

SPECIFICATION

FOR

APPROVAL

Customer : _____

Description : Piezo Buzzer _____

KLS Model No. : L-KLS3-PT-13.8*6.8 _____

Customer's Model No. : _____

| ISSUE | CHECK | APPROVAL | CUSTOMER |
|-------------------|---------------------|------------------------|----------|
| ZhuYu 15.01.17 | ShiCong 15.01.17 | WangXueWen 15.01.17 | |

KLS ELECTRONIC CO., LTD.

Add: 1610-1614 PACIFIC MANSION NO. 500 MINGZHOU ROAD
BEILUN AREA NINGBO CHINA Tel:86-519-88864155 88860185
Fax: 86-574-86828566
E-mail:sales@cnkls.com <http://www.cnkls.com/>

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1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

| | Item | Unit | Specifications |
|------|-----------------------------------|------|------------------|
| 1-1 | Rated Voltage (Square Wave) | Vp-p | 5 |
| 1-2 | Operating Voltage | Vp-p | 1-20 |
| 1-3 | * Rated Current (Max) | mA | 1 |
| 1-4 | * Min Sound Output at 4.0kHz/10cm | dB | 80 |
| 1-5 | * Resonant Frequency | Hz | 4000±500 |
| 1-6 | Capacitance at 120Hz | pF | 13000±30% |
| 1-7 | Operating Temperature | °C | -30~+70 |
| 1-8 | Storage Temperature | °C | -40~+85 |
| 1-9 | Weight | g | 1 |
| 1-10 | Housing Material | | Black MPPO |
| 1-11 | Lead Pin Material | | Red Copper (DSn) |
| 1-12 | Tone Nature | | Single |
| | | | |
| | | | |
| | | | |
| | | | |

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

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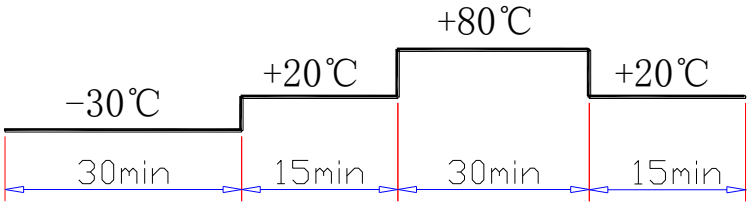
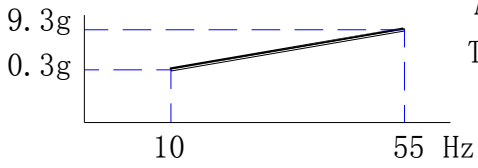
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2.ENVIRONMENTAL TEST

| | Item | Specifications |
|-----|------------------------|---|
| 2-1 | Storage in High temp. | Storage in $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ test box for 240 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 240 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 96 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 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.: $260 \pm 5^{\circ}\text{C}$ Heat applying time: $3 \pm 0.5\text{sec}$. |

PASS CRITERION :

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

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3.MEASURING METHOD(BUZZER MODE)

3-1 .Test Condition

3-1-1.STANDARD

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

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

3-1-2.JUDGEMENT

Temperature : 15 ~ 35°C

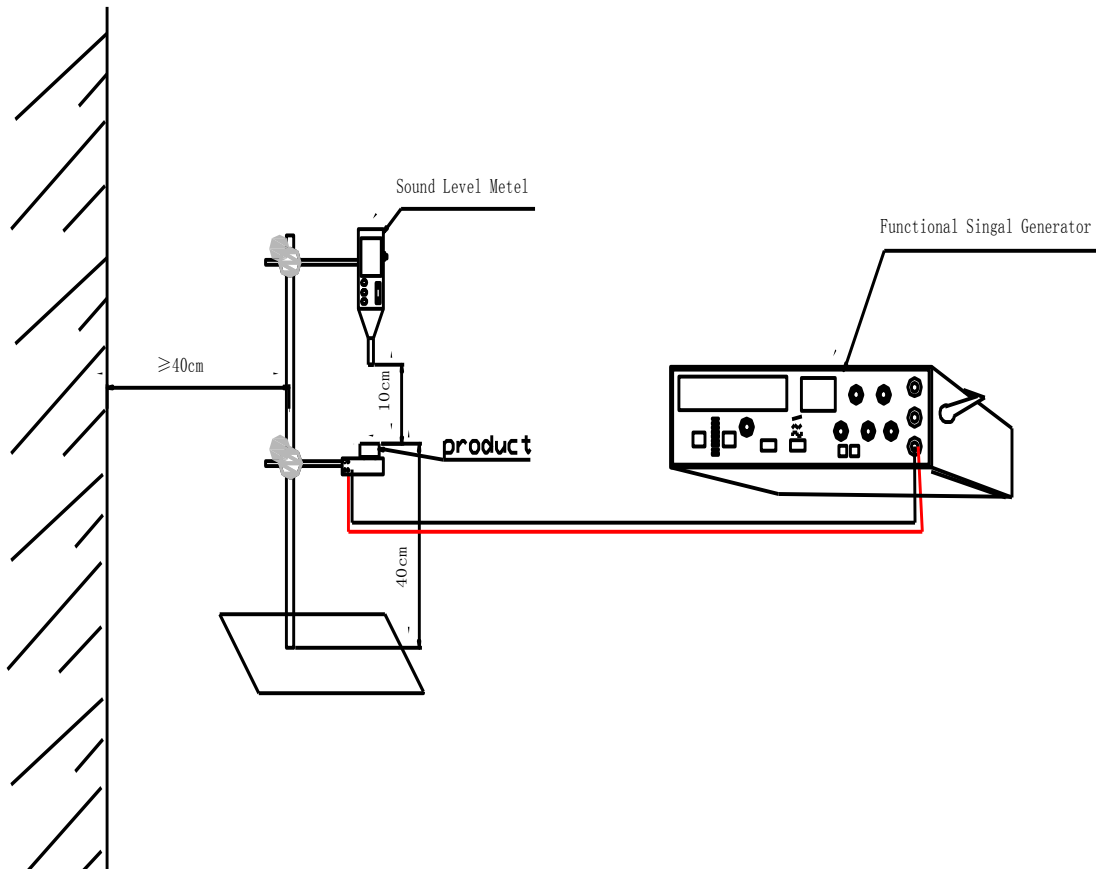
Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

3-2 . Standard Test Fixture

1.rated Voltage(Square wave):5V

2.Resonant Frequency:4000Hz



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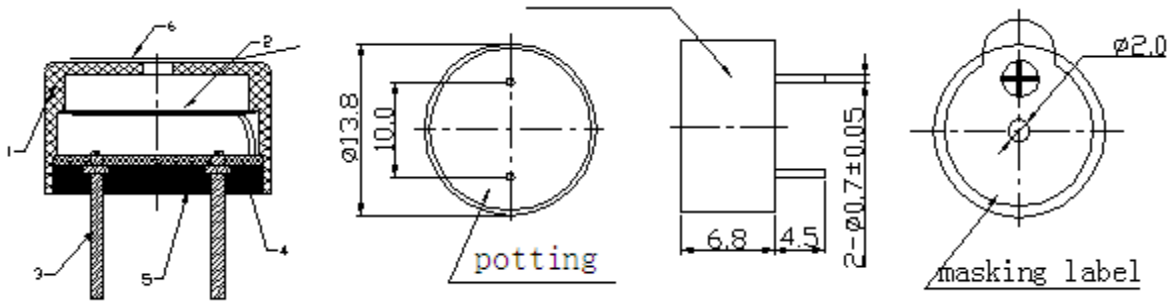
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5.DIMENSIONS

Unless otherwise specified, tolerance: ± 0.5 (unit:mm)



- 1) All parts must be meet to ROHS.
- 2) Wave solder and wash allowed

| | | | | |
|----------|---------------|------|-----------------|--------|
| 7 | | | | |
| 6 | Masking label | 1 | Paper | |
| 5 | Epoxy | | | |
| 4 | PCB | 1 | Epoxy Board | |
| 3 | Lead Pin | 2 | Red Copper(DSn) | |
| 2 | Piezo element | 1 | Nickel | |
| 1 | Housing | 1 | Black MPPO | |
| Part No. | Part Name | Q'TY | Material | Remark |

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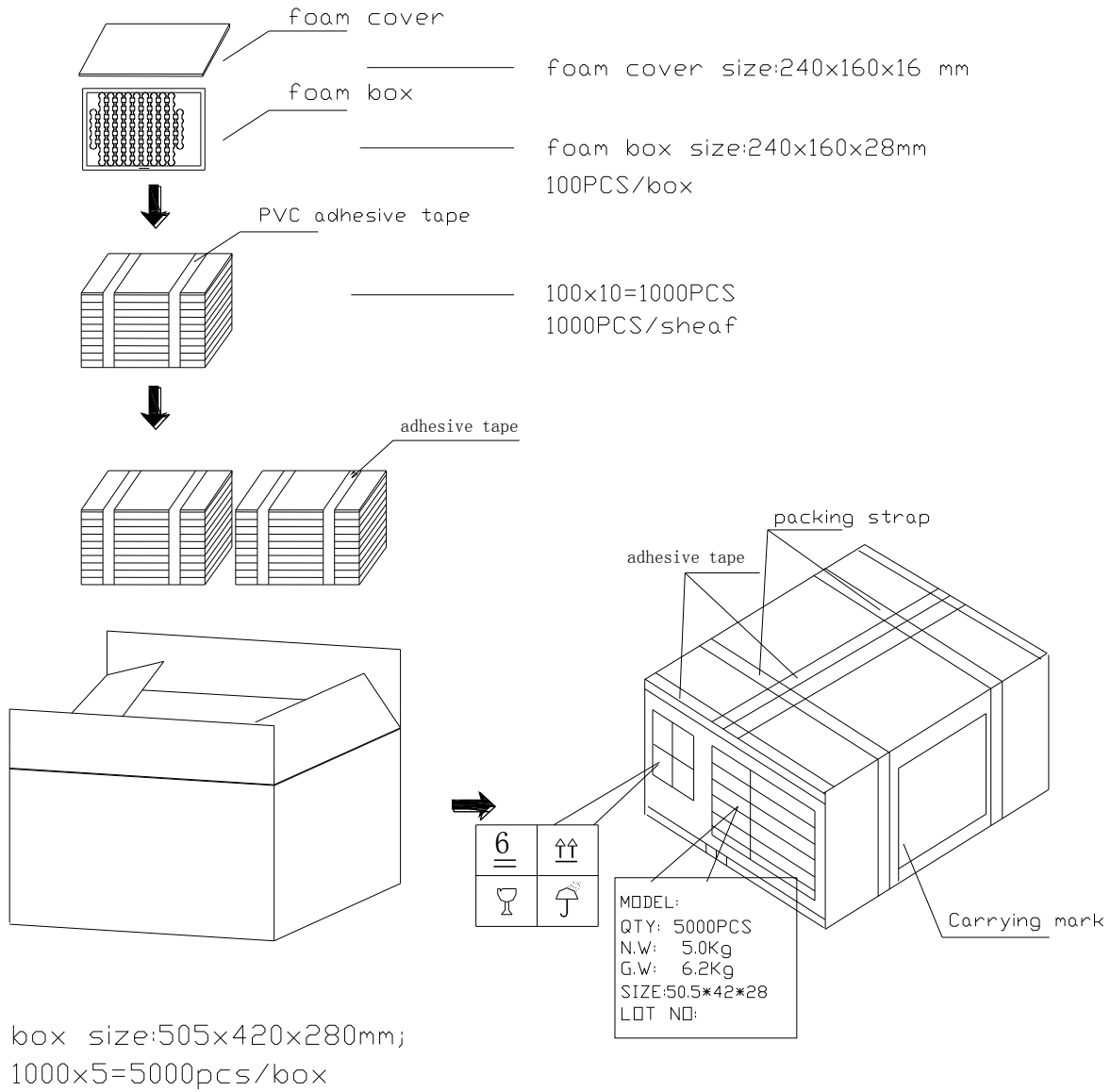
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7.PACKING



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