



soberton inc.

PT PIEZO AUDIO
TRANSDUCER

Acoustic Product Specification

Product Number: PT-1109S



Release | Revision: A/2019

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Specifications

Item	Unit	Specification	Condition
Rated Voltage	Vp-p	5.0	
Operating Voltage	Vp-p	1.0 ~ 25.0.	
Mean Current	mA	4.5 Max.	At rated voltage
Sound Output	dB	73	At 10cm / 5Vp-p,
Capacitance at 30Hz	pF	12000 ±30%	
Rated Frequency	Hz	4100±500	Vp-p=Duty, square wave
Operating Temp	°C	-40 ~ +85	
Storage Temp	°C	-40 ~ +85	
Dimension	mm	11.0 × 9.0× H1.7	
Weight	gram	0.25	
Housing Material		LCP(Black)	
Terminal		SMD Type (Plating Sn)	See dimension
Environmental Protection Regulation		RoHS	

Test condition:

Temperature: +25±2 °C Related humidity: 65±5% 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 +260±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 +260±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
	Lead pads shall be soldered on the pc board.	
Vibration	The part 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 only shall 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 should be in ±10dB compared with initial one.

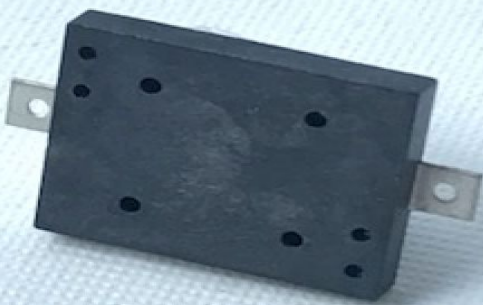


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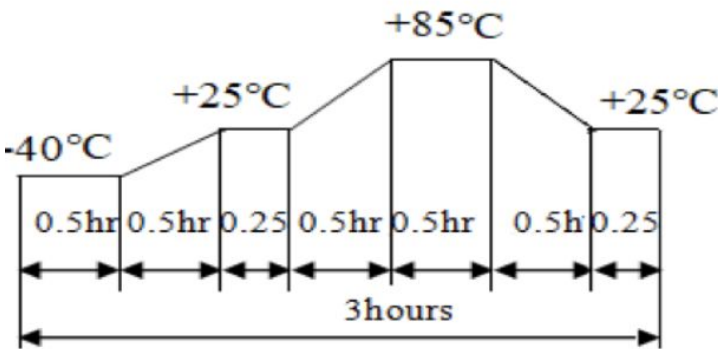
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Environment Test

Item	Test condition	Evaluation standard
High Temp. Test	The part is placed in a chamber at +85°C for 96 hours.	Being placed for 4 hours at +25°C, the buzzer shall be measured.
Low Temp. Test	The part is placed in a chamber at -40°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 +40°C and 90±5% relative humidity for 96 hours.	The SPL should be in ±10dB compared with initial one.
Temp/ Humidity Cycle	The part shall be subjected to 5 cycles. One cycle shall consist of:	



Reliability Test

Item	Test condition	Evaluation standard
Operating Life Test	1. Continuous Life Test 72 hours of continuous operation at +85°C with maximum rated voltage applied 2. Intermittent Life Test A duty cycle of 1 minute on, 5 minutes off, a minimum of 1000 times at +25±2°C and 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.

Standard Test Condition:

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

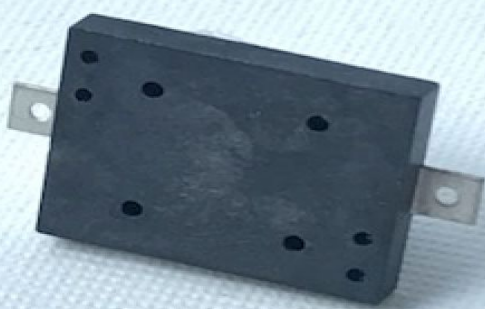


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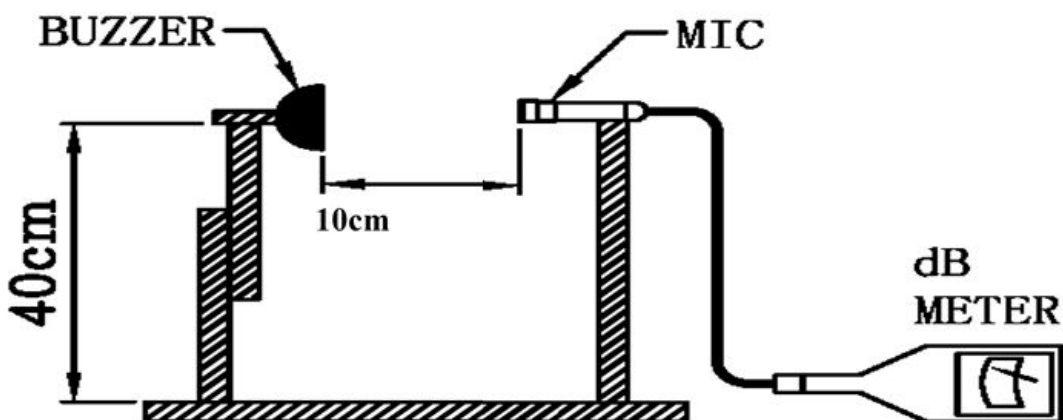
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Measuring Method (Speaker Mode)

Inspection Fixture
S.P.L Measuring Circuit

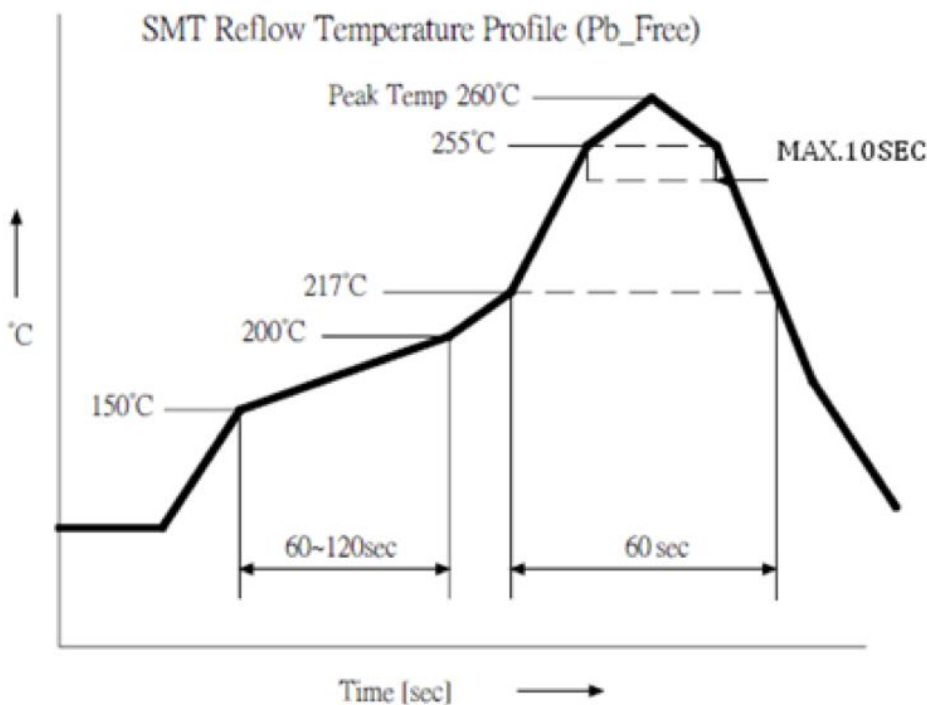
Input Signal: 5 Vp-p, Square Wave, 4100Hz



MIC: S.P.LmeterTES1351B or equivalent
S.G: Hewlett Packard 33120A Function Generator or equivalent

Soldering Condition

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





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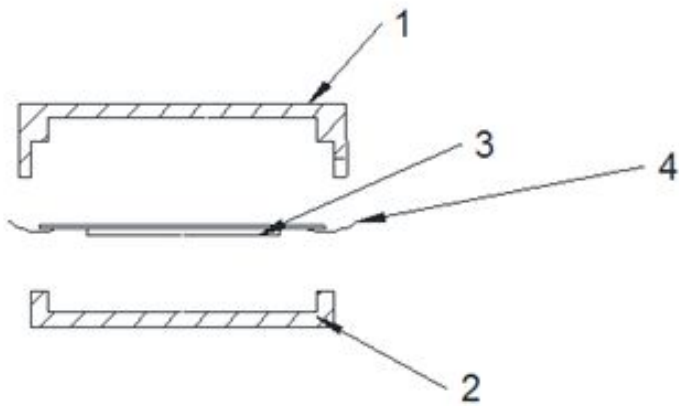
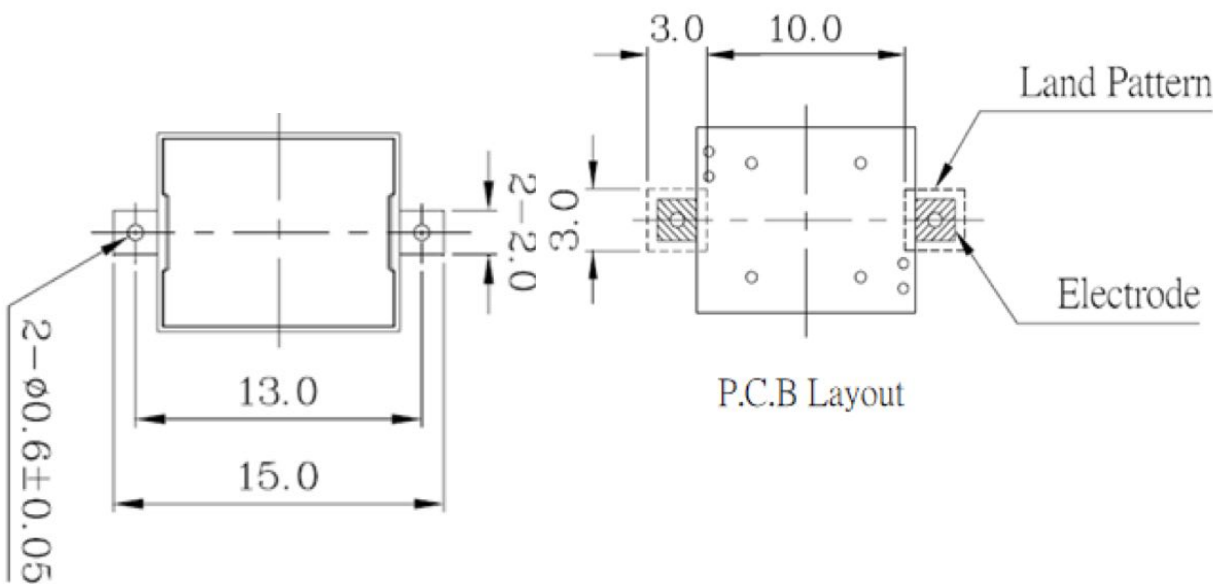
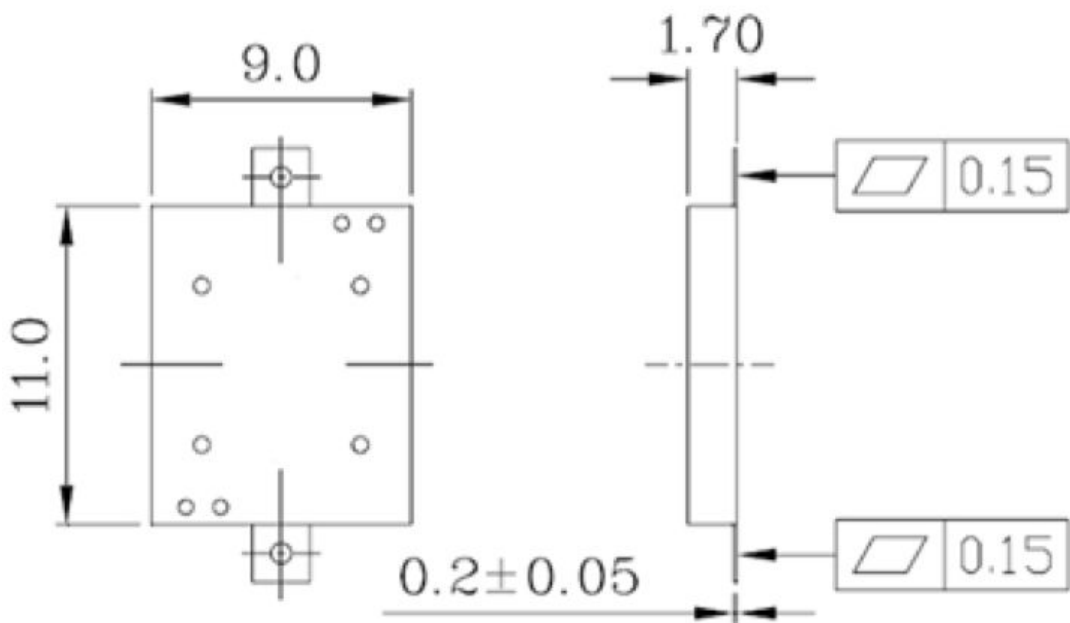
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Dimensions

Tolerance: ±0.5 (unit: mm)



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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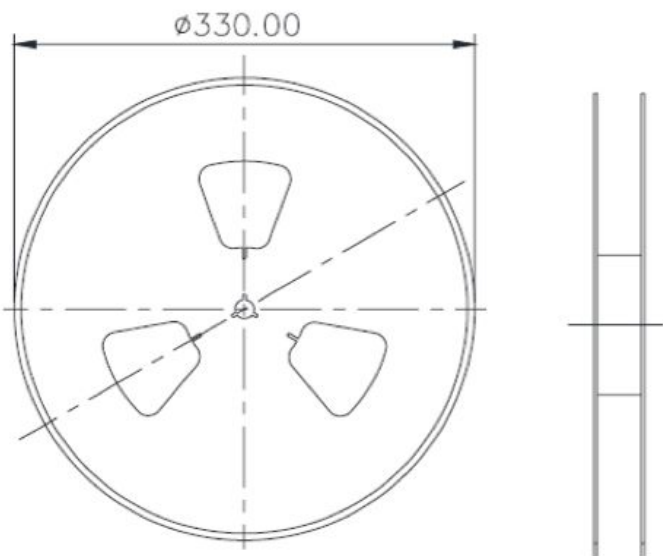
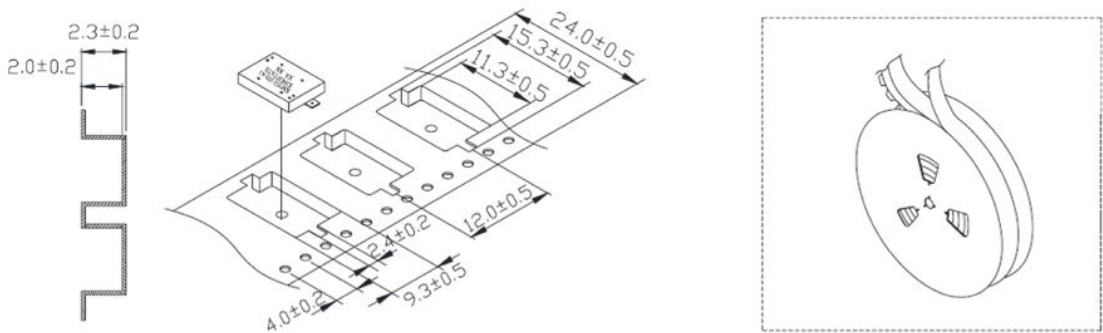
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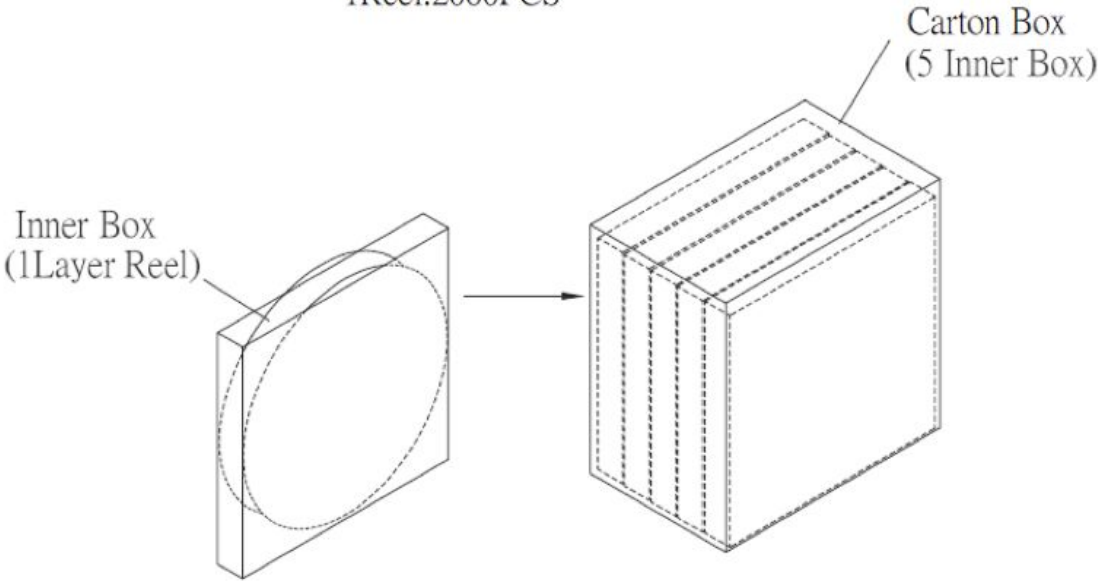
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1Reel:2000PCS



Inner Box	340mmx340mmx40mm	1x2000PCS=2000PCS
Carton Box	350mmx175mmx355mm	5x2000PCS=10000PCS