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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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**PRODUCT:** Electromagnetic Buzzer

**EDITION:** A/2017

Soberton Inc.

## THIS SPECIFICATION APPLIES TO THE ELECTROMAGNETIC BUZZER

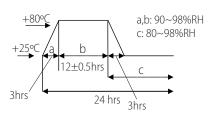
#### **SPECIFICATION**

Test condition: TEMP=+25±2 ℃ Related humidity=65±5% Air pressure:860 ~1060mbar

| item                  | unit | specification  | condition                                      |
|-----------------------|------|----------------|--|
| rated voltage         | Vo-p | 6.0            | Vo-p   |
| operating volt        | Vo-p | 5.0 ~ 7.0      |  |
| mean current          | mA   | 40 Max         | At rated voltage 2048Hz, square wave, 1/2 duty |
| coil resistance       | Ω    | 50±5           |  |
| sound output          | dBA  | 85             | At 10cm(A-weight free air), at rated voltage   |
|                       |      |                | 2048Hz, square wave, 1/2duty                   |
| rated frequency       | Hz   | 2048           |  |
| operating temp        | oC   | -30 ~ +60      |  |
| storage temp          | °C   | -40 ~+70       |  |
| dimension             | mm   | φ16.0 x H 14.0 | See attached drawing                           |
| weight                | gram | 7.0            |  |
| material              |      | PPO(Black)     |  |
| terminal              |      | Pin type       | See attached drawing                           |
|                       |      | (Plating Sn)   |  |
| environmental         |      | RoHS           |  |
| protection regulation |      |                |  |

#### **ENVIRONMENT TEST**

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|----------------------|--|---|
| item                 | test condition   | evaluation standard   |
| high temp. test      | After being placed in a chamber at +70°C for 96 hours.   | After the test the part will meet specifications without any degradation in appearance and      |
| low temp. test       | After being placed in a chamber at -30°C for 96 hours.   | performance except SPL, after 4 hours at +25°C. The SPL will be in ±10dBA compared with initial |
| thermal shock        | The part will be subjected to 10 cycles.  One cycle shall consist of:  +70°C  30 min  30 min  60 min | one.  |
| temp./humidity cycle | The part will be subjected to 10 cycles. One cycle shall be 24 hours and consist of:                 | _   |





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#### **RELIABILITY TEST**

| item                | test conditions                                 | evaluation standard                              |
|---------------------|---|--|
| operating life test | ORDINARY TEMPERATURE                            | After the test the part will meet specifications |
|                     | The part will be subjected to 96 hours of       | without any degradation in appearance and        |
|                     | continuous operation at room temperature.       | performance except SPL, after 4 hours at +25°C.  |
|                     | HIGH TEMPERATURE                                | The SPL would be in $\pm 10$ dBA compared with   |
|                     | The part will be subjected to 72 hours of       | initial one.                                     |
|                     | continuous operation at +60°C with 6.0V,        |  |
|                     | 2048Hz applied.                                 | -  |
|                     | LOW TEMPERATURE                                 |  |
|                     | The part will be subjected to 72 hours of       |  |
|                     | continuous operation at -20°C with 6.0V, 2048Hz |  |
|                     | applied.  |  |

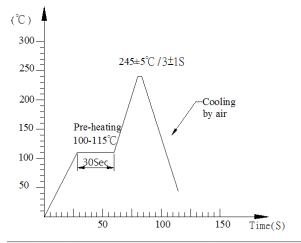
#### **TEST CONDITION**

Standard Test Condition: a)Temperature: +5~+35°C b)Humidity:45~85% c)Pressure: 860~1060mbar

#### **MECHANICAL CHARACTERISTICS**

| item                      | test condition                                     | evaluation standard                                |
|---------------------------|--|--|
| solderability             | Lead terminals are immersed in solder bath of      | 90% min.lead terminals will be wet with solder     |
|                           | +250±5°C for 3±1 seconds.                          | No interference in operation.                      |
| soldering heat resistance | Lead terminal are immersed in soldering bath of    | -  |
|                           | 260±5°C for 2±0.5 seconds.                         |  |
| terminal mechanical       | Apply the terminal with 1KG strength for 1         | No damage and cutting off.                         |
| strength                  | minute   |  |
| vibration                 | The part will be subjected to a vibration cycle of | After the test the part will meet specifications   |
|                           | 10Hz to 55Hz to 10Hz in a period of 1 minute.      | without any damage in appearance and               |
|                           | Total peak amplitude will be 1.52mm(9.3G). The     | performance except SPL.                            |
|                           | vibration test will consist of 2 hours per axis in | SPL would be in $\pm 10$ dBA compared with initial |
|                           | each three axes (X,Y,Z). Total 6 hours.            | one.   |
| drop test                 | The part only will be dropped from a height of     | -  |
|                           | 75cm onto a 40mm thick wooden board 3 times        |  |
|                           | in 3 axes (X,Y,Z). Total of 9 times.               |  |
|                           |  |  |

## RECOMMENDED TEMPERATURE PROFILE FOR REFLOW OVEN



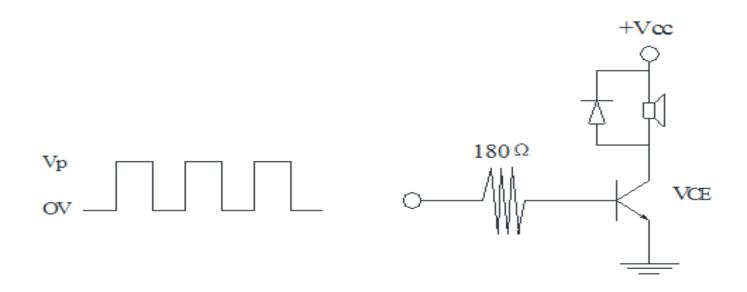
Recommendable wave soldering condition is as follows: Note 1: It is requested that reflow soldering should be executed after heat of product goes down to normal temperature. Note 2: Peak reflow temperature of 250°C maximum of 10 seconds, with a maximum duration of 40-60 seconds between 220°C and 250°C



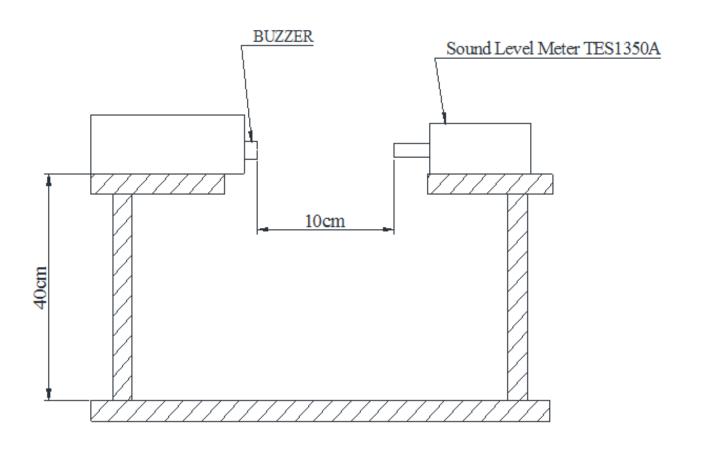
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## **MEASUREMENT TEST CIRCUIT**



## **INSPECTION FIXTURE**





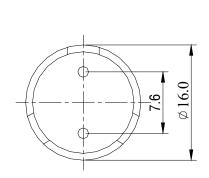
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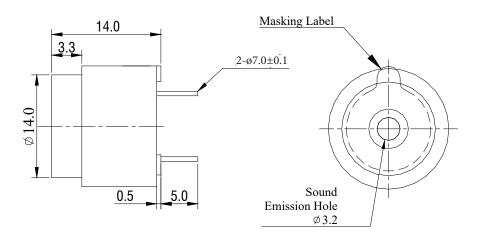
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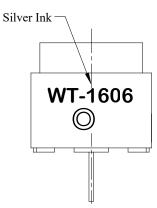
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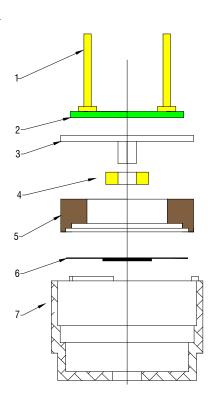
## **DIMENSIONS**

Tolerance:±0.5 (unit: mm)









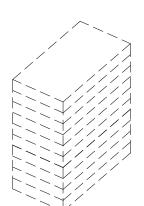
| no | item        | material                         | quantity |
|----|-------------|----------------------------------|----------|
| 1  | PIN         | Copper                           | 2        |
| 2  | PCB         | Epoxy glass fiber cloth + Copper | 1        |
| 3  | Core        | Ferrum                           | 1        |
| 4  | Coil        | Copper                           | 1        |
| 5  | Magnet ring | Poly + Ferrite                   | 1        |
|    | Diaphragm   | Ferrum                           | 1        |
| 6  | CASE        | PPO                              | 1        |

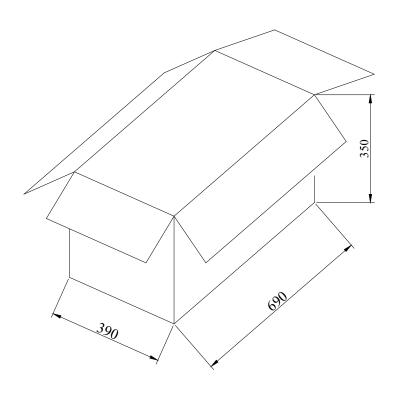


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## **PACKING**





| size       | lxwxh       | quantity |
|------------|-------------|----------|
| tray       | 320x70x28   | 50 pcs   |
| inner box  | 340x190x310 | 500 pcs  |
| carton box | 690x390x350 | 2000 pcs |