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soberton inc.

# PT PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PT-1203-3



Release | Revision: B/2018

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## Specifications

Item	Unit	Specification	Condition
Rated Voltage	Vo-p	3.0	
Operating Volt	Vo-p	20 Max.	
Current Consumption	mA	5 Max.	At 3Vp-p, square wave, 4.0KHz
Coil Resistance	dB	75 / 10cm	At 10cm / 3Vp-p, square wave, 4.0KHz
Sound Pressure Level	PF	16000 ±30%	
Oscillation Frequency	Hz	4000	
Operating Temp	°C	-30 ~ +75	
Storage Temp	°C	-40 ~ +85	
Dimension	mm	12 × 12 × 3	
Weight	gram	0.35	
Housing Material		LCP	
Terminal		Pin type (Plating Sn)	See dimension
Environmental Protection Regulation		RoHS	

### Test condition:

Temperature: +25±2 °C    Related humidity: 65±5%

## Mechanical Characteristics

Item	Test condition	Evaluation standard
Solderability	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath at +250±5°C for 3±1 seconds	90% min. lead terminals will be wet with solder (Except the edge of terminal)
Soldering Heat Resistance	Lead terminals are immersed in soldering bath at +250±5°C for 5±0.5 seconds.	No interference in operation.
Terminal Mechanical Strength	The force 10 seconds of 9.8N is applied to each terminal in axial direction.	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 75cm 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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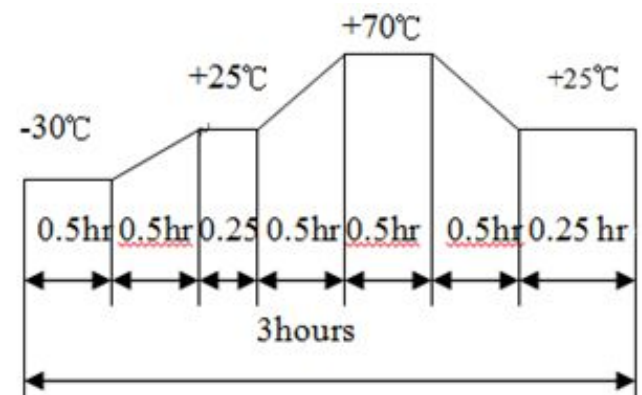
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## Environment Test

Item	Test condition	Evaluation standard
High temp. test	After being placed in a chamber at +85°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 -40°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 +40°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> 48 hours 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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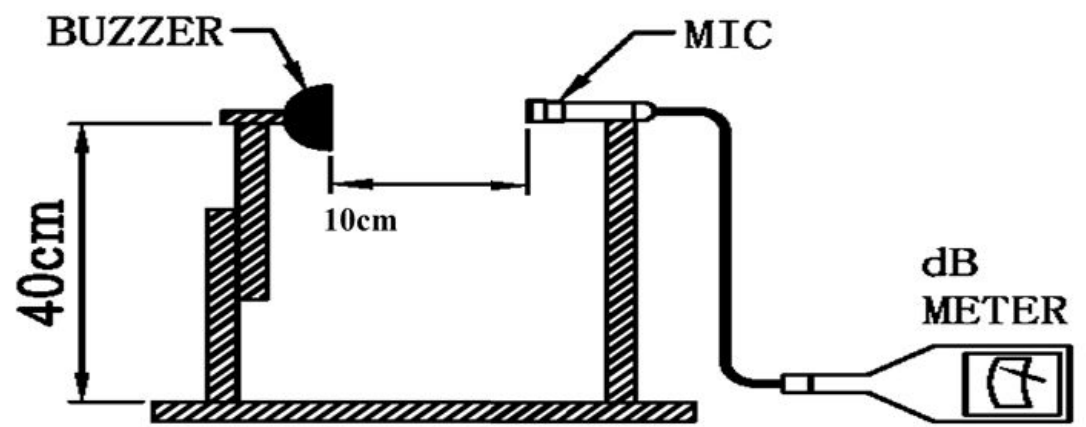
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## Measuring Method (Speaker Mode)

### S.P.L Measuring Circuit

Input Signal: 3Vo-p, 4.0KHz, Square Wave



MIC: S.P.Lmeter TES1351B or equivalent

S.G: Hewlett Packard EE1641B Function Generator or equivalent

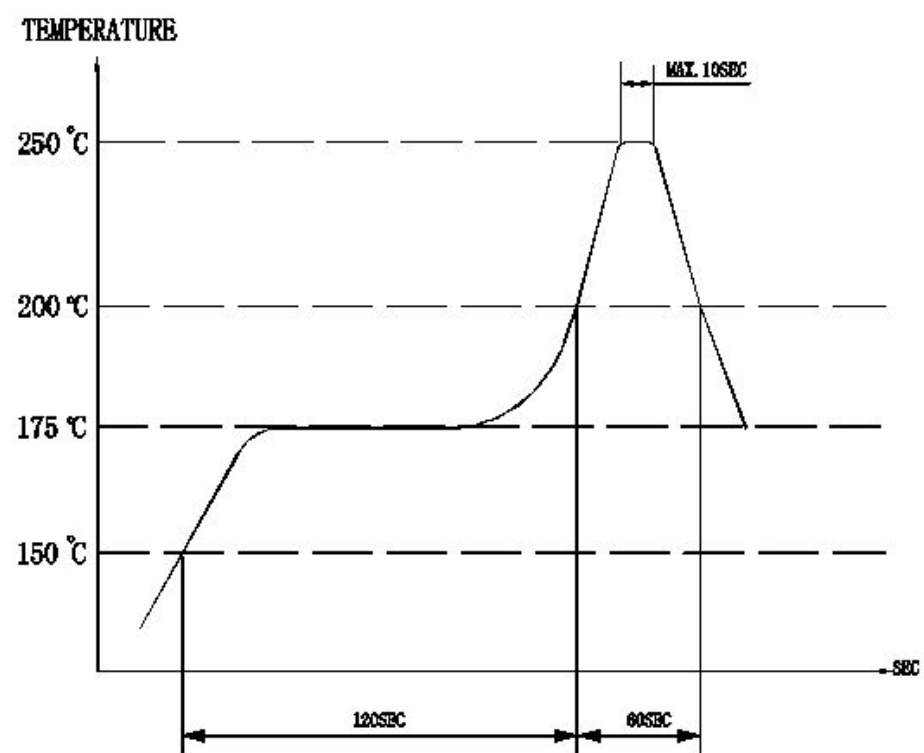
## Soldering Condition

### S.P.L Measuring Circuit

Recommended reflow soldering condition is as follows

Reflow soldering is twice

Note: It is requested that reflow soldering should be executed after heat of product goes down to normal temperature



Heat resistant line (Use when heat resistant reliability test is performed)

### Manual Soldering

Manual soldering temperature 350 °C within 5 sec.

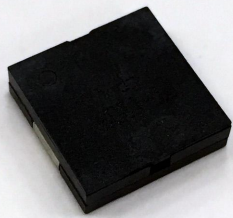


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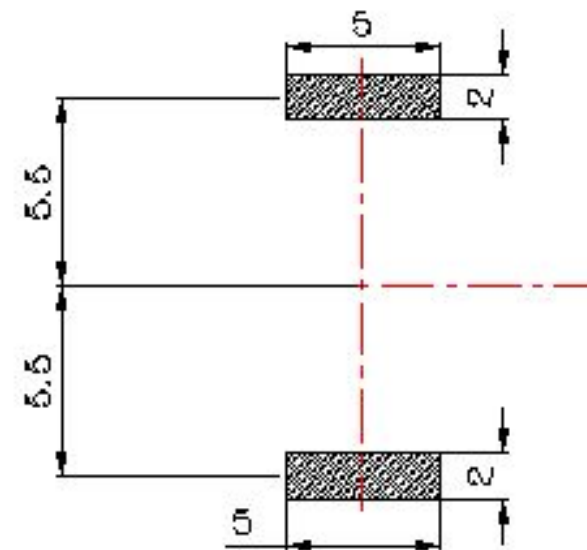
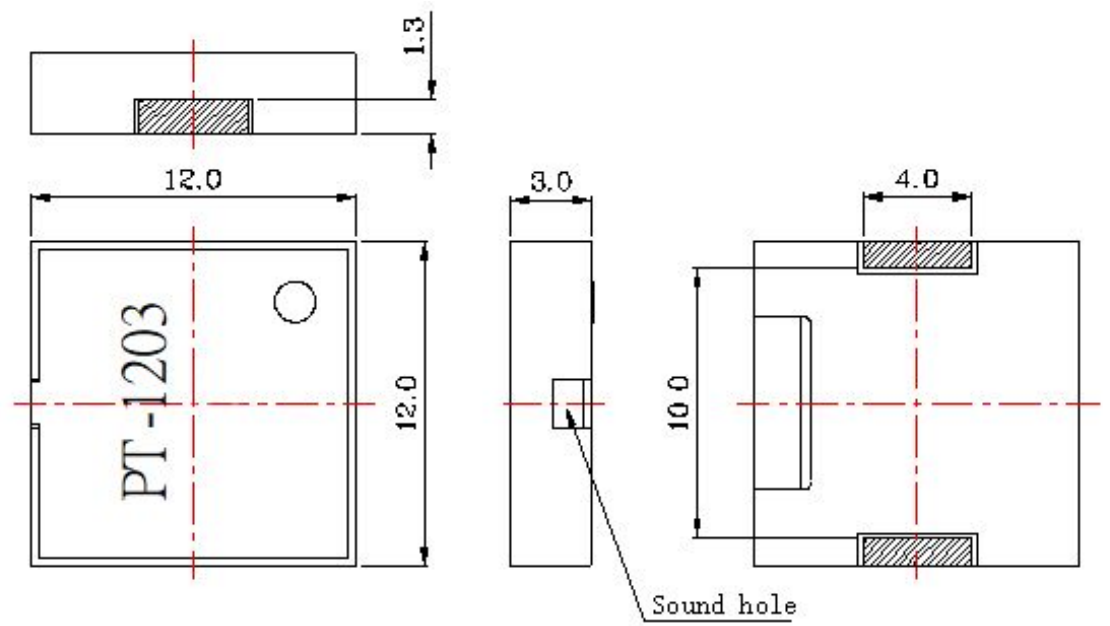
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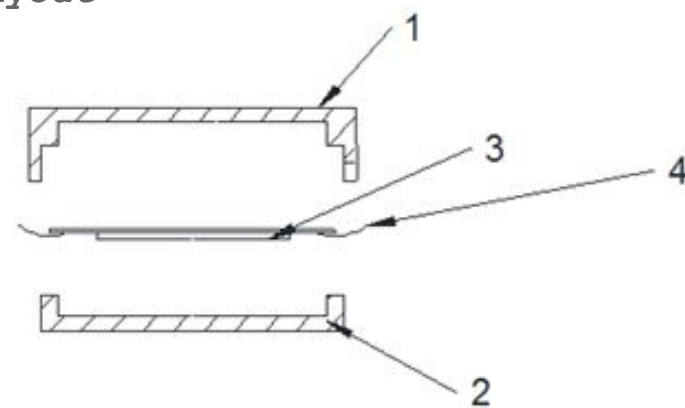
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## Dimensions

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



## PCB Layout



No.	Part Name	Material	Quantity
1	Case	LCP	1
2	Case	LCP	1
3	Piezo	Copper + ceramics	1
4	Wire	Copper	2

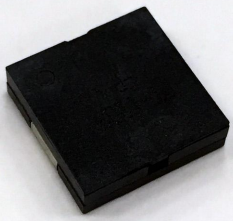


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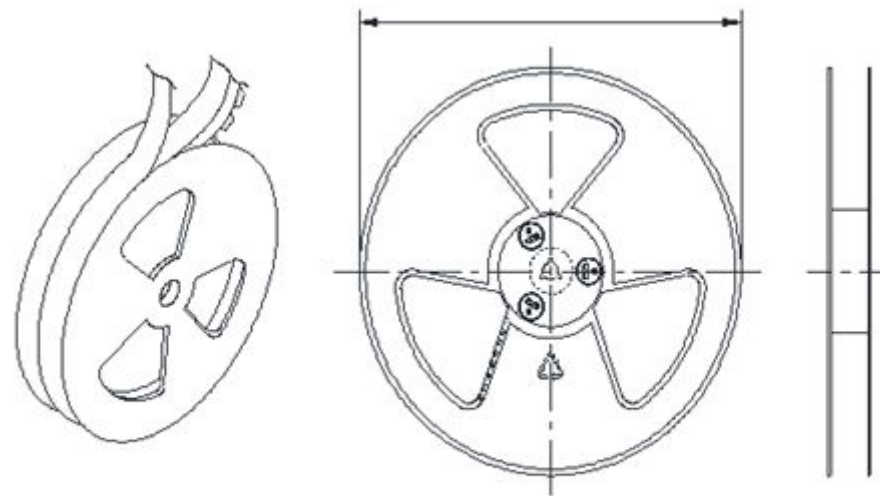
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1 Reel : 1000PCS

