



soberton inc.

# PB PIEZO AUDIO BUZZER

Acoustic Product Specification

Product Number: PB-4216-1



Release | Revision: D/2018

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## Specifications

Item	Unit	Specification	Condition
Rated Voltage	VDC	12.0	
Operating Voltage	VDC	5.0 ~ 15.0	
Mean Current	mA	15 Max.	At rated voltage
Sound Output	dB	90	At 30cm at rated voltage.
Rated Frequency	Hz	2900±500	
Operating Temp	°C	-20 ~ +55	
Storage Temp	°C	-30 ~ +70	
Dimension	mm	Ø41.6xH16.0	See attached drawing.
Weight	gram	9.0	
Material		ABS(Black)	
Terminal		Wire Type	Wire 300mm (UL1007/AWG26#) Connector : XH-M2.5-2Y
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
Solderability	Lead terminals are immersed in rosin for 5 seconds and then immersed in the solder bath at +250±5°C for 3±1 seconds.	90% min. lead terminals shall be wet with solder. (Except the edge of terminal)
Soldering Heat Resistance	Lead terminals are immersed in the soldering bath at +250±5°C for 3±1 seconds. The force of 9.8N(1.0Kg) is applied to the part for 10 seconds.	No interference in operation.
Terminal Mechanical Strength	The pull force shall be applied to double lead wires: 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. The SPL should be in±10dB compared with initial one.
Drop Test	The part is dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X,Y,Z). A total of 9 times.	



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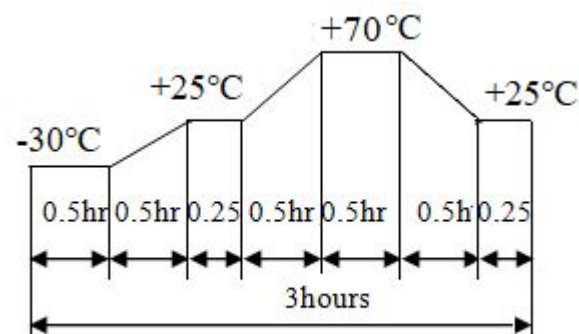
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## Environment Test

Item	Test Condition	Evaluation Standard
High Temp. Test	The part is placed in a chamber at +70°C for 96 hours.	After the test, the part shall meet specifications without any degradation in appearance and performance except SPL. After 4 hours at +25°C ±2°C, the SPL should be in ±10dBA compared with initial one.
Low Temp. Test	The part is placed in a chamber at -30°C for 96 hours.	
Humidity Test	The part is placed in a chamber at +70°C, and 90±5% relative humidity for 96 hours.	

Temp/Humidity Cycle  
The part shall 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. After 4 hours at +25°C ±2°C, the SPL should be in ±10dBA compared with initial one.
	<b>2. Intermittent Life Test</b> A duty cycle of 1 minute on, 1 minute off, a minimum of 1000 times at +25±2°C and the maximum rated voltage applied.	

### Standard Test Condition:

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



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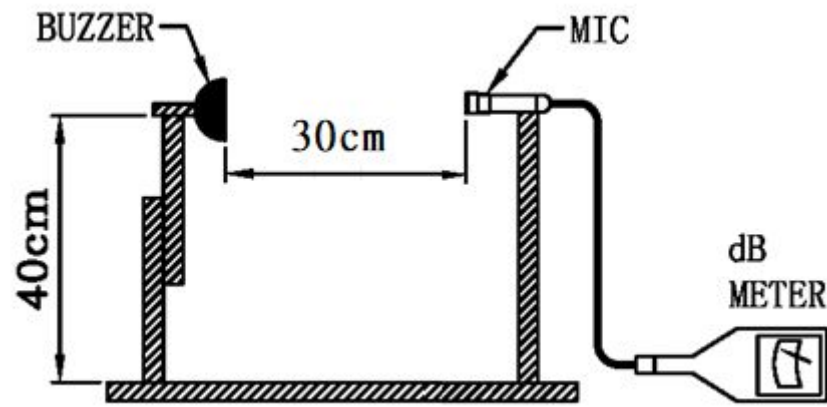
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## Inspection Fixture

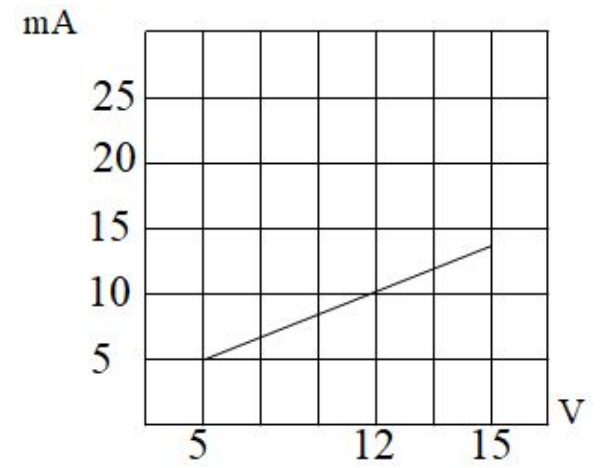
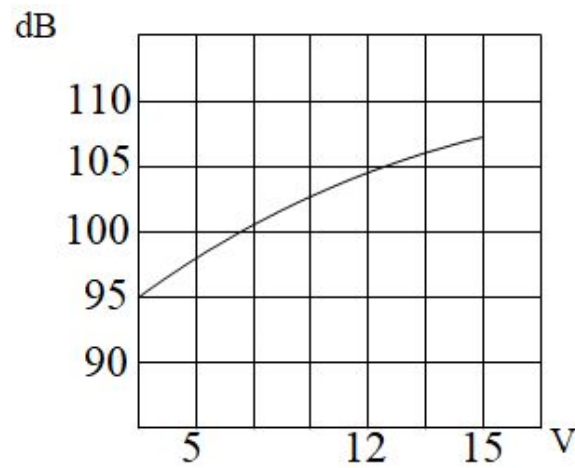
### S.P.L Measuring Circuit

Input Signal: 12 VDC

MIC: S.P.L meter TES1351B or equivalent



## Frequency Response





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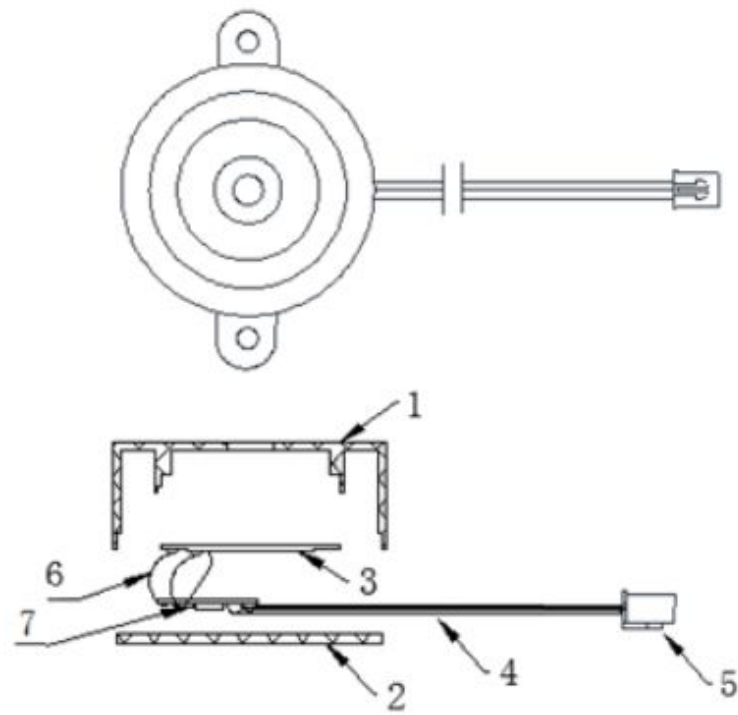
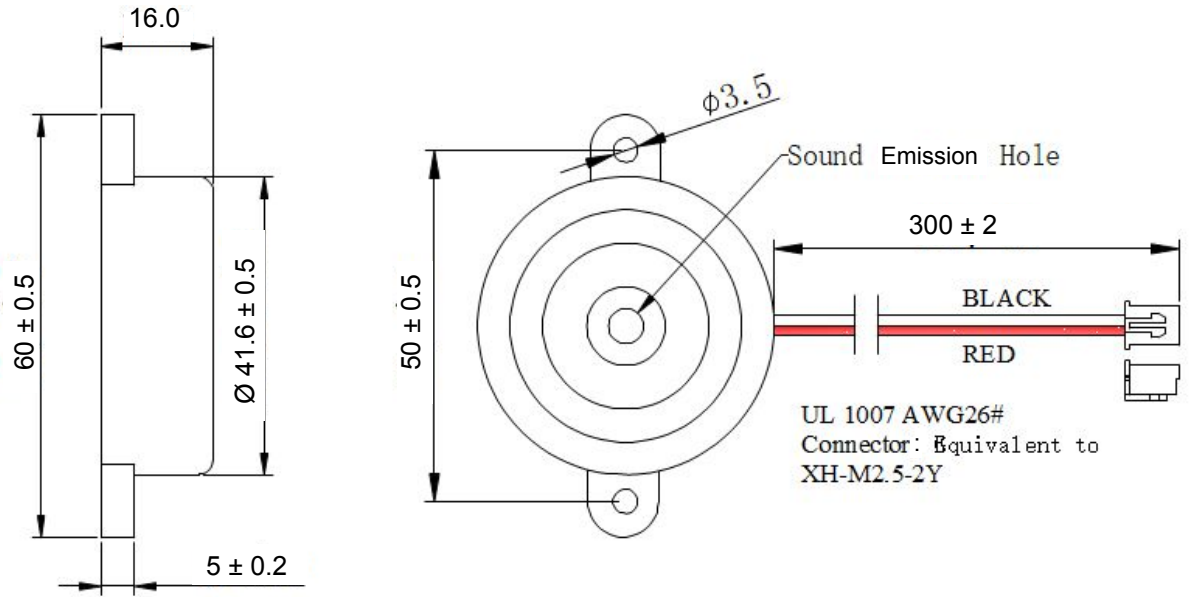
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## Dimensions

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



No.	Part Name	Material	Quantity
1	Case	ABS	1
2	Cover	ABS	1
3	Piezo	Brass + Ceramic	1
4	Wire(300mm)	UL1007 AWG26# (300V /1.3mm)	2
5	Connector	XH-M2.5-2Y	1
6	Wire	Copper	3
7	PCB	Epoxy	1



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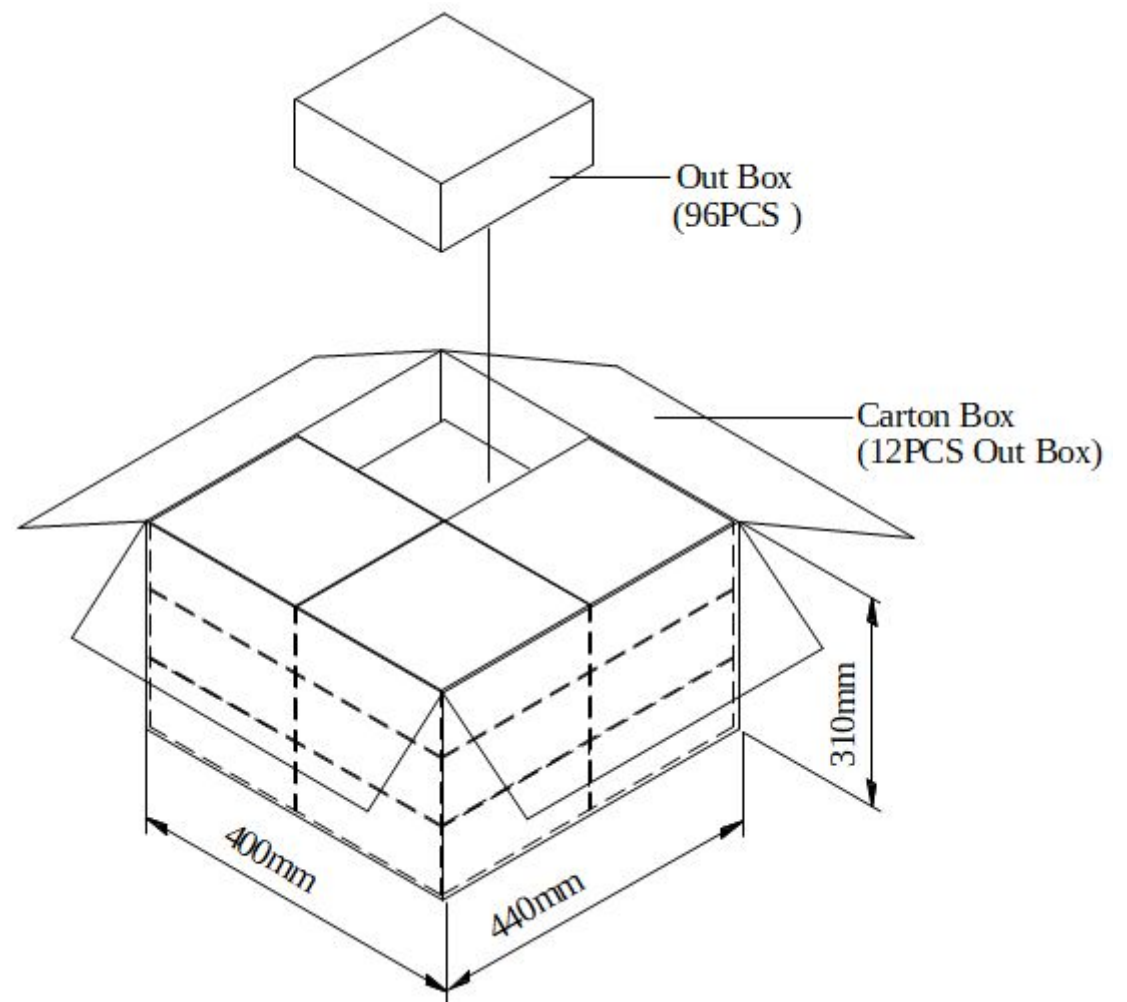
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## Packing



Packing Box	L x W x H (mm)	Quantity (pcs)
Out Box	200 x 190 x 100	96
Carton	440 x 400 x 310	1,152