



soberton inc.

# PB PIEZO AUDIO BUZZER

Acoustic Product Specification

Product Number: PB-2312NL



Release | Revision: B/2018

## CONTENTS

This document contains the technical specifications for the piezo audio buzzer.

### Page 1

Specifications

Mechanical Characteristics

### Page 2

Environment Test

Reliability Test

### Page 3

Measuring Method (Speaker Mode)

### Page 4

Dimensions

### Page 5

Packing

## Specifications

Item	Unit	Specification	Condition
Rated Voltage	VDC	12.0	
Operating Volt	VDC	8.0 ~ 15.0	
Mean Current	mA	15 Max.	At 12.0 VDC
Sound Output	dBa	88	At 30cm at rated voltage
Resonant Frequency	Hz	3300 ± 500	
Operating Temp	°C	-20 ~ +60	
Storage Temp	°C	-20 ~ +70	
Dimension	mm	22.7 x 12.1	See dimension
Weight	gram	8	
Material		ABS (black)	
Terminal	Wire type	Wire 100mm UL1007/AWG26#	
Environmental Protection Regulation		RoHS	

### Test condition:

Temperature: +25±2 °C

Related humidity: 65±5%

## Mechanical Characteristics

Item	Test condition	Evaluation standard
Lead Wire Pull Strength	The pull force will be applied to double lead wire: Horizontal: 3.0N(0.306kg) for 30 seconds. Vertical: 2.0N(0.204kg) for 30 seconds.	No damage and cutting off
Vibration	Buzzer will be measured after being applied vibration of amplitude of 1.5mm with 10Hz to 55Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours.	The value of oscillation frequency current consumption would be in ±10% compared with initial ones.
Drop test	The part only will be dropped from a height of 70cm onto a 40mm thick wooden board 3 times in 3 axes(X,Y,Z). A total of 9 times.	The SPL would be in ±10dB compared with initial one.



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### Page 4

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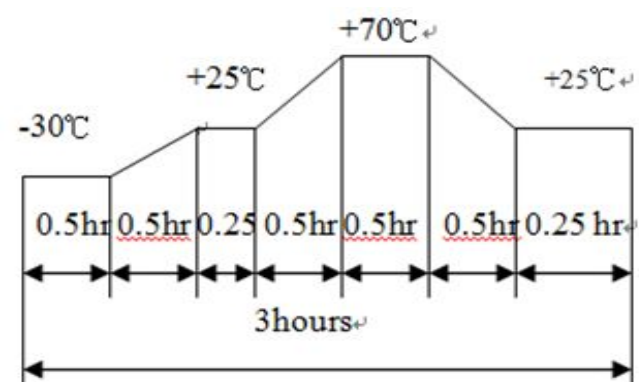
### Page 5

Packing

## Environment Test

Item	Test condition	Evaluation standard
High temp. test	After being placed in a chamber at +70°C for 96 hours	Being placed for 4 hours at +25°C, buzzer will be measured.
Low temp. test	After being placed in a chamber at -30°C for 96 hours	The value of oscillation, frequency / current consumption would be in ±10% compared with initial ones.
Humidity test	After being placed in a chamber at +70°C and 90±5% relative humidity for 96 hours	The SPL would be in ±10dB compared with initial one.

Temp cycle test  
The part will be subjected to 5 cycles.  
One cycle shall consist of:



## Reliability Test

Item	Test condition	Evaluation standard
Operating life test	<p><b>1. Continuous life test</b> 48hours continuous operation at +55°C with maximum rated voltage applied</p> <p><b>2. Intermittent life test</b> A duty cycle of 1 minute on, 1 minutes off, a minimum of 1000 times at +25±2°C and maximum rated voltage applied</p>	<p>After test, the part will meet specifications without any degradation in appearance and performance except SPL, after 4 hours at +25°C.</p> <p>The SPL would be in±10dBA compared with initial one.</p>

### Standard test condition:

- a) Temperature: +5~+35°C
- b) Humidity: 45~85%
- c) Pressure: 860~1060mbar



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### Page 2

Environment Test

Reliability Test

### Page 3

Measuring Method (Speaker Mode)

### Page 4

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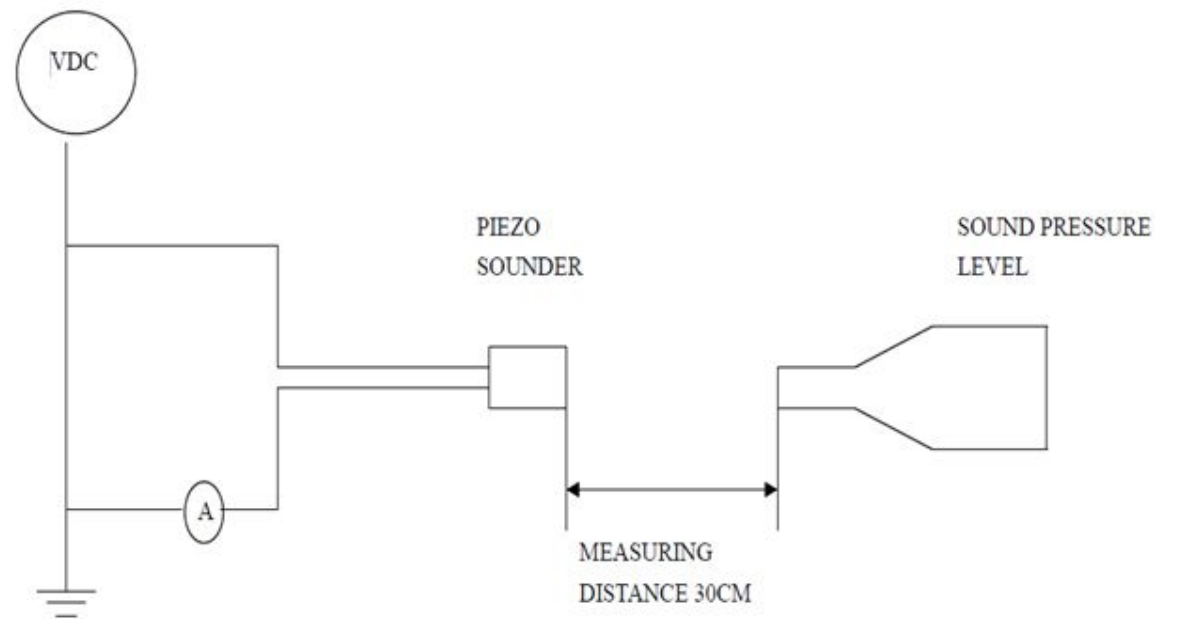
### Page 5

Packing

## Measuring Method (Speaker Mode)

### S.P.L Measuring Circuit

Input Signal: 12.0 VDC



MIC: S.P.L meter TES1351B or equivalent



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### Page 2

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Reliability Test

### Page 3

Measuring Method (Speaker Mode)

### Page 4

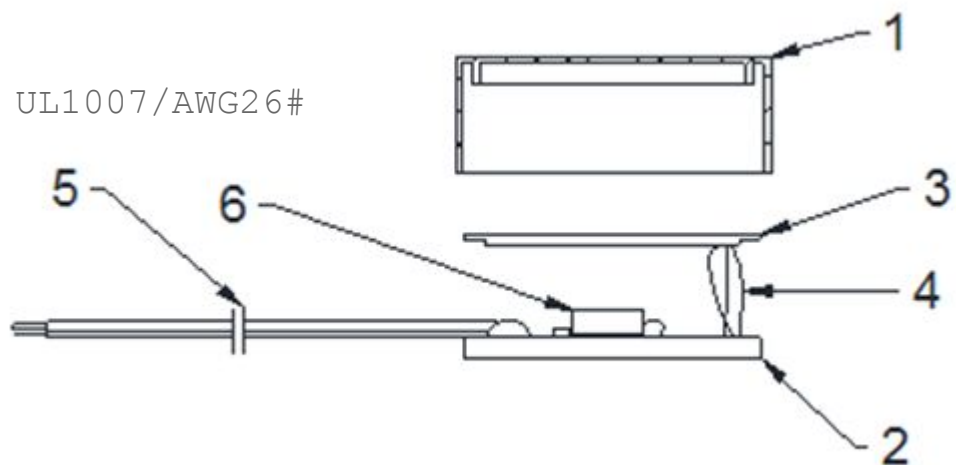
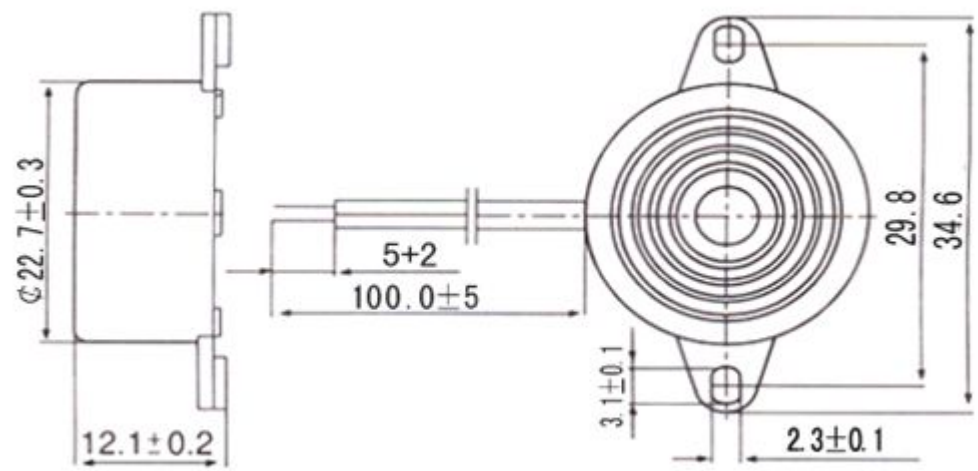
Dimensions

### Page 5

Packing

## Dimensions

Tolerance:  $\pm 0.5$  (unit: mm)



No.	Part Name	Material	Quantity
1	Case	ABS	1
2	Cover/PCB	Epoxy	1
3	Piezo	Brass + ceramic	1
4	Wire	Copper	3
5	Wire	UL1007/AWG26#	2
6	Transistor	Epoxy + copper	2



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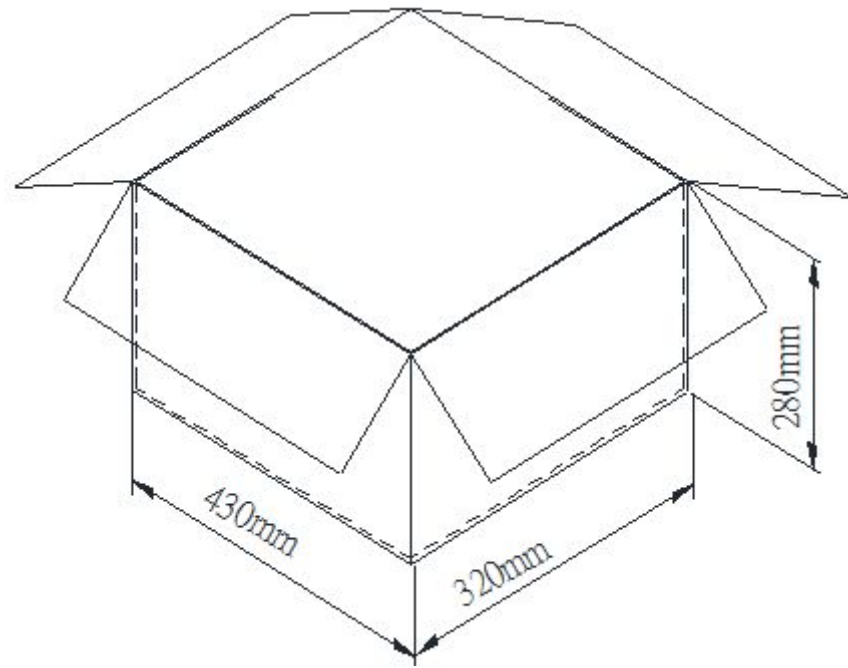
### Page 4

Dimensions

### Page 5

Packing

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## Details

	Size (mm)	Quantity (pcs)
Carton	430 x 320 x 280	2000