



soberton inc.

# GT MAGNETIC BUZZER

Acoustic Product Specification

Product Number: GT-11P



Release | Revision: D/2018

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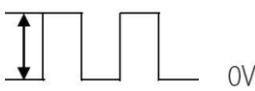
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## Specifications

| Item                                | Unit | Specification         | Condition                                                                                |
|-------------------------------------|------|-----------------------|------------------------------------------------------------------------------------------|
| Rated Voltage                       | Vo-p | 1.5                   | Vo-p  |
| Operating Voltage                   | Vo-p | 1.0 ~ 3.0             |                                                                                          |
| Mean Current                        | mA   | 30 Max.               | At rated voltage, 2048 Hz square wave, 1/2 duty                                          |
| Coil Resistance                     | Ω    | 16±4                  |                                                                                          |
| Sound Output                        | dB   | 85                    | At 10cm(A-weight free air), at rated voltage 2048 Hz, square wave, 1/2 duty              |
| Rated Frequency                     | Hz   | 2048                  |                                                                                          |
| Operating Temp                      | °C   | -20 ~ +60             |                                                                                          |
| Storage Temp                        | °C   | -30 ~ +70             |                                                                                          |
| Dimension                           | mm   | φ 12.0×H8.5           | See attached drawing                                                                     |
| Weight                              | gram | 2.0                   |                                                                                          |
| Material                            |      | PPO (Black)           |                                                                                          |
| Terminal                            |      | Pin type (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 the solder bath at +250±5°C for 3±1 seconds.                                                                                                                                                                     | 90% min. lead terminals shall be wet with solder. No interference in operation.                                                                                        |
| Soldering Heat Resistance    | The product follows the reflow temperature curve to test its reflow thermal stability.                                                                                                                                                          |                                                                                                                                                                        |
| 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 part shall be subjected to a vibration cycle of 10Hz to 55Hz to 10Hz in a period of 1 minute. Total peak amplitude shall be 1.52mm(9.3G). The vibration test shall consist of 2 hours per axis in each three axes(X,Y,Z). Total of 6 hours. | After the test, the part shall meet specifications without any damage in appearance and performance except SPL. The SPL should be in ±10dBA compared with initial one. |
| 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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## Environment Test

| Item                 | Test condition                                                                                                               | Evaluation standard                                                                                                                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High Temp. Test      | The part is placed in a chamber at +70°C for 96 hours.                                                                       | After the test, the part shall meet specifications without any degradation in appearance and performance except SPL.<br>After 4 hours at +25°C, the SPL should be in $\pm 10\text{dBA}$ compared with initial one. |
| Low Temp. Test       | The part is placed in a chamber at -30°C for 96 hours.                                                                       |                                                                                                                                                                                                                    |
| Thermal Shock        | The part shall be subjected to 5 cycles. Each cycle shall consist of: <div style="text-align: center;"> </div>               |                                                                                                                                                                                                                    |
| Temp./Humidity Cycle | The part will be subjected to 5 cycles. One cycle shall be 24 hours and consist of: <div style="text-align: center;"> </div> |                                                                                                                                                                                                                    |

## Reliability Test

| Item                | Test condition                                                                                                                | Evaluation standard                                                                                                                                                                                                |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Life Test | <b>Ordinary Temperature</b><br>The part shall be subjected to 96 hours of continuous operation at $+25\pm 10^\circ\text{C}$ . | After the test, the part shall meet specifications without any degradation in appearance and performance except SPL.<br>After 4 hours at +25°C, the SPL should be in $\pm 10\text{dBA}$ compared with initial one. |
|                     | <b>High Temperature</b><br>The part shall be subjected to 72 hours of continuous operation at +60°C at 1.5V, 2048 Hz applied. |                                                                                                                                                                                                                    |
|                     | <b>Low Temperature</b><br>The part shall be subjected to 72 hours of continuous operation at -20°C at 1.5V, 2048 Hz applied.  |                                                                                                                                                                                                                    |

### Standard test condition:

- a) Temperature:  $+5\sim +35^\circ\text{C}$
- b) Humidity: 45~85%
- c) Pressure: 86~106KPa



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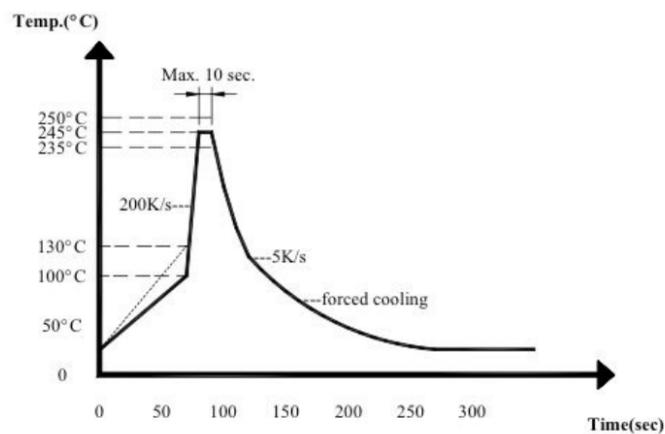
## Recommended Temperature Profile for Reflow Oven

Recommendable wave soldering condition is as follows:

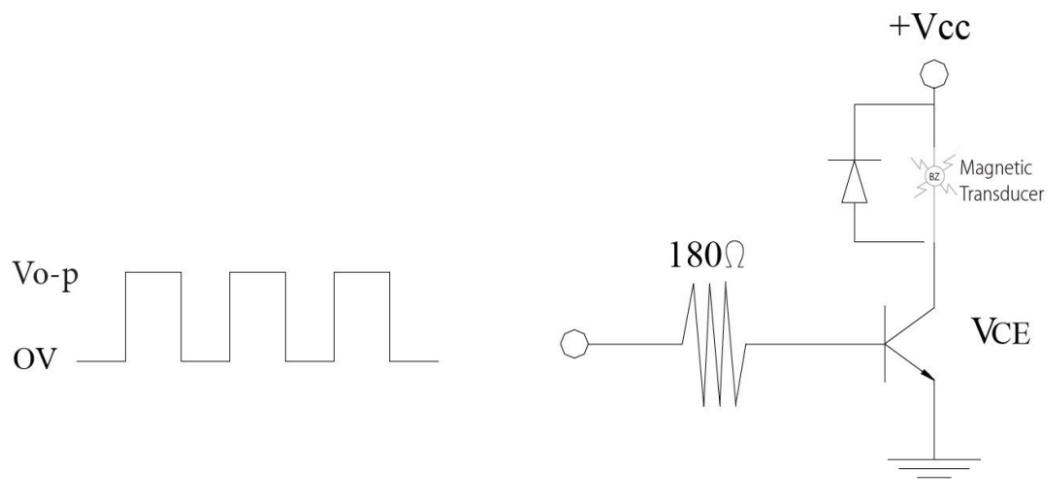
**Note 1:** It is requested that reflow soldering should be executed after heat of product goes down to normal temperature.

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

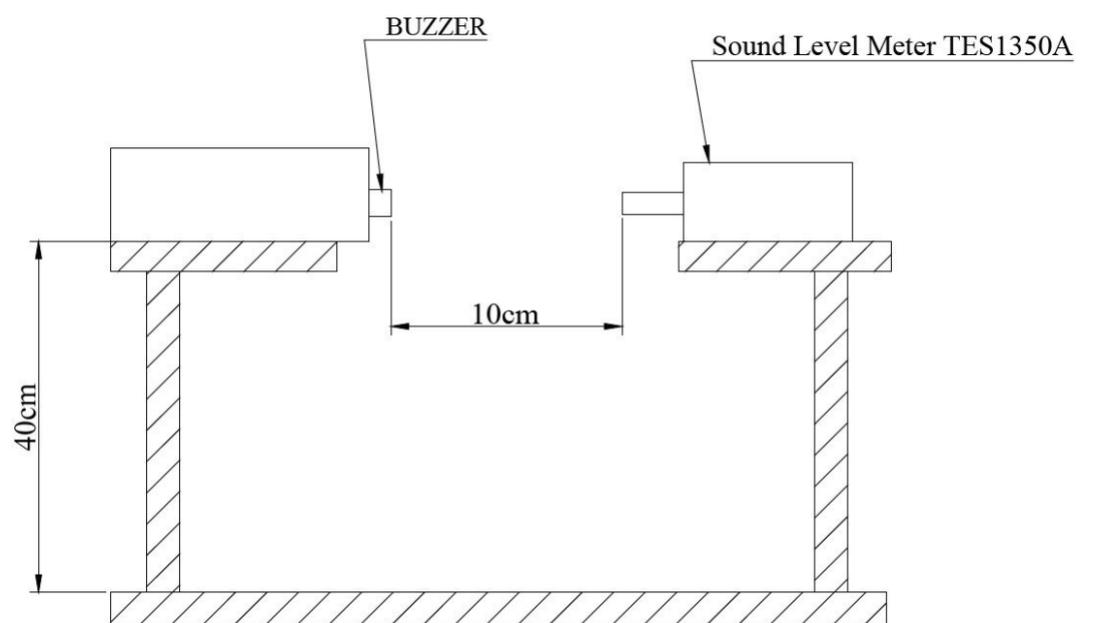
\* Wave Soldering profile of lead-free



## Measurement Test Circuit



## Inspection Fixture





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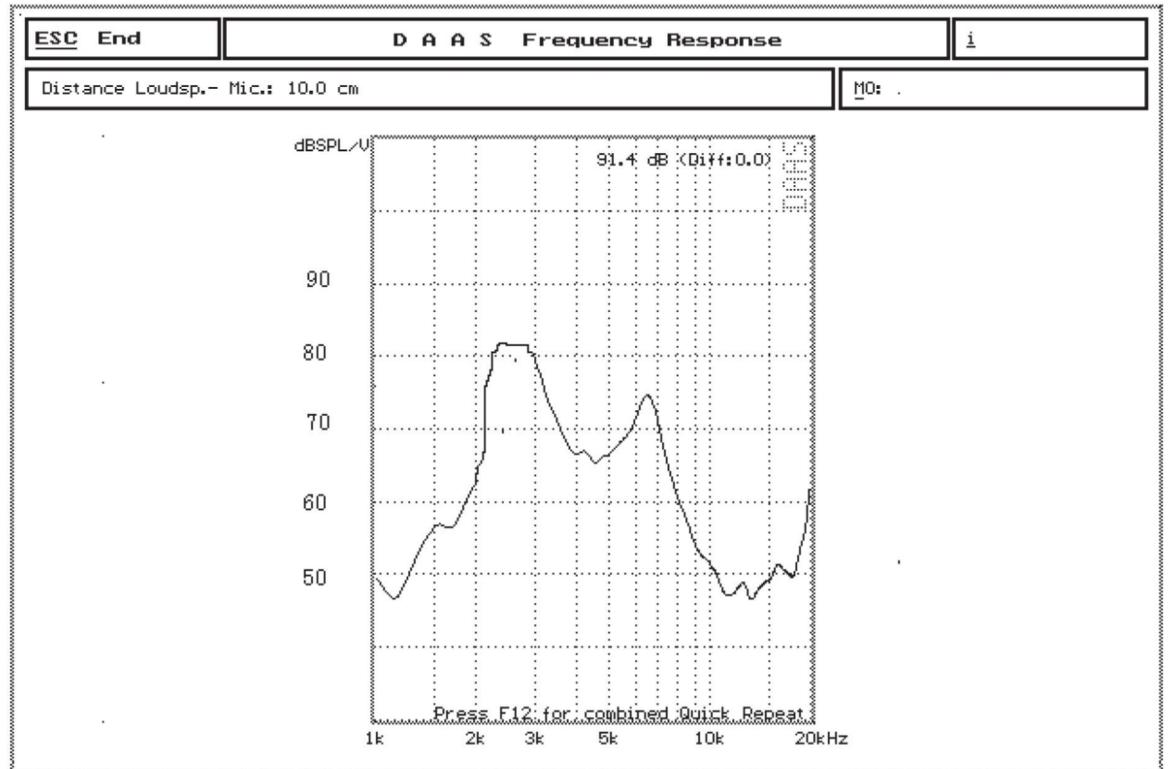
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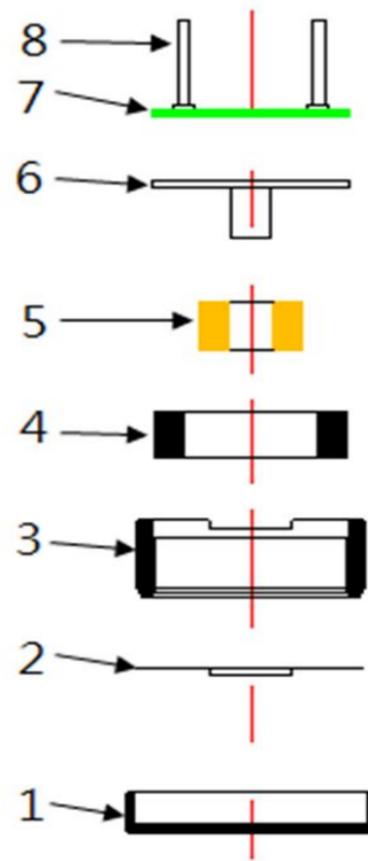
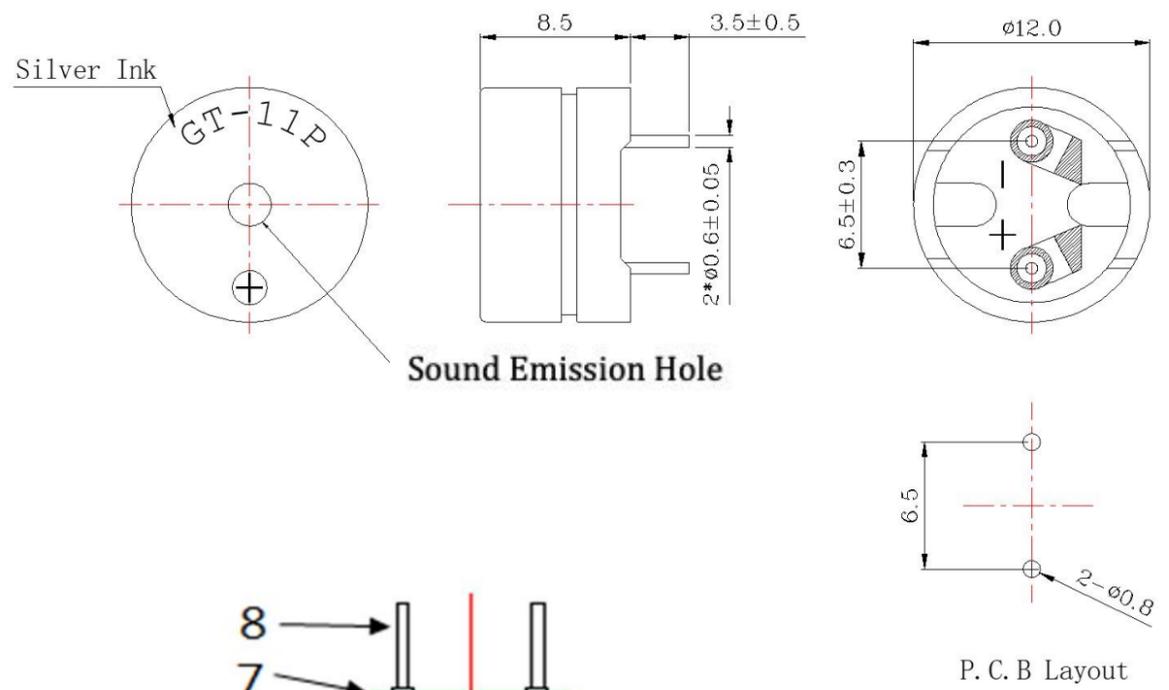
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## Dimensions

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



| No. | Part Name | Material                         | Quantity |
|-----|-----------|----------------------------------|----------|
| 1   | Cover     | PPO                              | 1        |
| 2   | Diaphragm | Iron                             | 1        |
| 3   | Base      | PPO                              | 1        |
| 4   | Magnet    | NdFeB                            | 1        |
| 5   | Coil      | Copper                           | 1        |
| 6   | Core      | Iron                             | 1        |
| 7   | PCB       | Epoxy Glass Fiber Cloth + Copper | 1        |
| 8   | PIN       | Copper                           | 2        |



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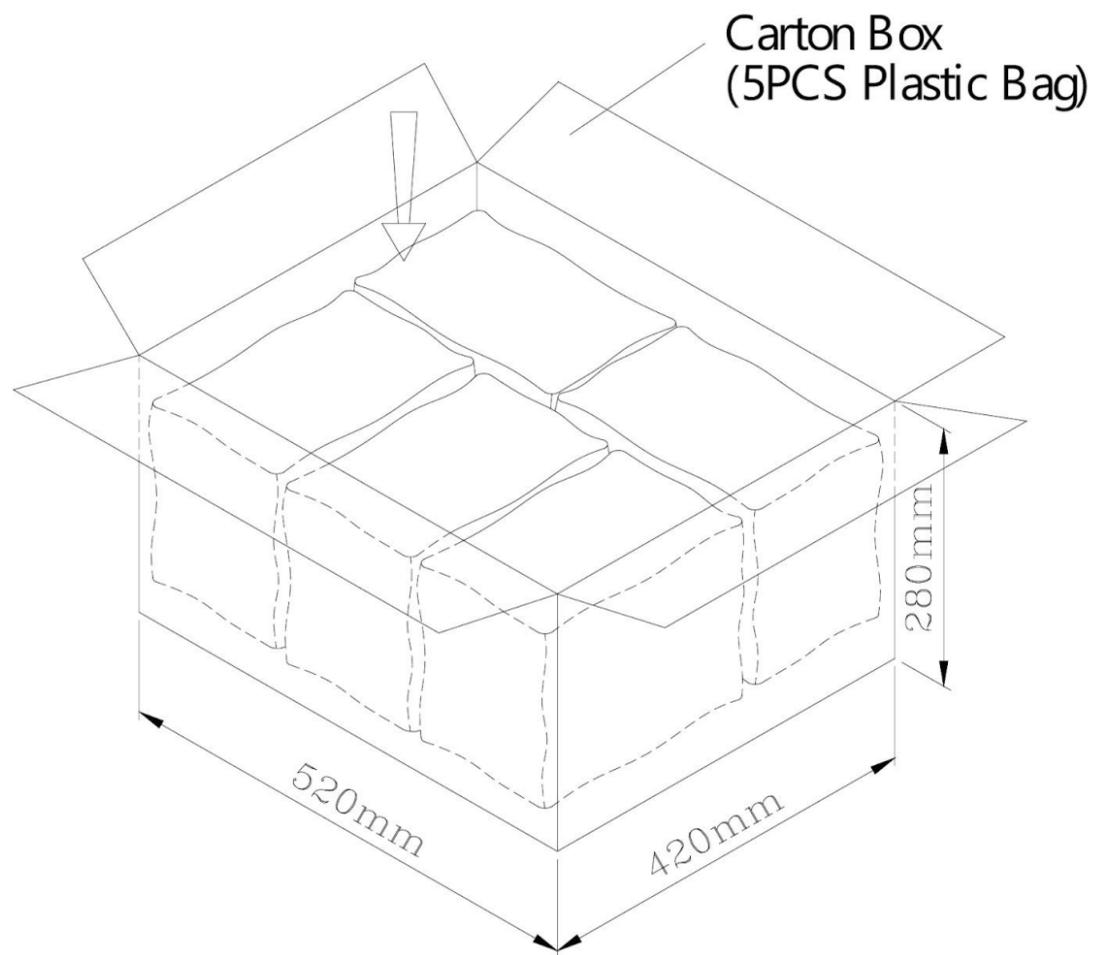
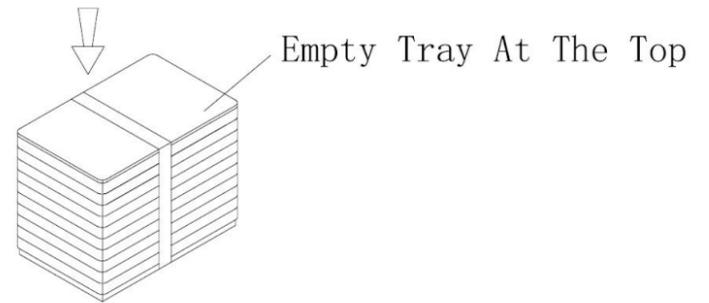
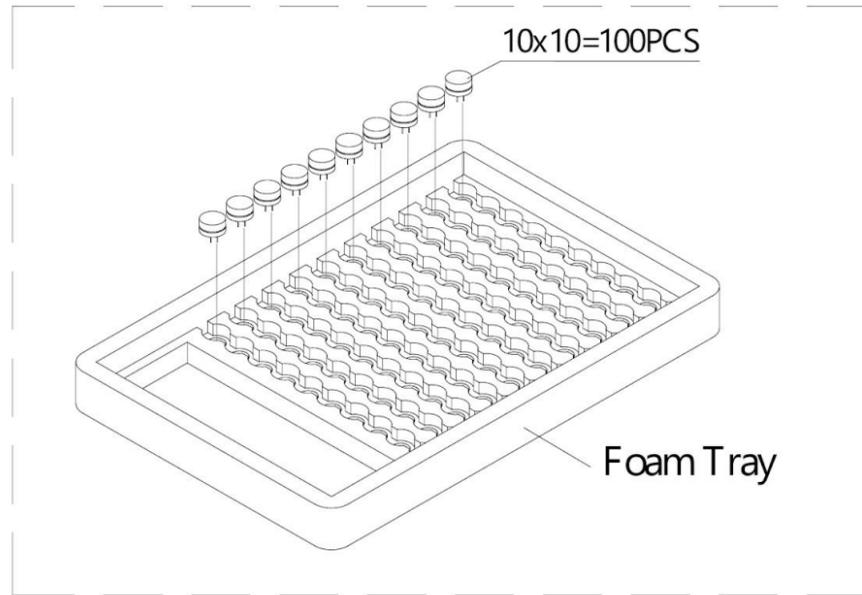
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## Packing



| Packing Box | L x W x H (mm)  | Pieces                  |
|-------------|-----------------|-------------------------|
| Foam Tray   | 240 x 160 x 30  | 1 x 100PCS = 100PCS     |
| Plastic Bag |                 | 10 x 100PCS = 1,000PCS  |
| Carton Box  | 520 x 420 x 280 | 5 x 1,000PCS = 5,000PCS |