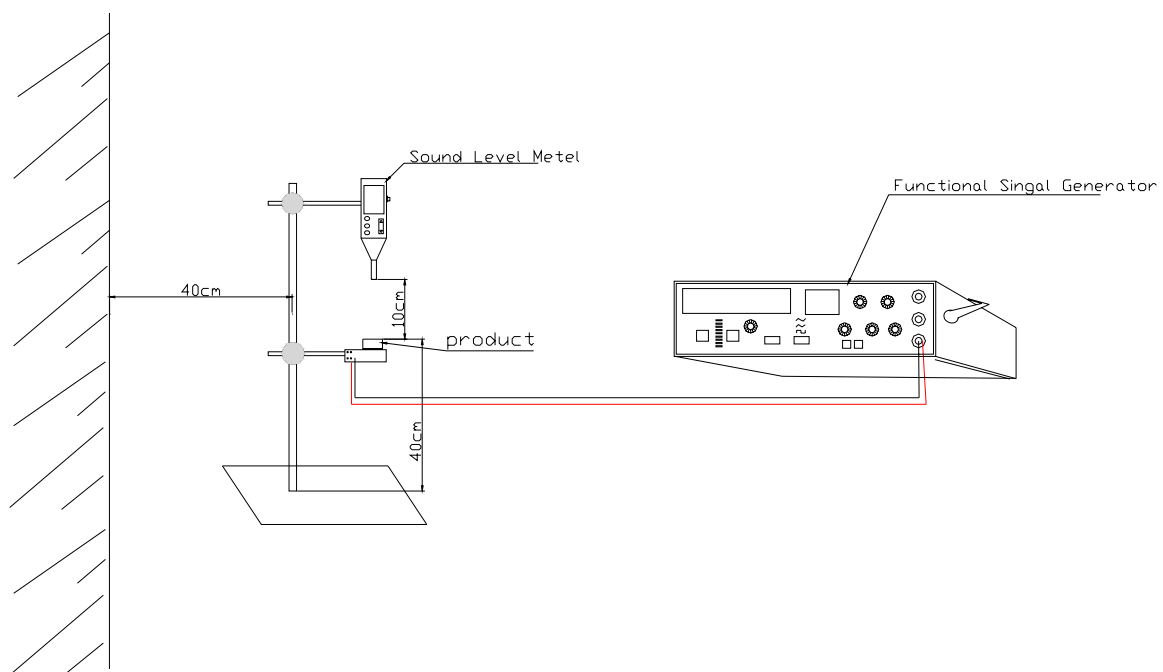
Relative humidity : 45% ~ 85%,

Atmospheric pressure: 860mbar to 1060mbar.

### 3-2. Standard Test Fixture

1. Rated Voltage(Square wave): 3.0V

2. Resonant Frequency: 4000Hz



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# SPECIFICATIONS

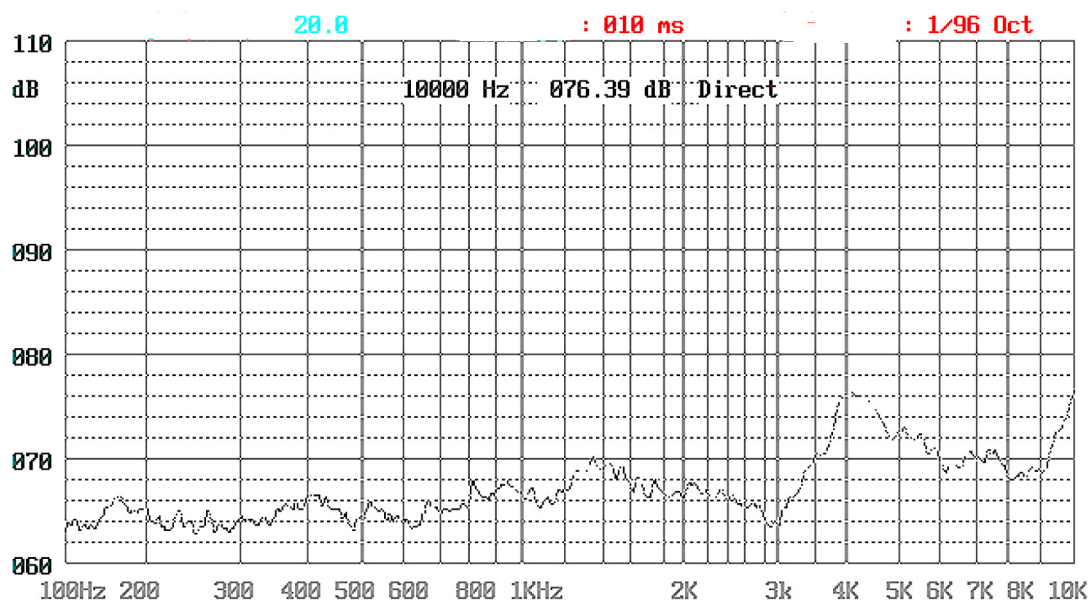
Model No.

PT-1625

Page

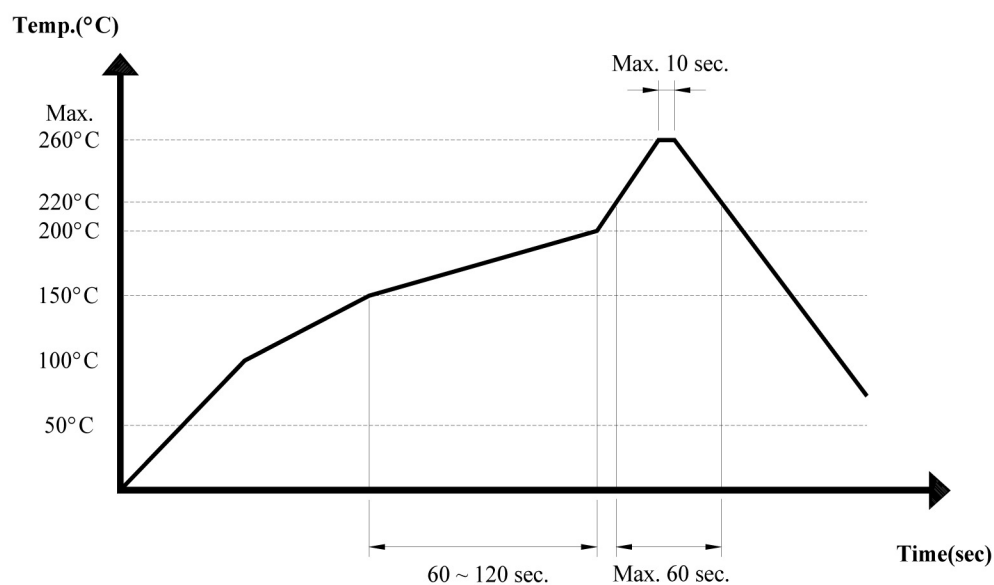
4/6

## 4.FREQUENCY RESPONSE:



## 5.RECOMMENDED TEMP.

\* Reflow profile of lead-free



Recommendable reflow soldering condition is as follows.

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

Note 2: Peak reflow temperature of 260°C, with a maximum duration of 60 sec. between 220°C and 260°C

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Model No.

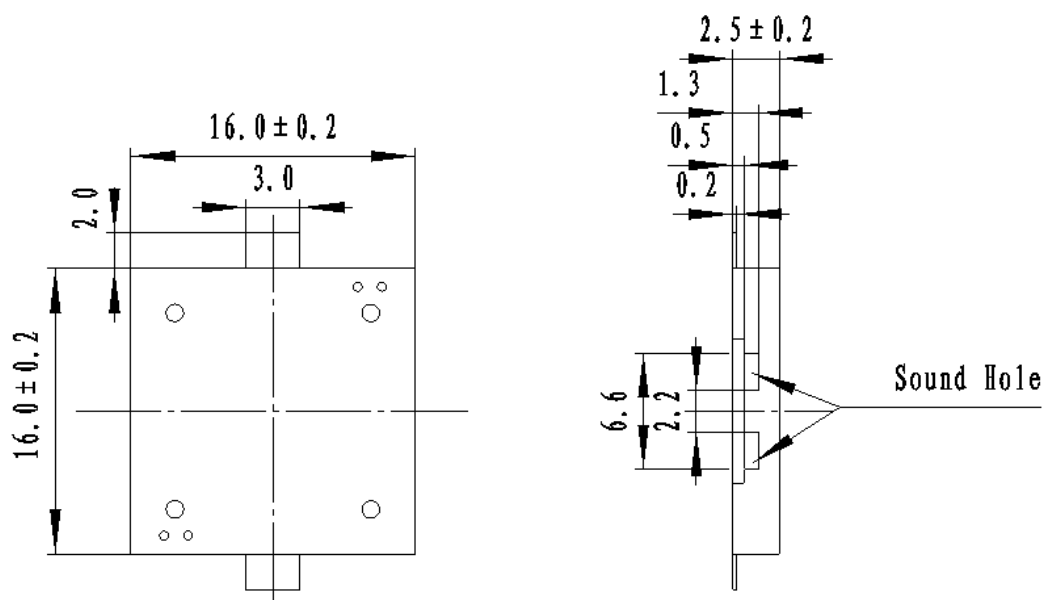
PT-1625

Page

5/6

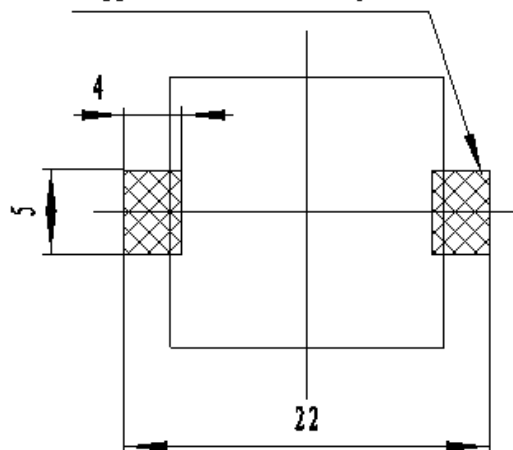
## 6.DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.2$  (unit: mm)



- 1) All parts must be meet to ROHS.
- 2) Wave solder allowed , wash not allowed.

Suggested Pad PCB-Layout



|          |             |          |         |            |          |
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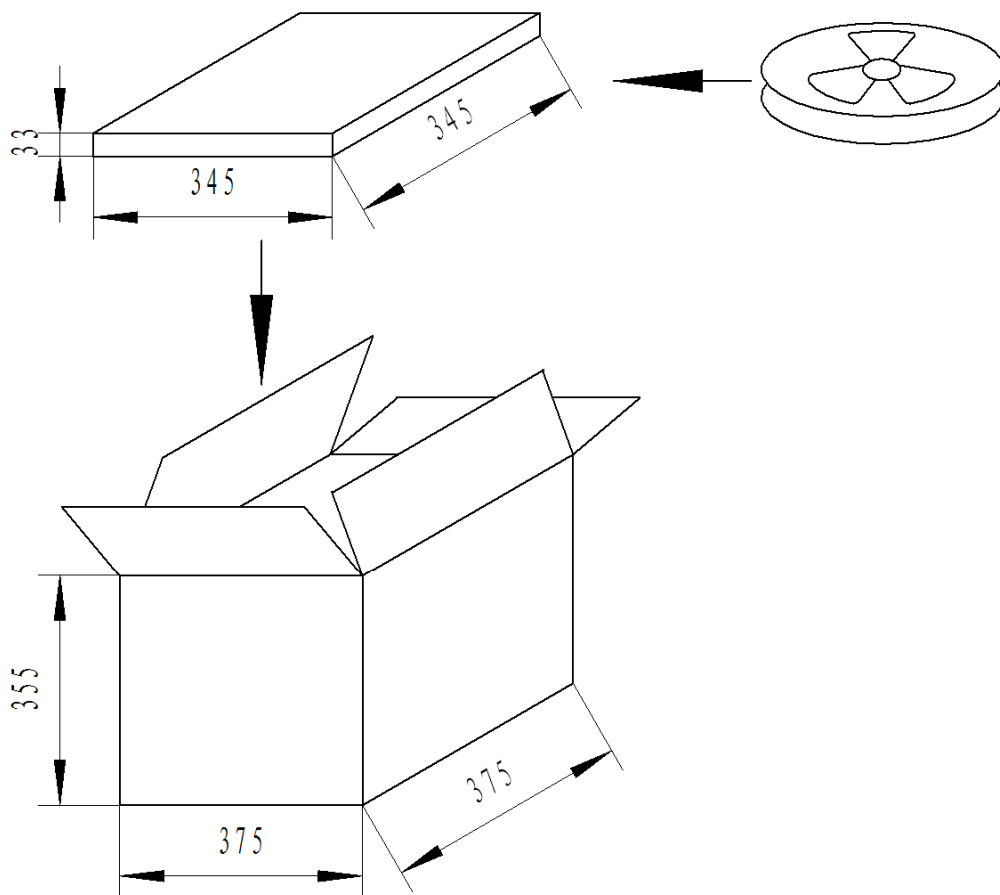
Model No.

PT-1625

Page

6/6

## 7.PACKING



### NOTES:

1. 1000 PCS per box
2. Total 10 box per carton
3. Total 10000 PCS carton

UNIT: mm

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