



soberton inc.

# PT PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PT-1403-3



Release | Revision: C/2018

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

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## Specifications

Item	Unit	Specification	Condition
Rated Voltage	Vp-p	9.0	
Operating Voltage	Vp-p	2.0 ~ 30.0	
Mean Current	mA	3 Max.	At 9Vp-p, square wave, 5200Hz
Sound Output	dB	80	At 10cm, 9Vp-p, square wave, 5.2KHz
Capacitance at 30Hz	PF	9400 ±30%	At 120Hz
Rated Frequency	Hz	5200 ±400	
Operating Temp	°C	-20 ~ +60	
Storage Temp	°C	-30 ~ +70	
Dimension	mm	Ø14.0×H2.85	See attached drawing
Weight	gram	0.8	
Material		ABS	
Terminal		Wire type	Length: 38mm (UL1571/ AWG32#)
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)
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.	After the test, the part shall meet specifications without any damage in appearance and performance except SPL.
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.	The SPL should be in ±10dBA compared with initial one.



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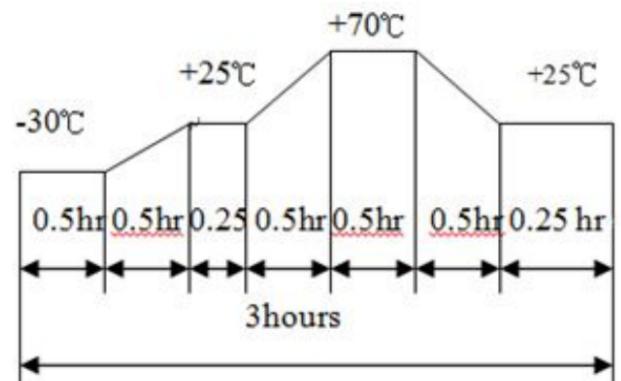
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## Environment Test

Item	Test condition	Evaluation standard
High temp. test	The part is placed in a chamber at +70°C for 96 hours	After the test, the part shall meet specifications without any degradation in appearance and performance except SPL. After 4 hours at +25°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 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> 72 hours of continuous operation at +60°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, 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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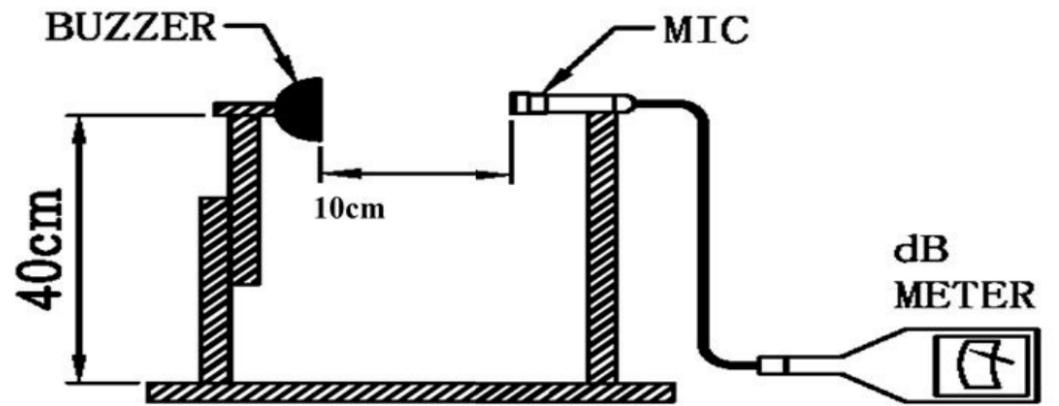
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## Inspection Fixture

### S.P.L Measuring Circuit

S.P.L Measuring Circuit

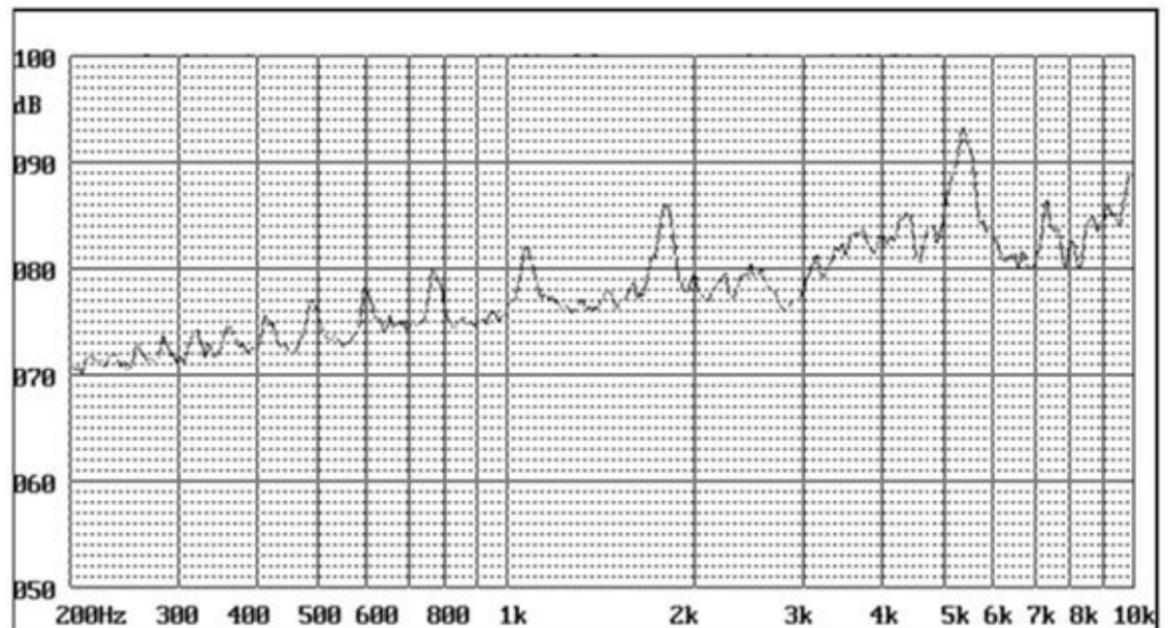
Input Signal: 9.0Vp-p, 5200Hz, Square Wave



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

S.G: Hewlett Packard 33120A Function Generator or equivalent

## Frequency Response Curve





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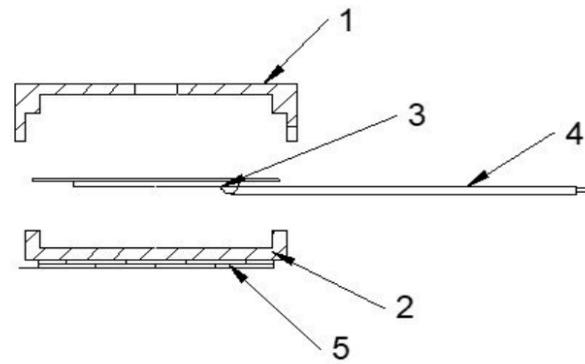
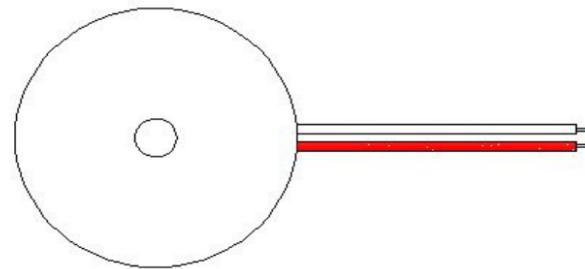
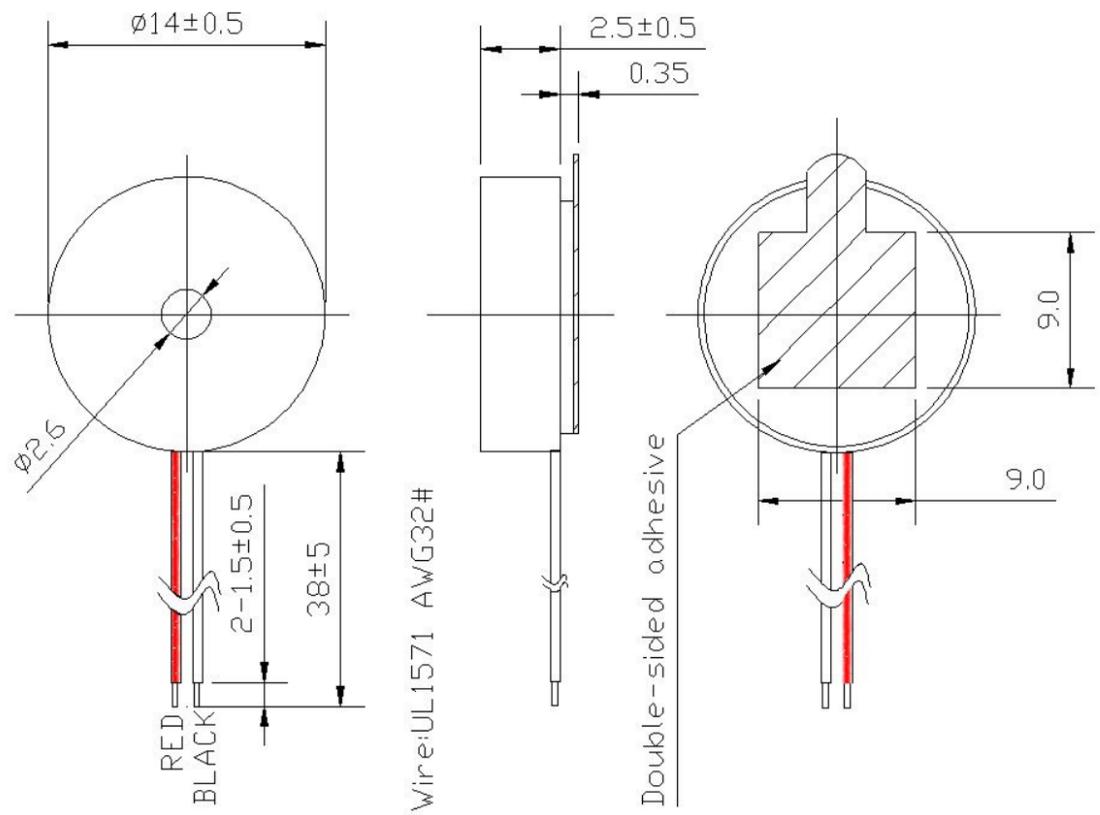
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## Dimensions

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



No.	Part Name	Material	Quantity
1	Case	ABS	1
2	Case	ABS	1
3	Piezo	Copper + Ceramics	1
4	Wire (38mm)	UL1571/ AWG32#	2
5	Double Faced Adhesive Tape	AcR+Off type paper	1



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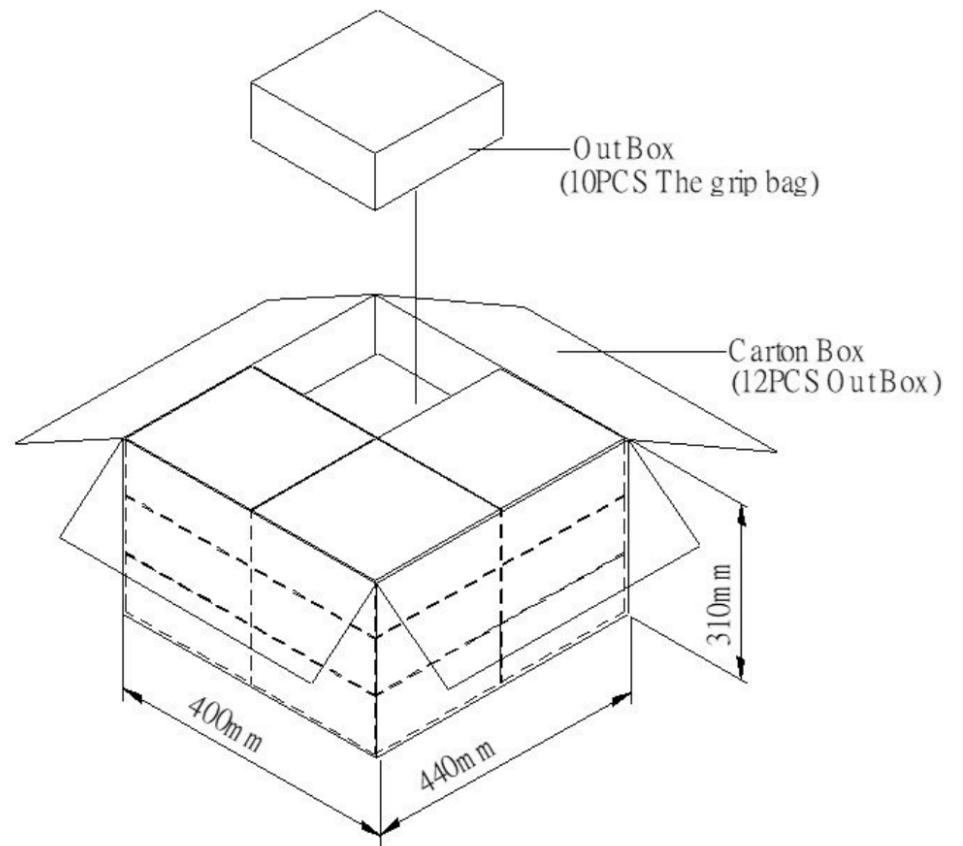
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## Packing



Packing	L x W x H (mm)	Q'ty PCS
Clip Bag	170 x 120 x 0.1	200
Out Box	210 x 190 x 105	2,000
Carton Box	440 x 400 x 310	2,4000