



# KLS ELECTRONIC CO.,LTD.

Customer : \_\_\_\_\_

Description : \_\_\_\_\_ Magnetic Transducer \_\_\_\_\_

Universal Model No. : \_\_\_\_\_ L-KLS3-MT-12\*09-B \_\_\_\_\_

Customer's Model No. : \_\_\_\_\_

ISSUE	CHECK	APPROVAL	CUSTOMER
ZhuYu 11.01.12	ShiCong 11.01.12	WangXueWen 11.01.12	



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## SPECIFICATIONS

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### 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

	Item	Unit	Specifications
1-1	Rated Voltage (Square Wave)	V	5.0
1-2	Operating Voltage	V	3-7
1-3	* Rated Current (Max)	mA	60
1-4	* Min Sound Output at 10cm	dB	85
1-5	* Resonant Frequency	Hz	2400
1-6	Coil Resistance	$\Omega$	$40 \pm 5$
1-7	Operating Temperature	$^{\circ}\text{C}$	-30~+70
1-8	Storage Temperature	$^{\circ}\text{C}$	-40~+85
1-9	Weight	g	2
1-10	Housing Material	NORYL(MPPO)	
1-11	Lead Pin Material	Red Copper (DSn)	

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

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## SPECIFICATIONS

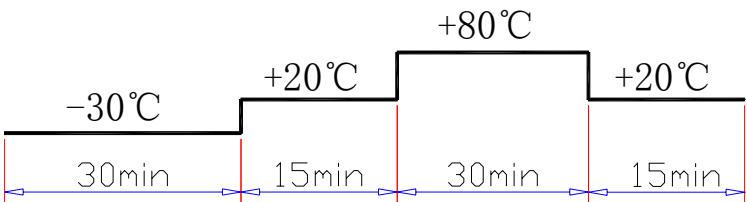
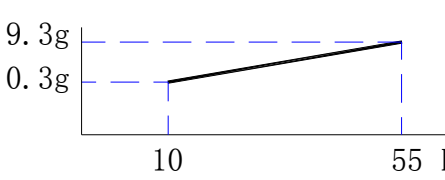
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### 2.ENVIRONMENTAL TEST

	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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### 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 :  $15 \sim 35^{\circ}\text{C}$

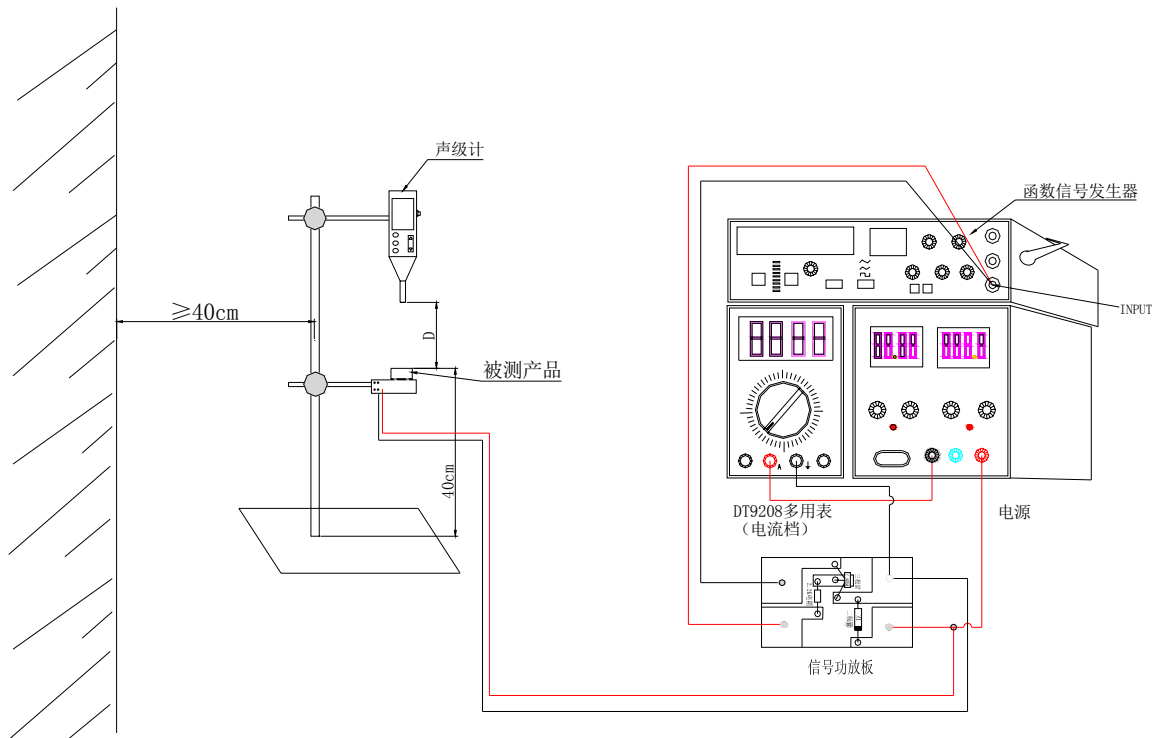
Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

#### 3-2 . Standard Test Fixture

1.rated Voltage(Square wave):5V

2.Resonant Frequency:2048Hz

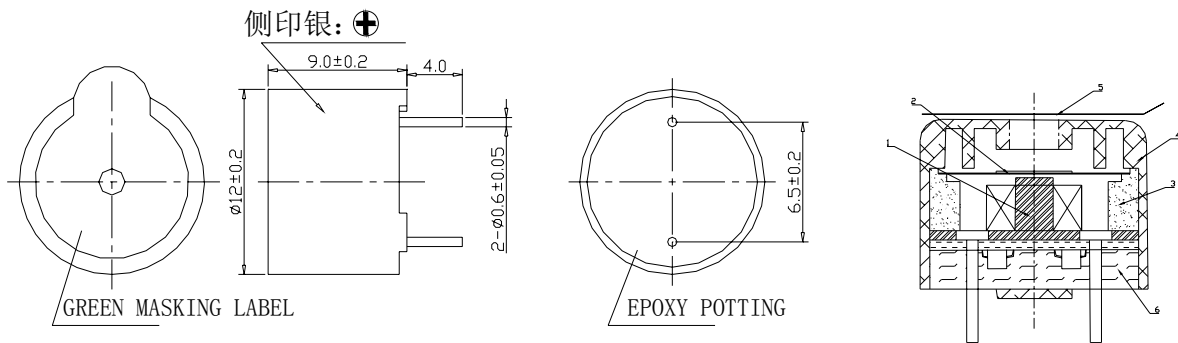


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### 5.DIMENSIONS

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



Cadmium(Cd)/Cndmium Compounds	$\leq 100$ ppm
Lead (Pb) / Lead Compounds	$\leq 800$ ppm
Mercury (Hg) Merrcury Compounds	$\leq 800$ ppm
Hexavalent-Chromium (Cr6+) Compounds	$\leq 800$ ppm
PBB	$\leq 800$ ppm
PBDE	$\leq 800$ ppm

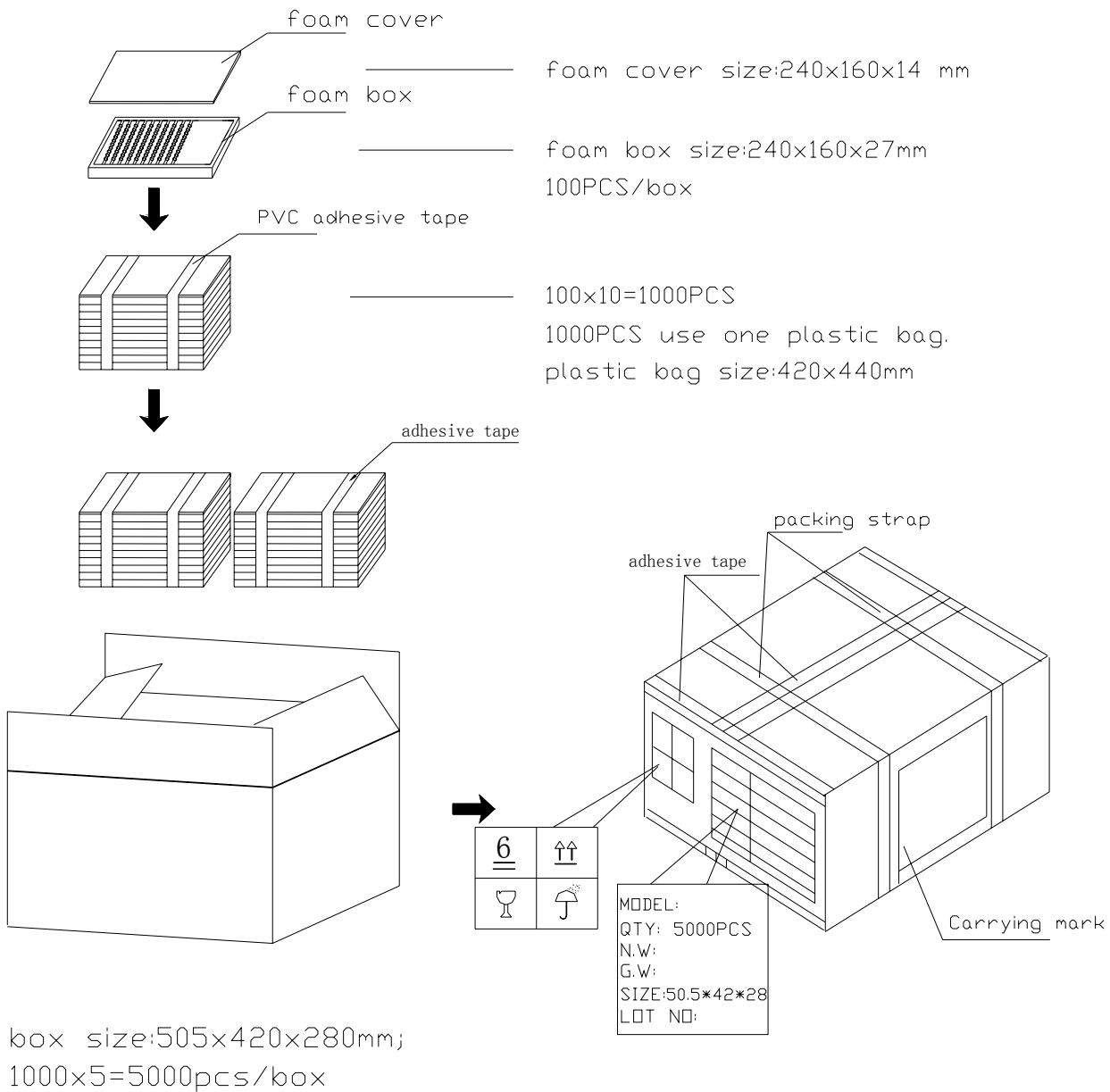
- 1) All parts must be meet to ROHS.
- 2) Wave solder and wash allowed.

Part No.	Part Name	Q'TY	Material	Remark
6	Potting		Exopy	
5	Masking label	1	Paper	
4	Housing	1	Noryl	
3	Core	1	Ferrite	
2	Diaphragm	1	Iron	
1	Coil Part	1	Copper And Iron	

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### 7.PACKING



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