



soberton inc.

# PB PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PB-1408-1



Release | Revision: C/2018

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## Specifications

| Item                                | Unit | Specification            | Condition                 |
|-------------------------------------|------|--------------------------|---------------------------|
| Rated Voltage                       | VDC  | 12.0                     |                           |
| Operating Voltage                   | VDC  | 3.0 ~ 16.0               |                           |
| Mean Current                        | mA   | 12.0 Max.                | At rated voltage          |
| Sound Output                        | dB   | 85                       | At 10cm at rated voltage. |
| Rated Frequency                     | Hz   | 4000±500                 |                           |
| Operating Temp                      | °C   | -20 ~ +70                |                           |
| Storage Temp                        | °C   | -30 ~ +80                |                           |
| Dimension                           | mm   | Ø13.8xH7.5               | See attached drawing.     |
| Weight                              | gram | 0.8                      |                           |
| Material                            |      | PPO(Black)               |                           |
| Terminal                            |      | Pin type<br>(Plating Sn) | See attached drawing.     |
| Environmental Protection Regulation |      | RoHS                     |                           |

### Test condition:

Temperature: +25±2°C Related Humidity: 65±5% Air Pressure: 86-106KPa

## Mechanical Characteristics

| Item                         | Test Condition  | Evaluation Standard   |
|------------------------------|---|---|
| Solderability                | Lead terminals are immersed in rosin for 5 seconds and then immersed in the solder bath at +250±5°C for 3±1 seconds.  | 90% min. lead terminals shall be wet with solder. (Except the edge of terminal)                                 |
| Soldering Heat Resistance    | Lead terminals are immersed in the soldering bath at +250±5°C for 3±1 seconds.  | No interference in operation.   |
| Terminal Mechanical Strength | The force of 9.8N is applied to each terminal in axial direction for 10 seconds   | No damage and cutting off.  |
| Vibration                    | The buzzer shall be measured after a vibration of amplitude of 1.5mm with 10Hz to 55Hz band of vibration frequency is applied to each of 3 perpendicular directions for 2 hours | After the test, the part shall meet specifications without any damage in appearance and performance except SPL. |
| Drop Test                    | The part is dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X,Y,Z).A total of 9 times.  |   |



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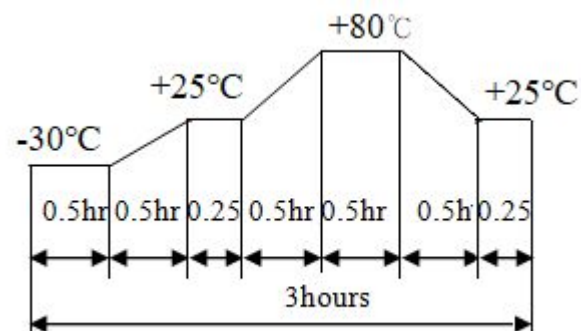
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## Environment Test

| Item                | Test Condition  | Evaluation Standard  |
|---------------------|---|--|
| High Temp. Test     | The part is placed in a chamber at +80°C for 96 hours.                              | After the test, the part shall meet specifications without any degradation in appearance and performance except SPL. After 4 hours at +25°C ±2°C, the SPL should be in ±10dBA compared with initial one. |
| Low Temp. Test      | The part is placed in a chamber at -30°C for 96 hours.                              |  |
| Humidity Test       | The part is placed in a chamber at +70°C, and 90±5% relative humidity for 96 hours. |  |
| Temp/Humidity Cycle | The part shall be subjected to 5 cycles, Each cycle shall consist of:               |  |



## Reliability Test

| Item                | Test Condition   | Evaluation Standard  |
|---------------------|--|--|
| Operating Life Test | <b>1. Continuous Life Test</b><br>48 hours of continuous operation at +55°C with the maximum rated voltage applied.                                      | After the test, the part shall meet specifications without any degradation in appearance and performance except SPL. After 4 hours at +25°C ±2°C, the SPL should be in ±10dBA compared with initial one. |
|                     | <b>2. Intermittent Life Test</b><br>A duty cycle of 1 minute on, 1 minute off, a minimum of 1000 times at +25±2°C and the maximum rated voltage applied. |  |

### Standard Test Condition:

- a) Temperature: +5~+35°C
- b) Humidity: 45~85%
- c) Pressure: 86~106KPa



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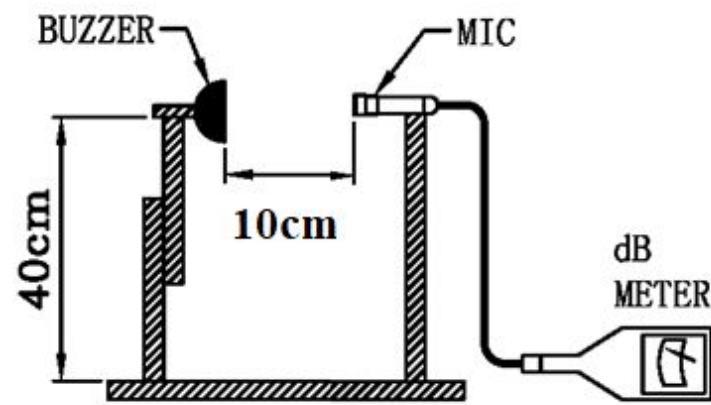
Packing

## Inspection Fixture

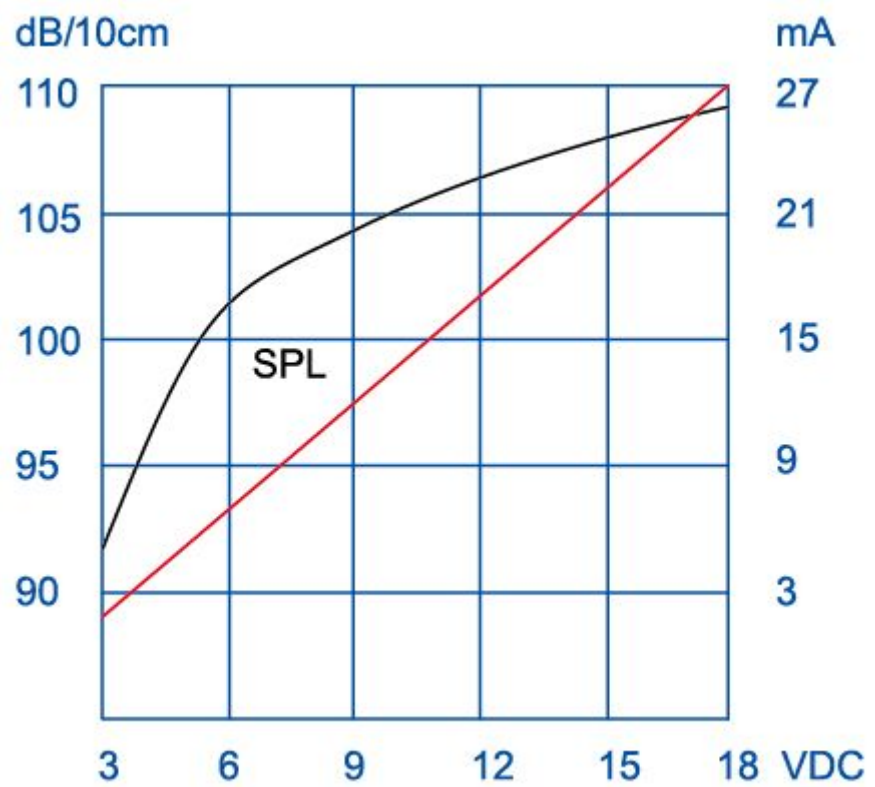
### S.P.L Measuring Circuit

Input Signal: 12 VDC

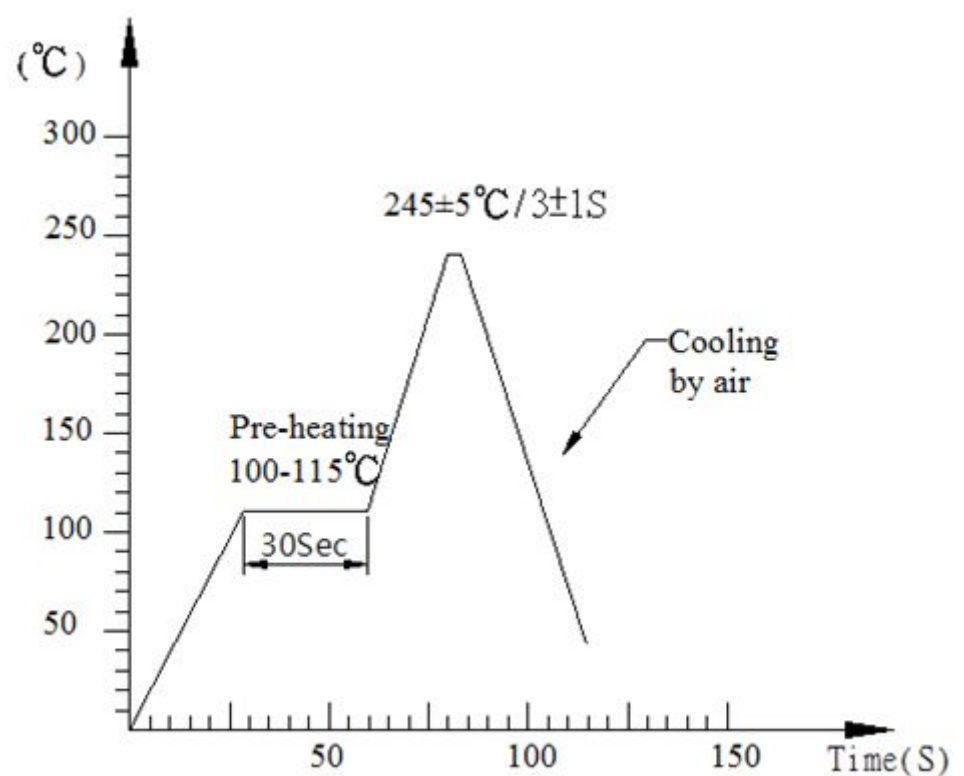
MIC: S.P.L meter TES1351B or equivalent



## Frequency Response



## Recommended Wave Soldering Temperature Curve





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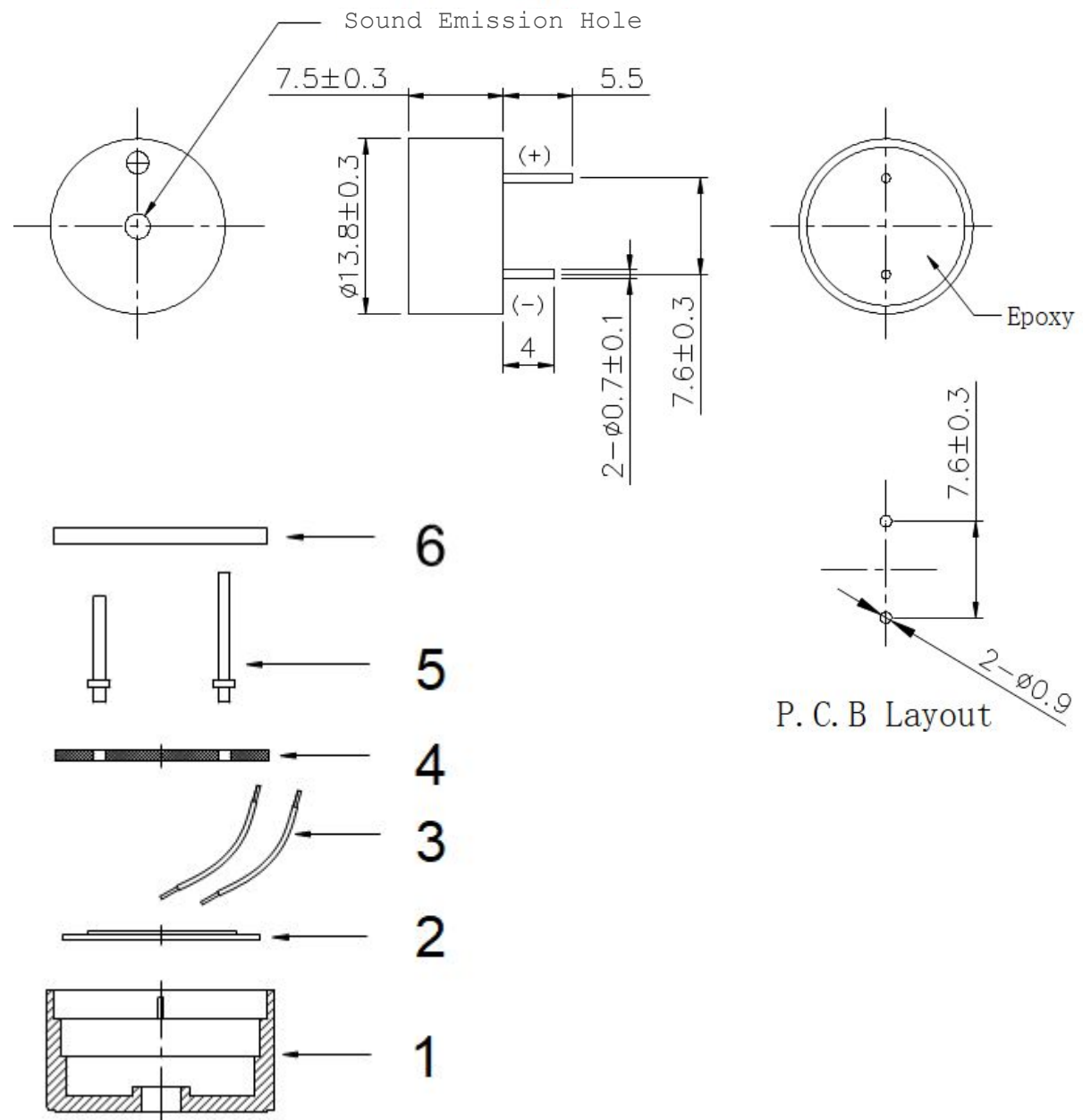
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## Dimensions

Tolerance:  $\pm 0.5$  (unit: mm)



| No. | Part Name | Material         | Quantity |
|-----|-----------|------------------|----------|
| 1   | Case      | PPO              | 1        |
| 2   | Diaphragm | Copper + Ceramic | 1        |
| 3   | Wire      | Enameled Wire    | 2        |
| 4   | PCB       | Epoxy CCL        | 1        |
| 5   | Pin       | Copper           | 2        |
| 6   | Glue      | Epoxy            | 1        |



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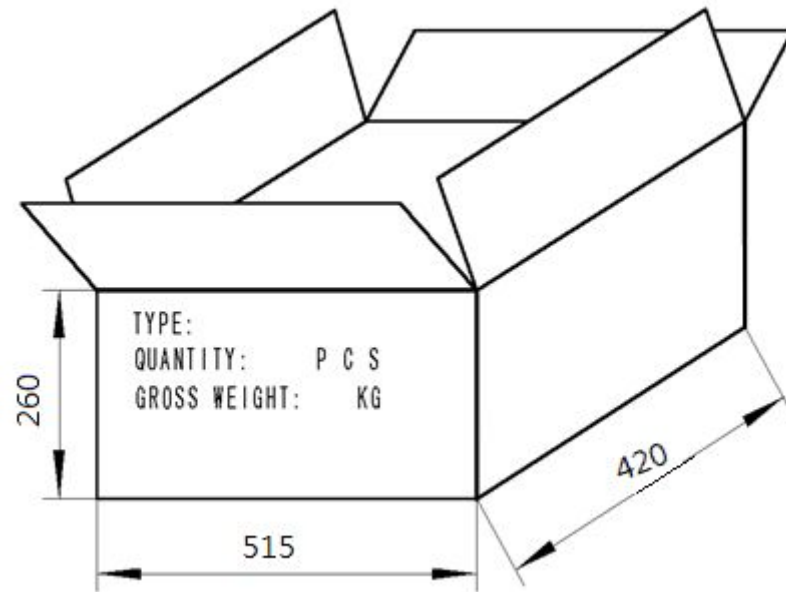
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## Packing



## Details

Per box: 100pcs

Per Carton: 50 boxes x 100pcs = 5,000pcs

Volume: 515mm x 420mm x 260 mm