



soberton inc.

PB PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PB-2211



Release | Revision: C/2018

CONTENTS

This document contains the technical specifications for the Piezo Audio Transducer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Inspection Fixture

Frequency Response

Page 4

Dimensions

Page 5

Packing

Specifications

Item	Unit	Specification	Condition
Rated Voltage	VDC	12.0	
Operating Voltage	VDC	3.0 ~ 20.0	
Mean Current	mA	8.0 Max.	At rated voltage
Sound Output	dB	90	At 10cm at rated voltage.
Rated Frequency	Hz	4500±500	
Operating Temp	°C	-20 ~ +60	
Storage Temp	°C	-30 ~ +70	
Dimension	mm	Ø22.0xH11.0	See attached drawing.
Weight	gram	4.0	
Material		ABS(Black)	
Terminal		Wire Type	Wire 100mm (UL1007 / AWG26#)
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.	



soberton inc.

PB PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PB-2211



Release | Revision: C/2018

CONTENTS

This document contains the technical specifications for the Piezo Audio Transducer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Inspection Fixture

Frequency Response

Page 4

Dimensions

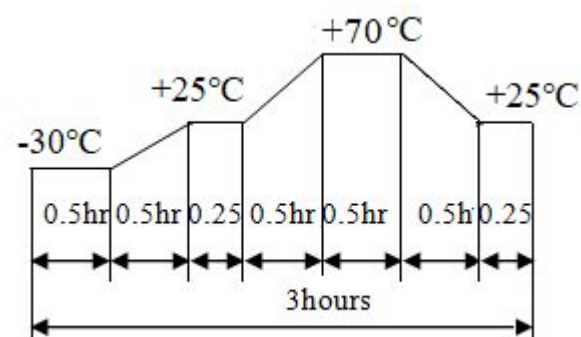
Page 5

Packing

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 being 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	1. Continuous Life Test 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.
	2. Intermittent Life Test 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



soberton inc.

PB PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PB-2211



Release | Revision: C/2018

CONTENTS

This document contains the technical specifications for the Piezo Audio Transducer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Inspection Fixture

Frequency Response

Page 4

Dimensions

Page 5

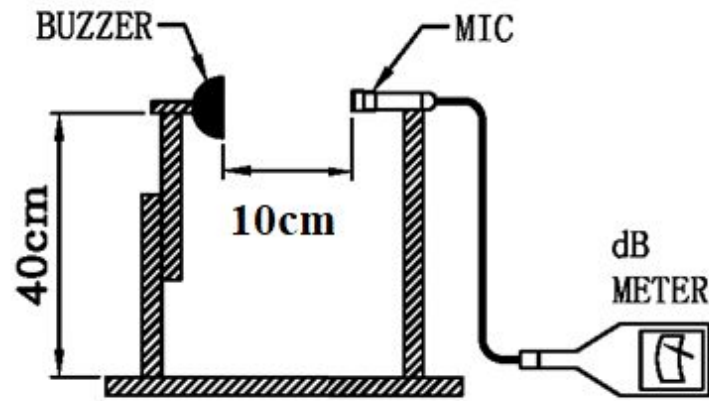
Packing

Inspection Fixture

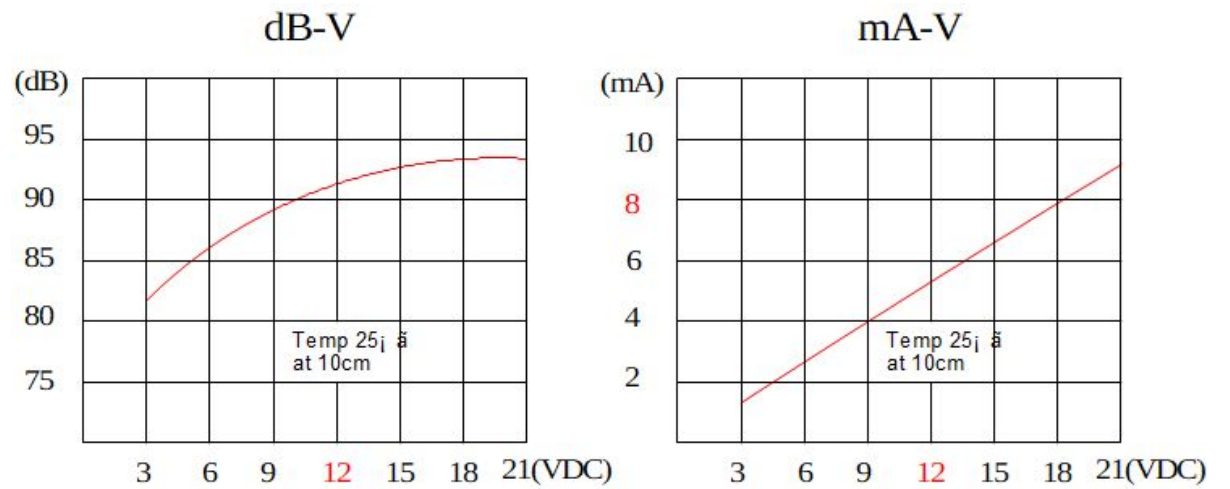
S.P.L Measuring Circuit

Input Signal: 12 VDC

MIC: S.P.L meter TES1351B or equivalent



Frequency Response





soberton inc.

PB PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PB-2211



Release | Revision: C/2018

CONTENTS

This document contains the technical specifications for the Piezo Audio Transducer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Inspection Fixture

Frequency Response

Page 4

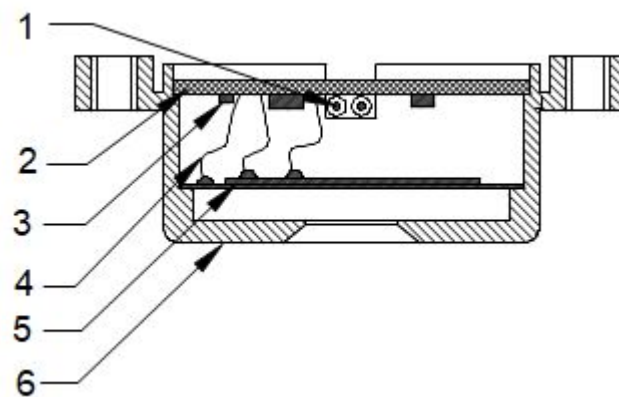
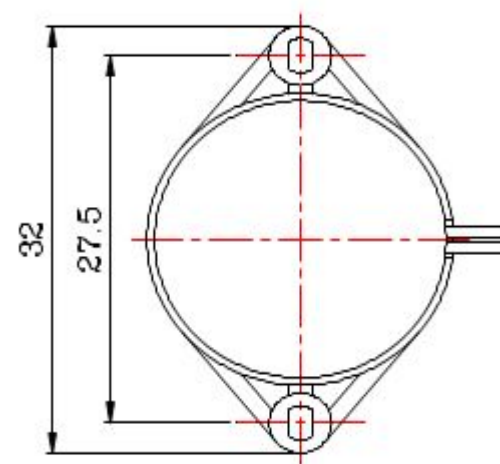
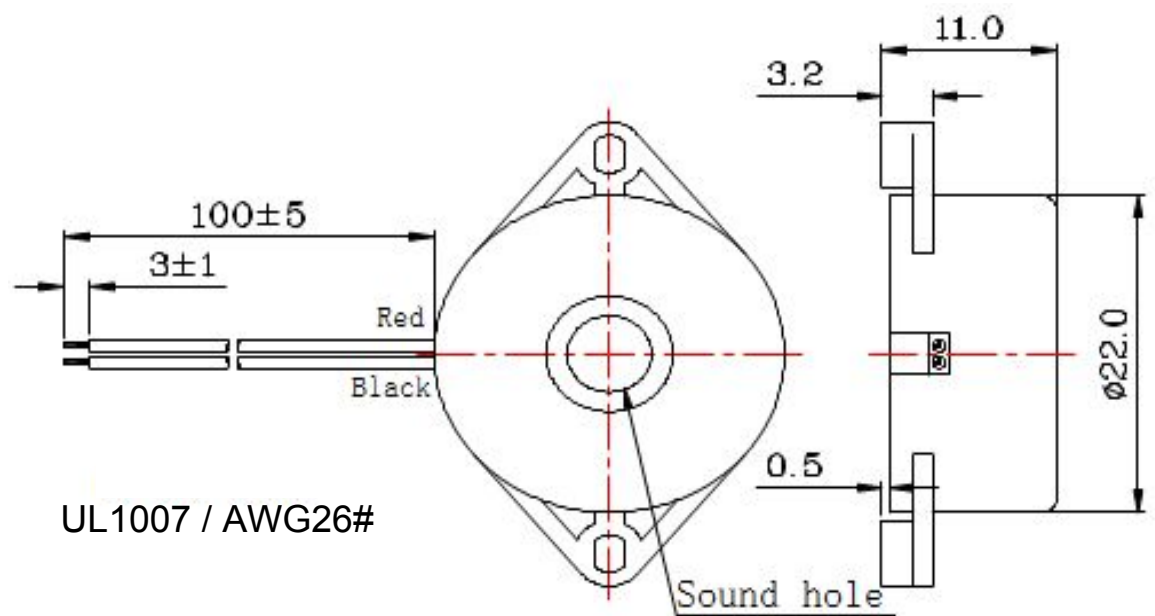
Dimensions

Page 5

Packing

Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Wire (100mm)	UL 1007 / AWG26# (300V 1.3mm)	2
2	Circuit Board	Epoxy Glass Fiber FR-4	1
3	Components	Electronic Parts	1
4	Wire	Copper Wire	3
5	Diaphragm	Copper Substrate	1
6	Case	ABS	1

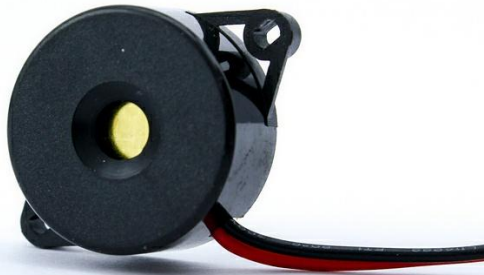


soberton inc.

PB PIEZO AUDIO TRANSDUCER

Acoustic Product Specification

Product Number: PB-2211



Release | Revision: C/2018

CONTENTS

This document contains the technical specifications for the Piezo Audio Transducer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Inspection Fixture

Frequency Response

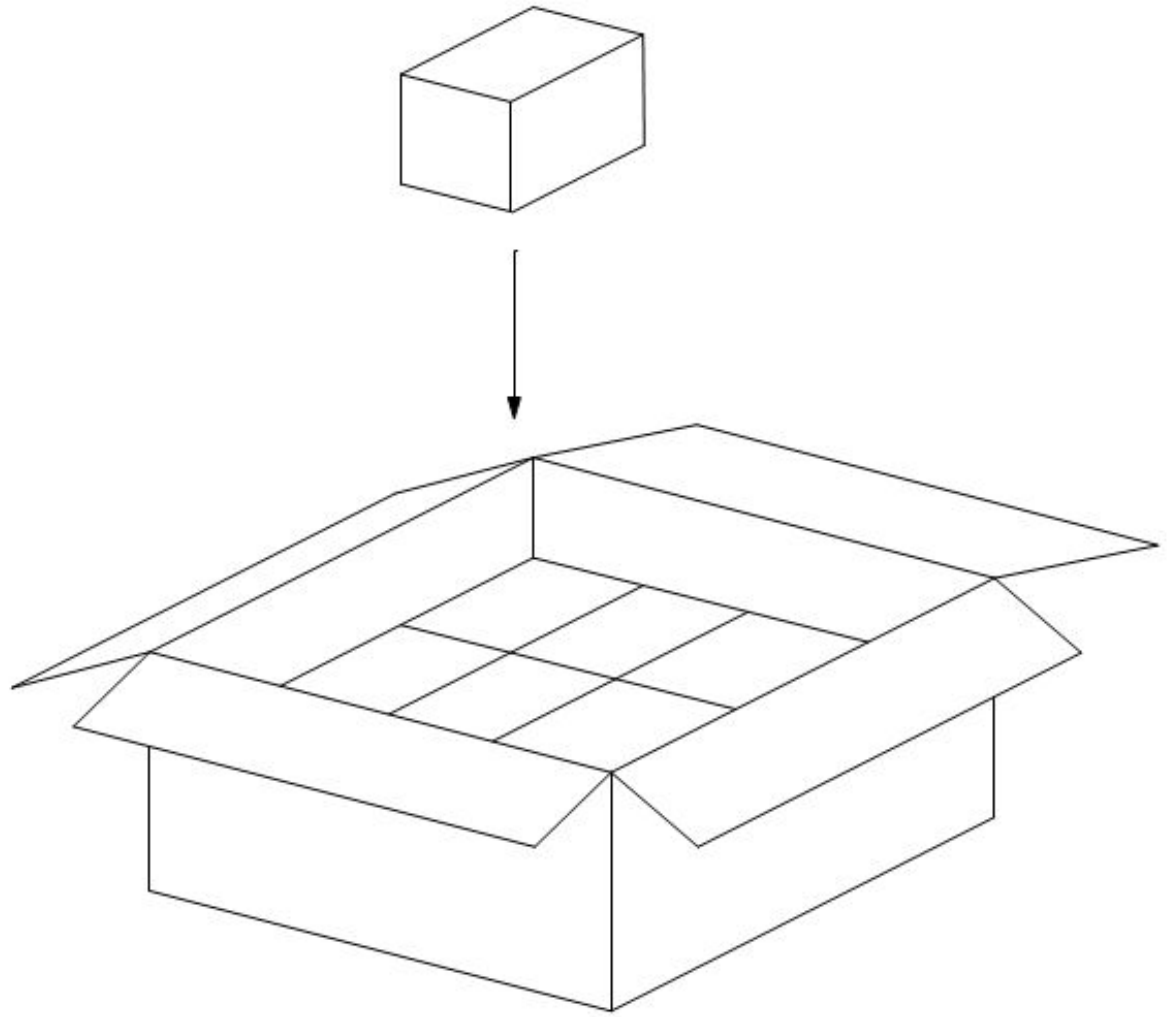
Page 4

Dimensions

Page 5

Packing

Packing



Details

Packing	Quantity (pcs)
Bag	100
Inner Box	200
Carton Box	2,000