

# Product Specification

Number: L-KLS3-PB-1408-B  
Name: Piezo Audio Transducer  
Specification: \_\_\_\_\_  
Customer: B36  
Date: 2020-07-06

Customer Signature:



**NINGBO KLS ELECTRONIC CO; LTD**

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INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.

Compile	Check	Review	Approval
Jenny	Jack.C		

# SPECIFICATIONS

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## 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

	Item	Unit	Specifications
1-1	Rated Voltage	V	12
1-2	Operating Voltage	V	3-16
1-3	* Rated Current (Max)	mA	7
1-4	* Min Sound Output at 10cm	dB	80
1-5	* Resonant Frequency	Hz	4000±500
1-6	Tone Nature		Single
1-7	Operating Temperature	°C	-30~+80
1-8	Storage Temperature	°C	-40~+85
1-9	Weight	g	1
1-10	Housing Material		Noryl (Black)
1-11	Lead Pin Material		Red Copper (DSn)

\* Value Applying at Rated Voltage(DC)

		13.01.11	ZhuYu	ShiCong	WangXueWen
Issue No	Description	Date	Issue	Check	Approval

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# SPECIFICATIONS

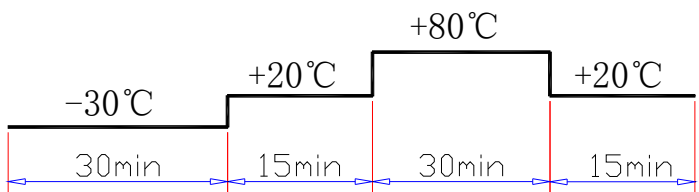
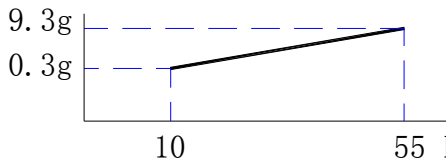
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## 2.ENVIRONMENTAL TEST

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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Universal ( Changzhou ) Electronics Co., Ltd.

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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 ~  $35^{\circ}\text{C}$

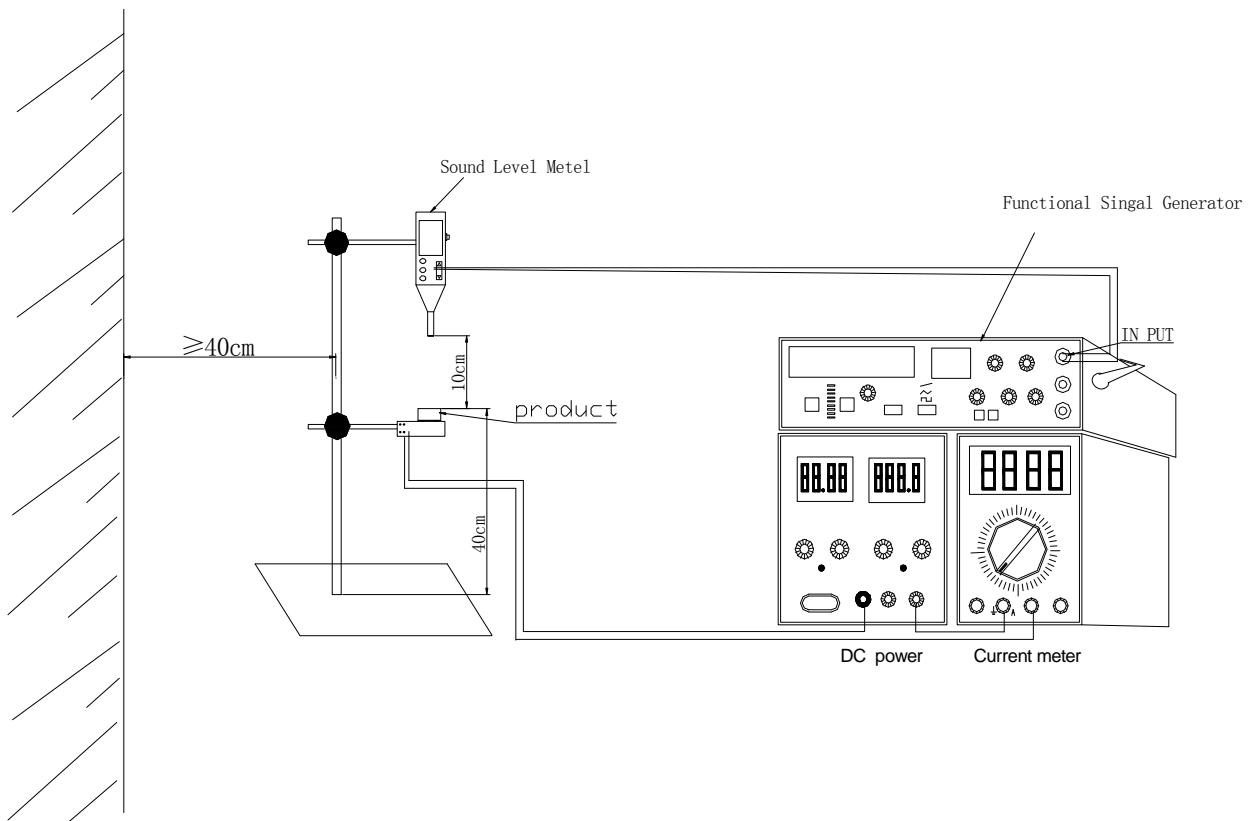
Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

### 3-2 . Standard Test Fixture

1.rated Voltage(Square wave): 12V

2.Resonant Frequency:  $4000\text{Hz} \pm 500$



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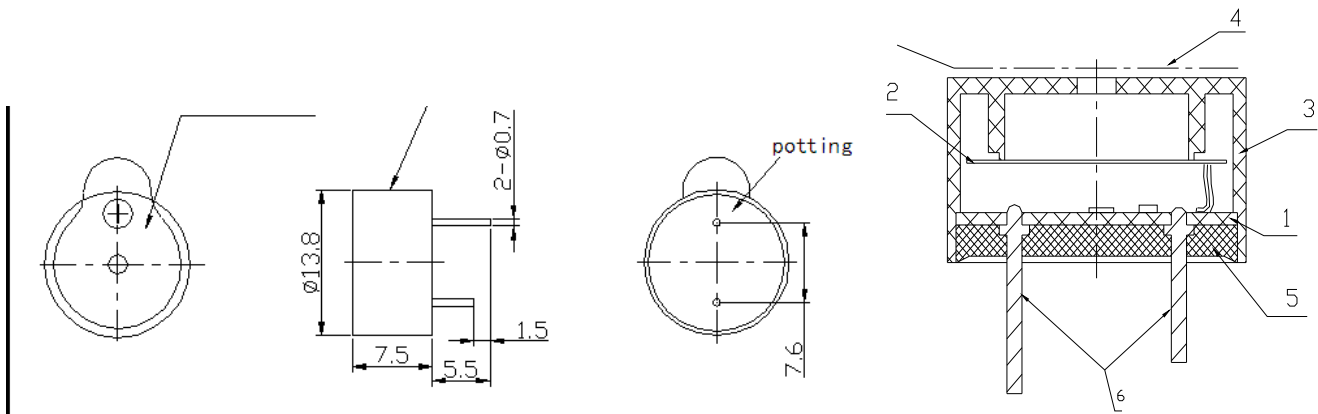
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## 5.DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.5$ (unit:mm)



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

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6	Lead pin	2	Red Copper (DSn)	
5	Epoxy		Resin	
4	Masking label	1	Paper	
3	Housing	1	Black Noryl	
2	Piezo element	1	Nickel	
1	PCB	1	Epoxy Board	
Part No.	Part Name	Q'TY	Material	

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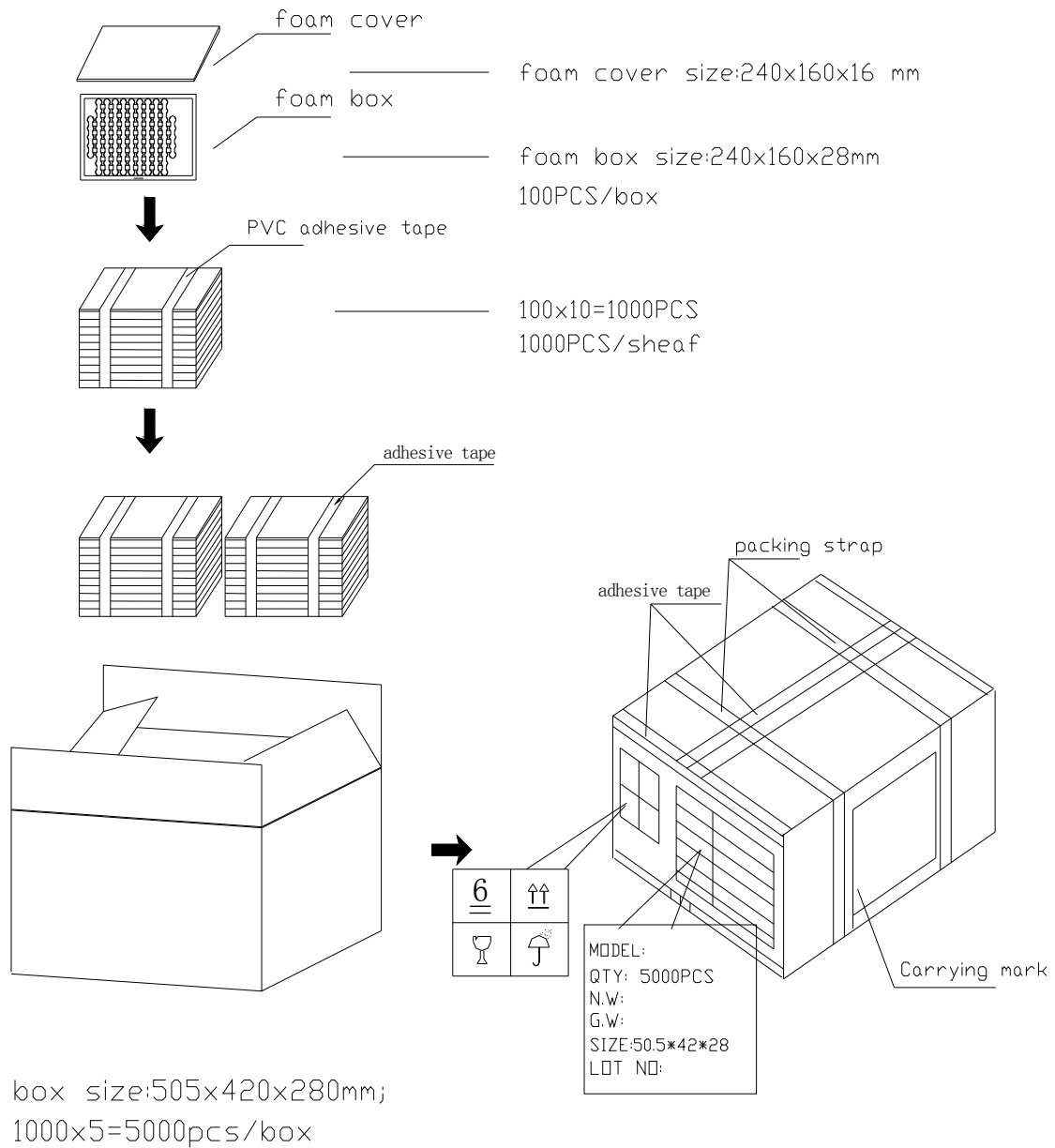
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## 6.PACKING



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