# SPECIFICATION
# FOR
# APPROVAL

**Customer：**

**Description： Magnetic Transducer**

**Soberton Part No. ： ST-03BL**

**Date：2010-11-01**

**Customer Model No. ：**

| | |
|---|---|
| **Date of Approval** | |
| **Authorization Signature** | |


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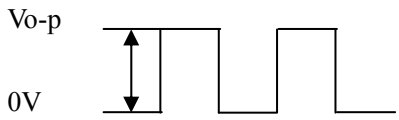
| Approved | Checked | Design |
|---|---|---|
| Ryan<br>2010/11/01 | Elroy<br>2010/11/01 | Emily<br>2010/11/01 |

A:SCOPE

This specification applies magnetic buzzer, ST-03BL

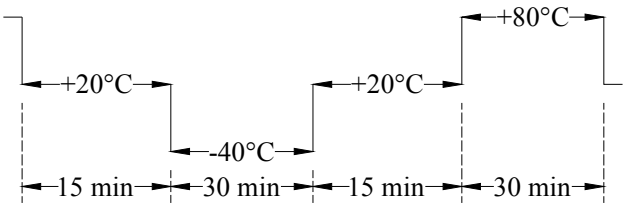
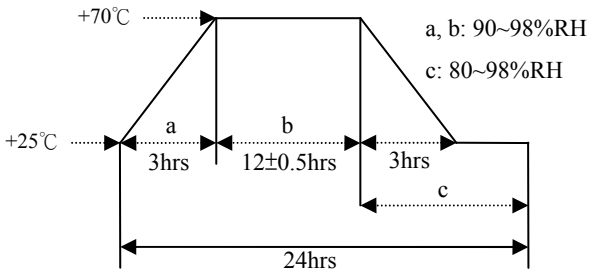
B:SPECIFICATION

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

| NO. | Item | Unit | Specification | Condition |
|---|---|---|---|---|
| 1 | Rated Voltage | Vo-p | 3.6 |  |
| 2 | Operating Voltage | Vo-p | 2.5 - 4.5 | |
| 3 | Mean Current | mA | Max.100 | Applying rated voltage & rated frequency, square wave 1/2 duty |
| 4 | Coil Resistance | Ω | 16 ± 3 | |
| 5 | Sound Output | dBA | 82/10cm | Distance at 10cm(A-weight free air), Applying rated voltage & rated frequency, square wave,1/2duty |
| 6 | Rated Frequency | Hz | 2300±200 | |
| 7 | Operating Temp | ℃ | -30-+70 | |
| 8 | Storage Temp | ℃ | -40-+80 | |
| 9 | Dimension | mm | 8.5 × 8.5 × 3.0 | See attached drawing. |
| 10 | Weight | gram | 0.5 | |
| 11 | Material | | LCP (Black) | |
| 12 | Terminal | | Pin type | See attached drawing |
| 13 | Environmental Protection Regulation | | RoHS | |
| 14 | Storage life | month | 3 | 3 months preservation at room temp(25±3℃), Humidity40% |

## C:ENVIRONMENT TEST



| No. | Item | Test condition | Evaluation standard |
|---|---|---|---|
| **1** | High temp. test | After being placed in a chamber at +80℃ 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℃, The SPL shall be in ± 10 dBA compared with initial one. |
| **2** | Low temp. test | After being placed in a chamber at -40℃ for 96 hours. | |
| **3** | Thermal shock | The part shall be subjected to 10 cycles. One cycle shall consist of;   | |
| **4** | Temp. / Humidity Cycle | The part shall be subjected to 10 cycle and consist of;   | |

## D: RELIABILITY TEST

| No. | Item | Test condition | Evaluation standard |
|---|---|---|---|
| 1 | Operating life test | □ Applying rated voltage, rated frequency, square wave , 1/2 duty cycle：<br><br>Ordinary temperature<br>The part shall be subjected to 96 hours at room temperature. | After the test the part shall meet specifications without any degradation in appearance and performance except SPL. after 4 hours at +25℃,The SPL shall be in ± 10 dBA compared with initial one. |

**TEST CONDITION.**

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

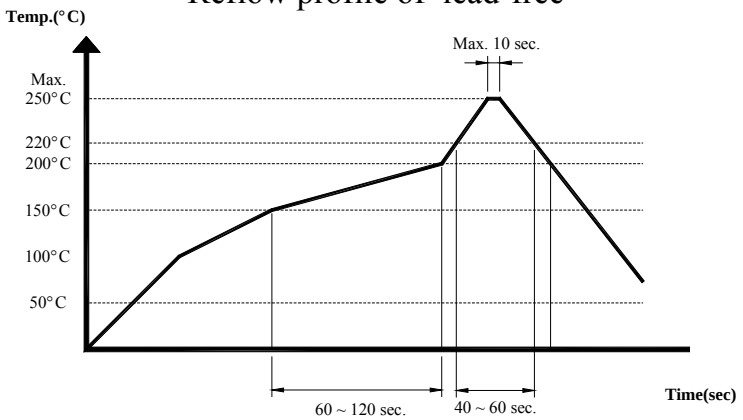
Judgment Test Condition :a)Temperature:+25±2℃ b)Humidity:60~70% c)Pressure: 860~1060mbar

## E:MECHANICAL CHARACTERISTICS



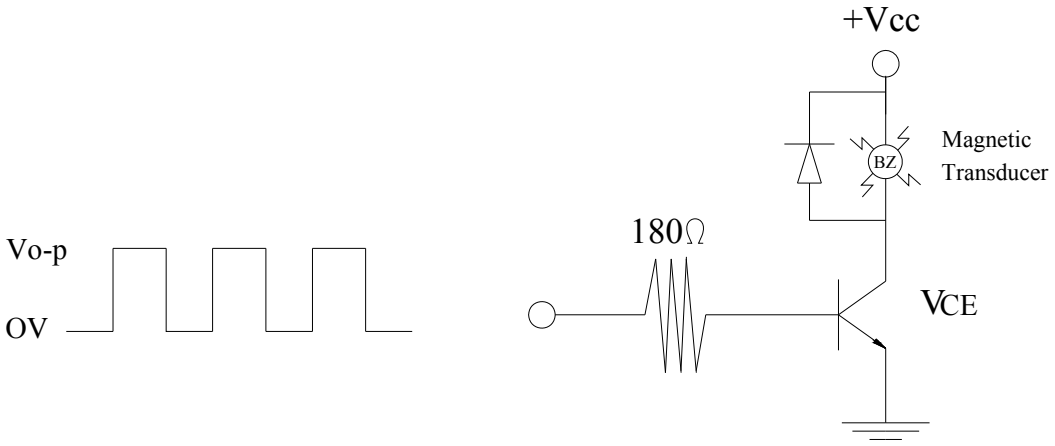
| No | Item | Test condition | Evaluation standard |
|---|---|---|---|
| 1 | Solderability | Lead terminal are immersed in rosin for 5 seconds and then immersed in Solder bath of +260±5℃ for 3±0.5 second | 90% min. lead terminals shall be wet with solder |
| 2 | Soldering Heat Resistance | Lead terminal are immersed in soldering bath of +260±5℃ for3±0.5 Second. | |
| 3 | Iron Soldering Heat Resistance | Lead terminal are soldering of +350±5℃, 2.5±0.5 Second. | No interference in operation |
| 4 | Terminal Mechanical Strength | Apply the terminal with 9.8N(1kg) strength for 10±1 sec. | No damage and cutting off |
| 5 | 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 6 hours. | After the test the part shall meet specifications without any damage in appearance and performance except SPL. The SPL shall be in ± 10 dBA compared with initial one. |
| 6 | Drop test | The part only shall be dropped from a height of 75cm onto a wooden board 1 times. | |

* Reflow profile of lead-free

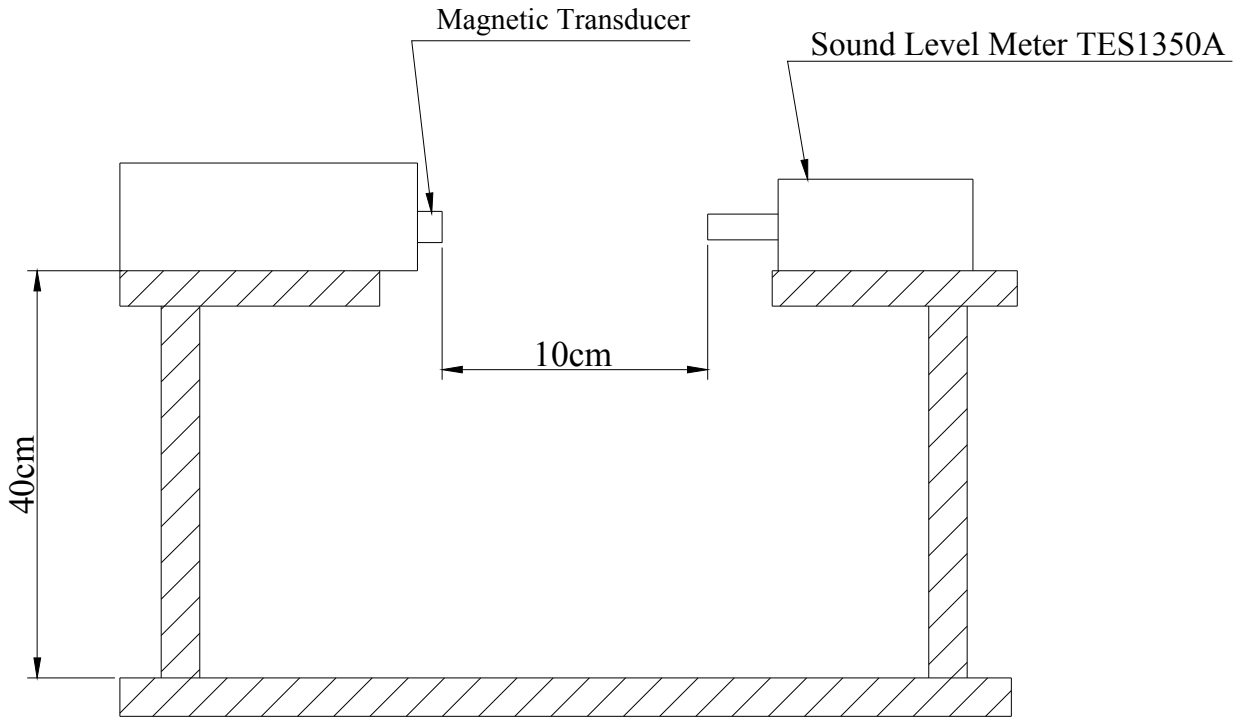



Recommendable reflow soldering condition is as follows.
Note 1: It is requested that reflow soldering should be executed after heat of product goes down to normal temperature.
Note 2: Peak reflow temperature of 250°C Max.10 sec., with a maximum duration of 40~60 sec. between 220°C and 250°C

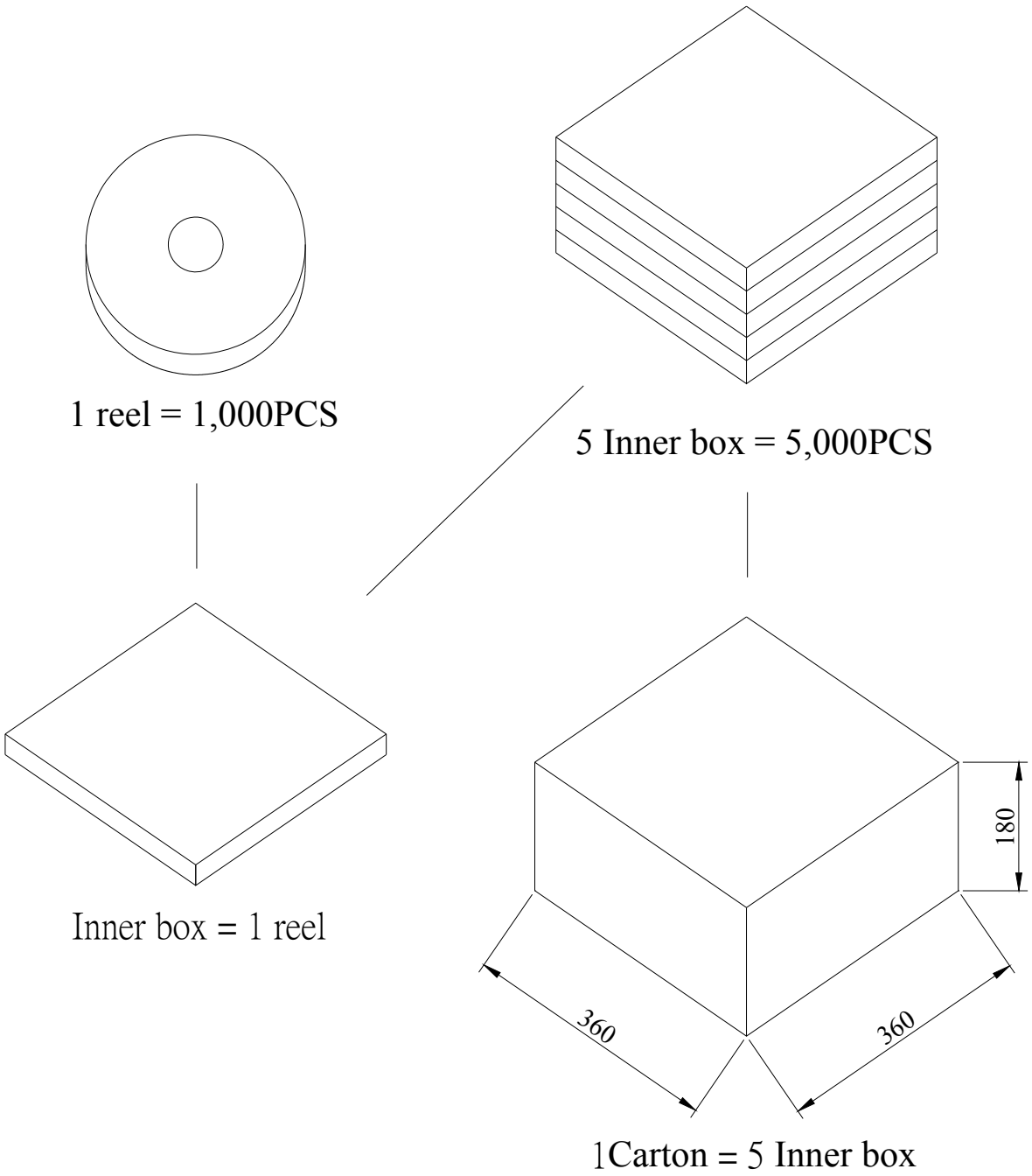
# F: MEASUREMENT METHOD



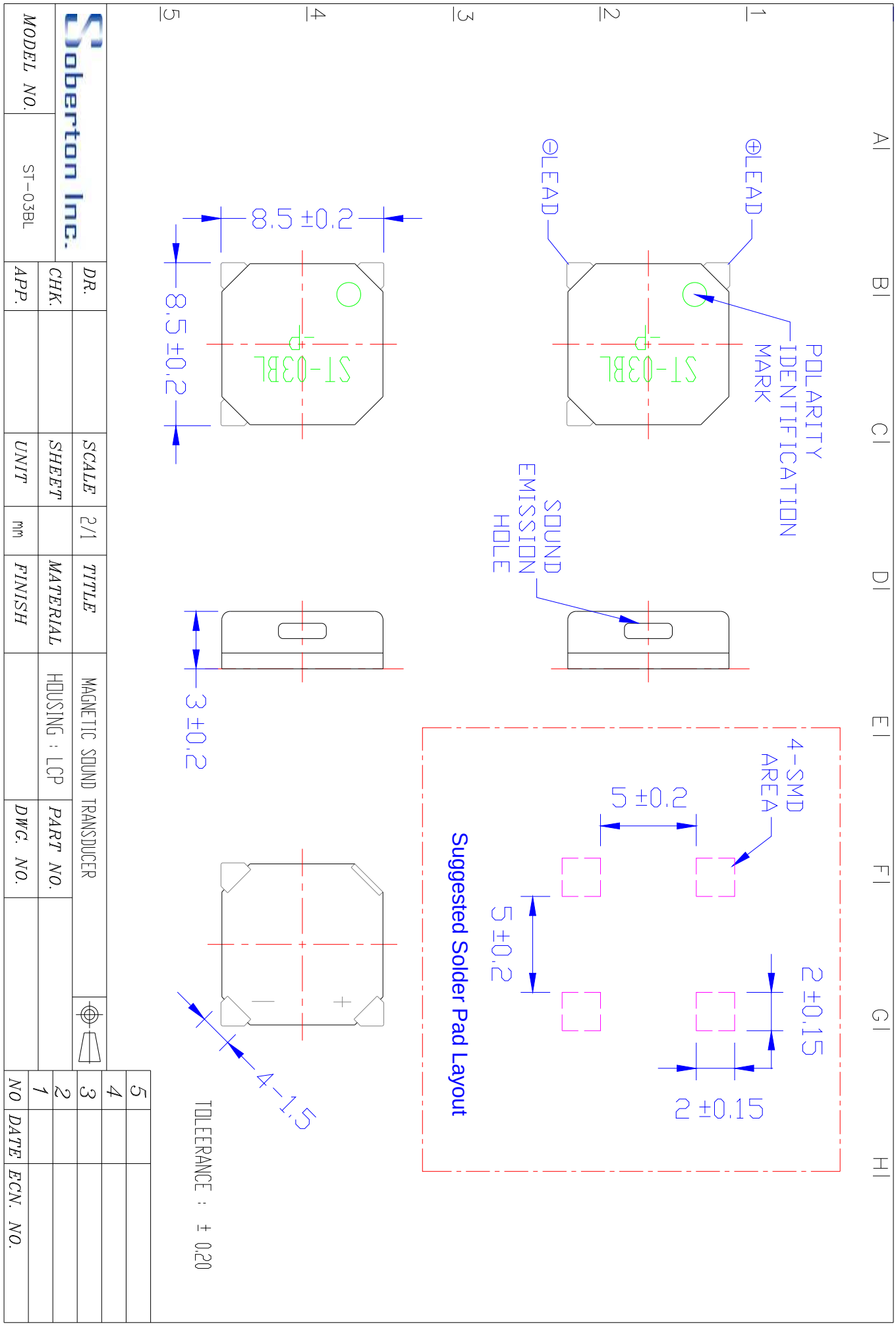

# G: INSPECTION FIXTURE



# H: PACKING




| Packing | Dimension (mm) | Quantity (piece) |
|---|---|---|
| 1 Reel | Φ330 * H21 | 1,000 pcs |
| 1 Inner box | 336 * 336 * 29 | 1000 pcs |
| 1 Carton | 360 * 360 * 180 | 5,000 pcs |


⊕LEAD
POLARITY IDENTIFICATION MARK
⊖LEAD
ST-03BL
SOUND EMISSION HOLE
8.5 ±0.2
8.5 ±0.2
3 ±0.2
4-SMD AREA
5 ±0.2
5 ±0.2
2 ±0.15
2 ±0.15
Suggested Solder Pad Layout
4-1.5
TOLEERANCE : ± 0.20
Soberton Inc.
DR.
CHK.
APP.
SCALE 2/1
SHEET
UNIT mm
TITLE MAGNETIC SOUND TRANSDUCER
MATERIAL HOUSING : LCP
FINISH
PART NO.
DWG. NO.
MODEL NO. ST-03BL
NO DATE ECN. NO.