

## A. SCOPE

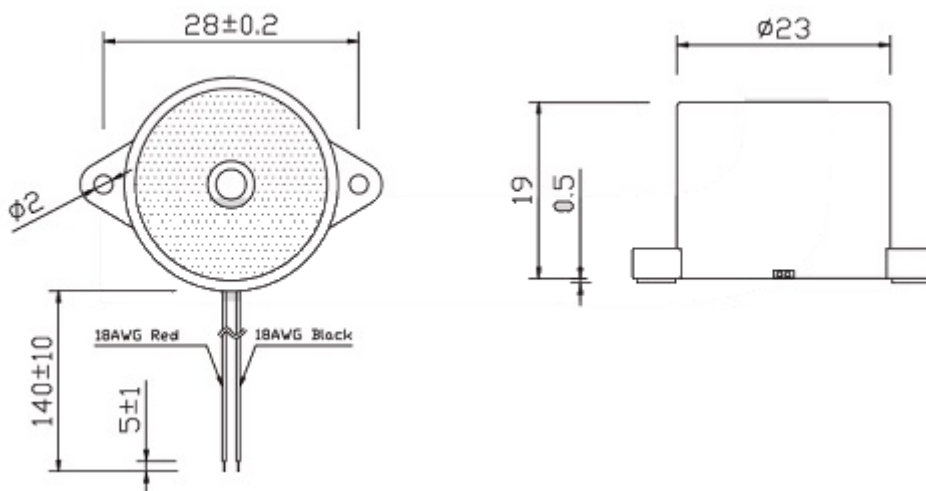
This specification applies Internally driven piezo buzzer,with wire. L-KLS3-LPB-23\*19

## B. SPECIFICATION

No.	Item	Unit	Specification	Condition
1	Oscillation Frequency	KHz	3.3±0.5	
2	Operating Voltage	V <sub>DC</sub>	3 ~ 24	
3	Rated Voltage	V <sub>DC</sub>	12	
4	Current Consumption	mA	MAX. 15	at Rated Voltage
5	Sound Pressure Level	dB	MIN. 88	at 30cm at Rated Voltage
6	Tone Nature		Constant	
7	Operating Temperature	°C	-40~ +85	
8	Storage Temperature	°C	-40 ~ +105	
9	Dimension	mm	Φ23 x H19	See appearance drawing
10	Weight (MAX)	gram	4	
11	Housing Material		ABS( Black )	
12	Leading Pin		Wire type	See appearance drawing
13	Environmental Protection Regulation		RoHS	

## C. APPEARANCE DRAWING

Dimensions (Unit:mm)



Tol : ± 0.5

Unit: mm



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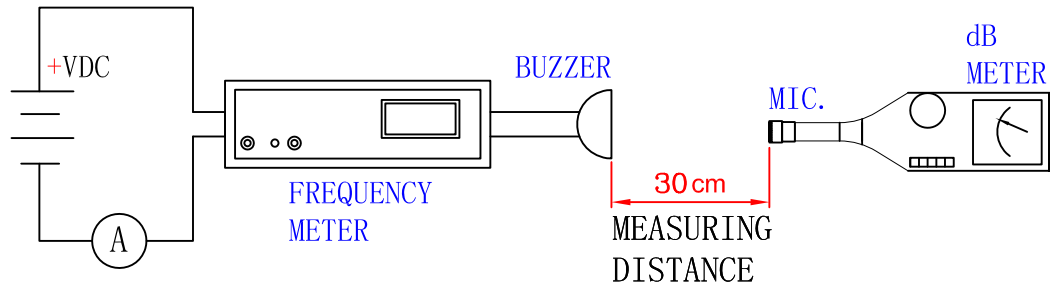
## D. TESTING METHOD

### Standard Measurement conditions

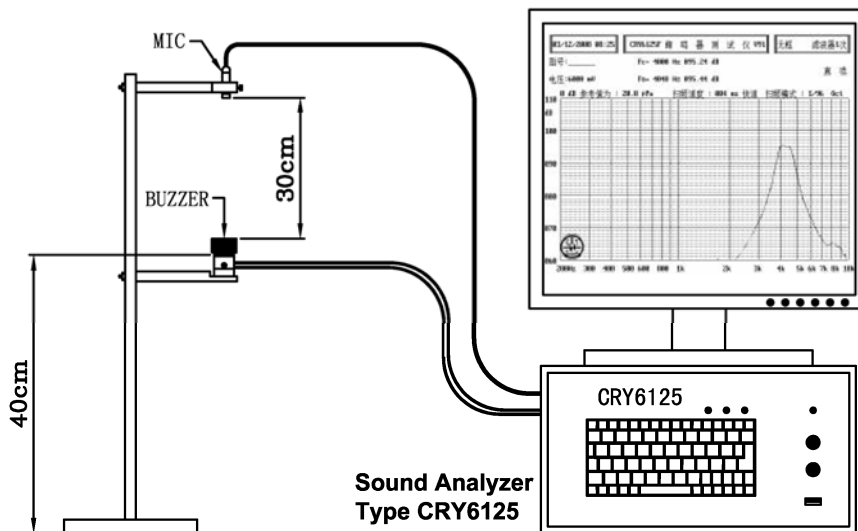
Temperature:  $25 \pm 2^\circ\text{C}$  Humidity: 45-65%

### Acoustic Characteristics:

The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below



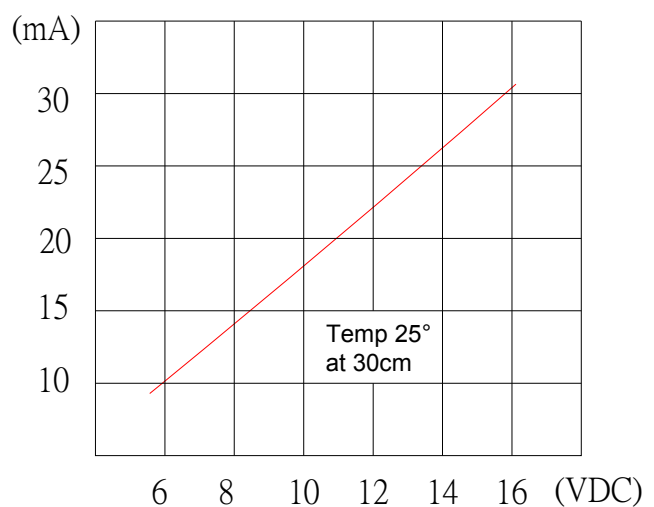
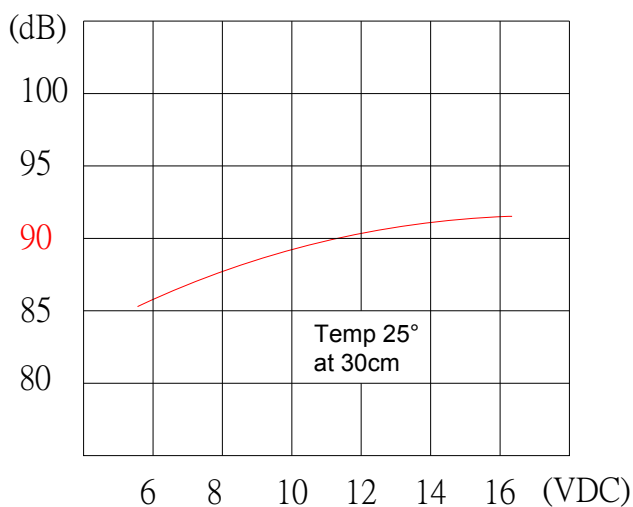
In the measuring test, buzzer is placed as follows:



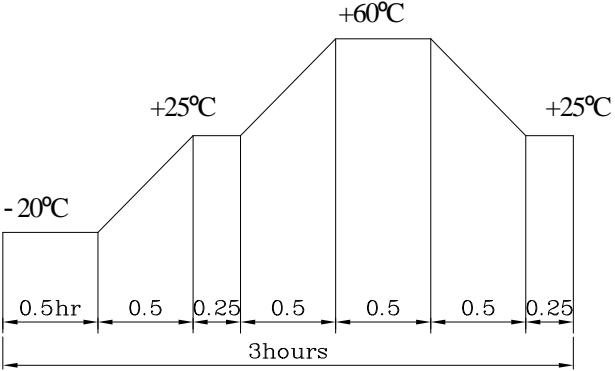
## E. VOLTAGE / CURRENT / SOUND PRESSURE CHARACTERISTICS

dB-V

mA-V



## F. RELIABILITY TEST

NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with $70\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$ .
2	Low Temperature Test (Storage)	After being Placed in a chamber with $-30\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$ .
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at $40\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$ .
4	Temperature Cycle Test	The part shall be subjected to 5 cycles. One cycle shall be consist of :  <p>The diagram shows a temperature cycle profile over 3 hours. It starts at <math>-20^{\circ}\text{C}</math> for 0.5 hours, then ramps up to <math>+25^{\circ}\text{C}</math> in 0.5 hours, holds at <math>+25^{\circ}\text{C}</math> for 0.25 hours, ramps up to <math>+60^{\circ}\text{C}</math> in 0.5 hours, holds at <math>+60^{\circ}\text{C}</math> for 0.5 hours, ramps down to <math>+25^{\circ}\text{C}</math> in 0.5 hours, holds at <math>+25^{\circ}\text{C}</math> for 0.25 hours, and finally ramps down to <math>-20^{\circ}\text{C}</math> in 0.5 hours. The total duration is 3 hours.</p>
5	Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm . Allowable variation of SPL after test: $\pm 10\text{dB}$ .
6	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours . Allowable variation of SPL after test: $\pm 10\text{dB}$ .
7	Solderability Test	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+300\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds . 90% min. lead terminals shall be wet with solder (Except the edge of terminals).
8	Terminal Strength Pulling Test	The force of 9.8N(1.0kg) is applied to each terminal in axial direction for 10 seconds. No visible damage and cutting off.

### TEST CONDITION.

Standard Test Condition	:	a) Temperature : $+5 \sim +35^{\circ}\text{C}$	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般测试条件	:	a) 温度 : $+5 \sim +35^{\circ}\text{C}$	b) 湿度 : 45-85%	c) 气压 : 860-1060mbar
Judgment Test Condition	:	a) Temperature : $+25 \pm 2^{\circ}\text{C}$	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
争议时测试条件	:	a) 温度 : $+25 \pm 2^{\circ}\text{C}$	b) 湿度 : 60-70%	c) 气压 : 860-1060mbar



## **G. PACKING STANDARD**

Each minimum package unit of products shall be in a carton box and it shall be clearly marked with Part Number, quantity and outgoing inspection number. There shall be no mechanical damage on products during transportation and/or in storage.



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