



soberton inc.

# PB PIEZO AUDIO BUZZER

Acoustic Product Specification

Product Number: PB-3214NL



Release | Revision: C/2018

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## Specifications

Item	Unit	Specification	Condition
Rated Voltage	VDC	12.0	
Operating Volt	VDC	3.0 ~ 24.0	
Current Consumption	mA	15 Max.	At 12.0 VDC
Sound Output	dBA	90	At 30cm/12.0 VDC
Resonant Frequency	Hz	3700 ±500	
Operating Temp	°C	-20 ~ +60	
Storage Temp	°C	-20 ~ +70	
Dimension	mm	ø32.0 × H14.0	WIRE 150mm UL1007 / AWG26#
Weight	gram	8	
Material		ABS (black)	
Terminal		Wire type	See attached drawing
Environmental Protection Regulation		RoHS	

### Test condition:

Temperature: +25±2 °C    Related humidity: 65±5%    Air Pressure: 86~106KPa

## Mechanical Characteristics

Item	Test condition	Evaluation standard
Lead Wire Pull Strength	The pull force shall 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	The buzzer shall be measured after a vibration of amplitude of 1.5mm with 10Hz to 55Hz band of vibration frequency is applied to each of 3 perpendicular directions for 2 hours.	The value of oscillation frequency/ current consumption should be in ±10% compared with initial ones.
Drop Test	The part is 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 should be in ±10dB compared with initial one.



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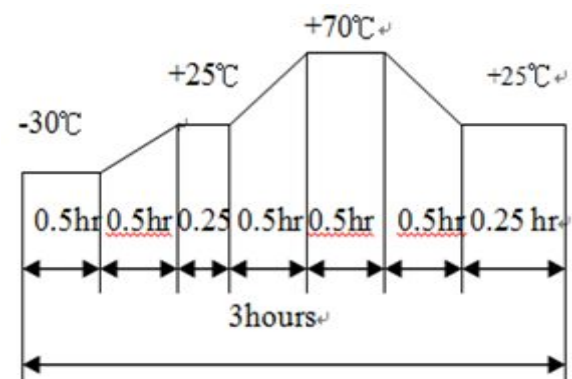
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## Environment Test

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

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



## Reliability Test

Item	Test condition	Evaluation standard
Operating Life Test	<b>1. Continuous life test</b> 48 hours of continuous operation at +55°C with the maximum rated voltage applied	After the test, the part shall meet specifications without any degradation in appearance and performance except SPL.
	<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 the maximum rated voltage applied	After 4 hours at +25°C, the SPL should be in±10dBA compared with initial one.

### Standard test condition:

- a) Temperature: +5~+35°C
- b) Humidity: 45~85%
- c) Pressure: 86~106KPa



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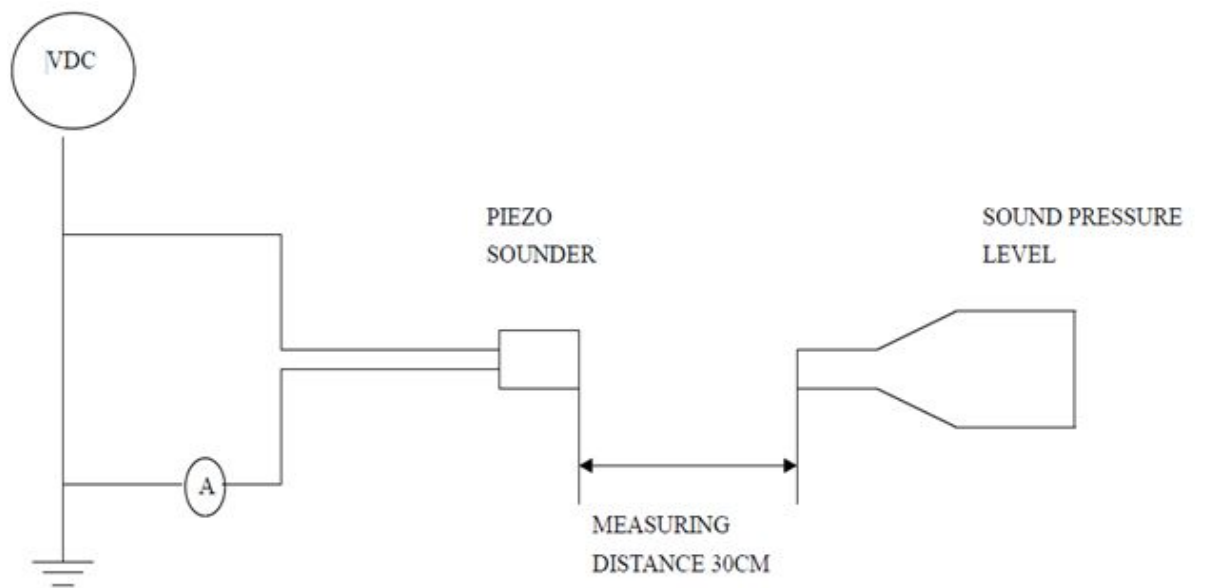
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## Measuring Method (Speaker Mode)

### S.P.L Measuring Circuit

Input Signal: 12.0 VDC



MIC: RION S.P.L meter UC30 or equivalent



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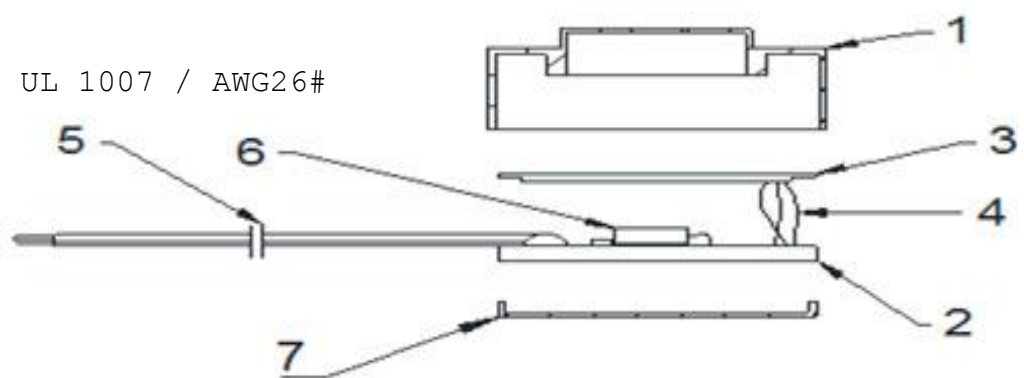
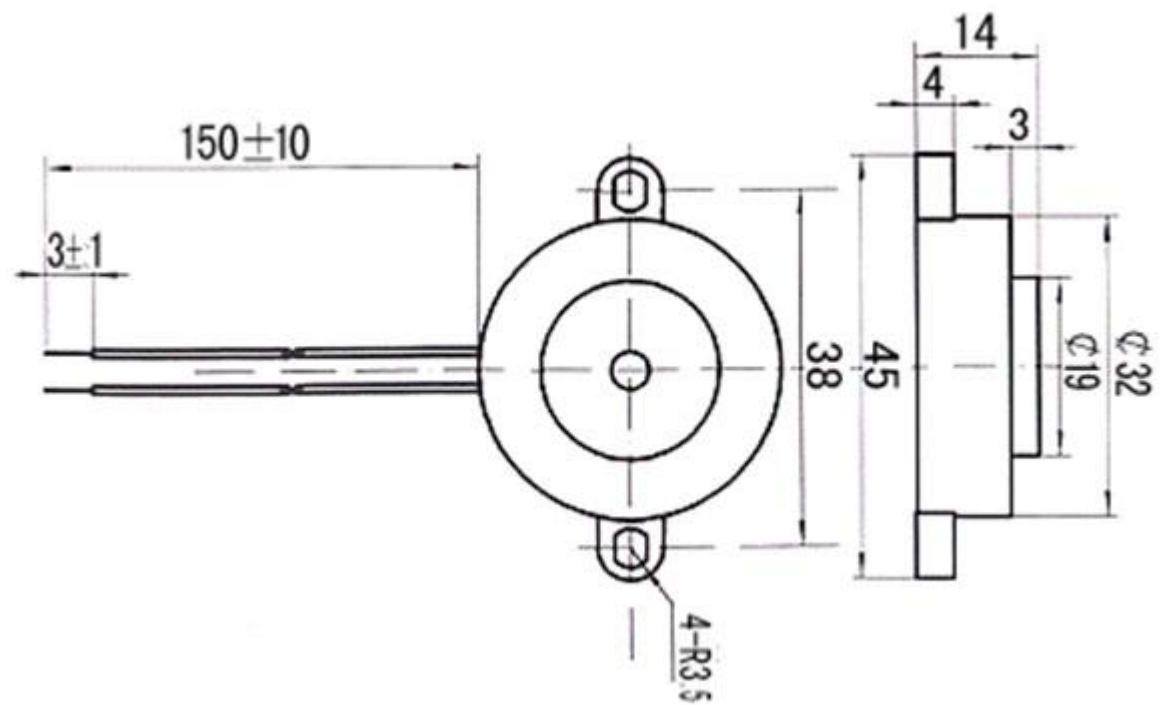
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## Dimensions

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



No.	Part Name	Material	Quantity
1	Case	ABS	1
2	PCB	Epoxy	1
3	Piezo	Brass + Ceramic	1
4	Wire	Copper	3
5	Wire (150mm)	UL 1007 AWG26#	2
6	Transistor	Epoxy + Copper	
7	Cover	ABS	1



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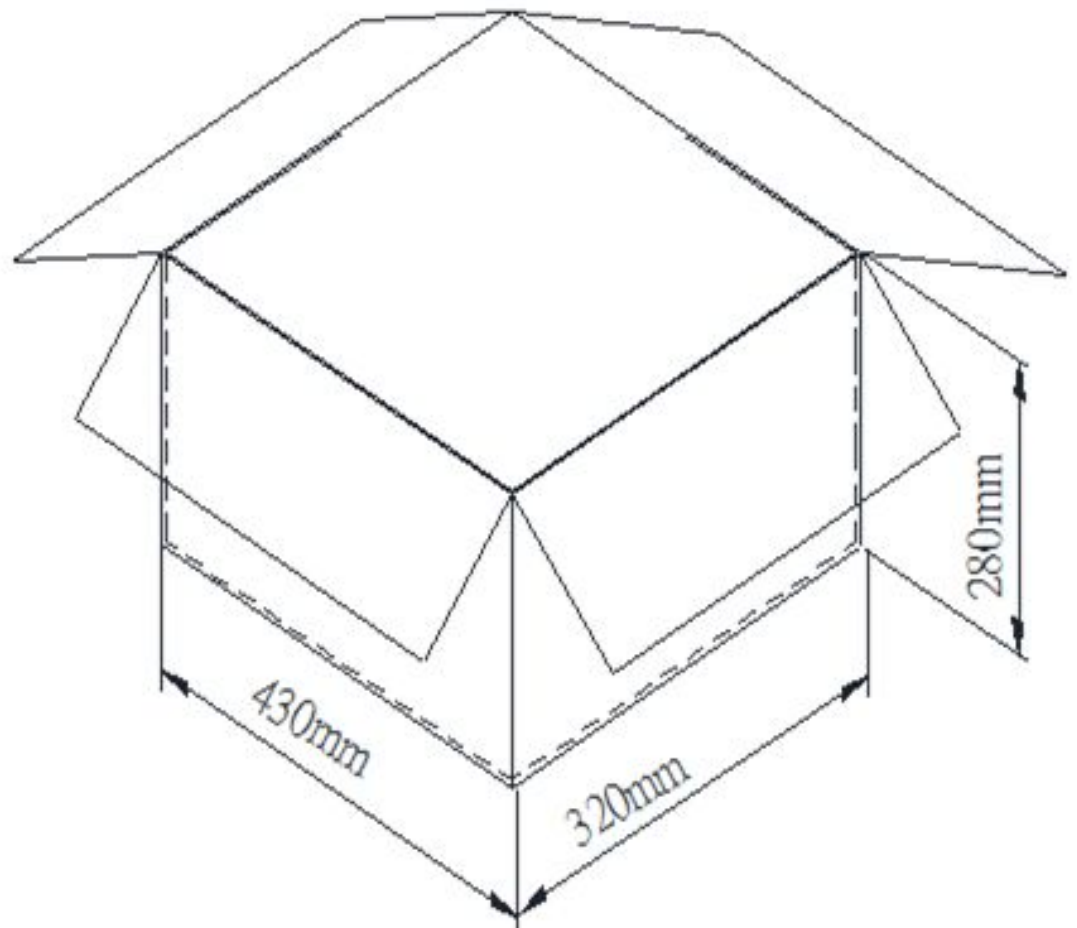
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## Details

	Size (mm)	Quantity (pcs)
Carton	430 x 320 x 280	1,000