



soberton inc.

# SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-6619



Release | Revision: C/2017

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## Dynamic Speaker Electroacoustic Characteristics

### Sound Pressure Level

90±3dB (0.1W/0.1m) at AVE 0.6KHz, 0.8KHz, 1.0KHz, 1.2KHz  
Measuring conditions and procedures shown in Fig 1 & Fig 2

### Frequency Response Curve

As shown in Figure 3

### Resonance Frequency

400±20% Hz

### Input Power (Nominal and Maximum)

Rated Noise Power: 0.3W

Short Term Max Power: 0.5W

### Frequency Range

F0 ~ 4KHz

### Buzz, Rattle, Etc

Not audible from 650Hz to 20KHz with 1.54V Sine Wave Input

### Polarity

When positive voltage is applied to the terminal marked (+), diaphragm should be moved to the front.

### Magnet

Rare earth permanent (Ferrite) magnet φ32x18x6mm

### AC Impedance

8Ω ±15%

### Distortion

Less Than 5% @1KHz Input Rated Power 1W

### Dimension

Ø 66.0x19.0 mm

## General Specifications

### Operating Temperature Range

-20°C~+65°C

### Storage Temperature Range

-30°C ~ +80°C

### Standard Test Conditions

Temperature 5°C~35°C

Relative Humidity 45%~85%(RH)

Air Pressure 860 mbar ~ 1060 mbar

### IP Level

No rating



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## Reliability Tests

The sound pressure as specified will neither deviate more than  $\pm 3\text{dB}$  from the initial value, nor have any significant damage after any of the following testing.

### High Temperature Test

High Temperature  $+70\pm 3^\circ\text{C}$

Duration 96 hours (leave 6 hours in normal temperature and then check)

### Low Temperature Test

Low Temperature  $-30\pm 3^\circ\text{C}$

Duration 96 hours (leave 6 hours in normal temperature and then check)

### Humidity Test

Temperature  $+30\pm 3^\circ\text{C}$

Relative Humidity 92%~95%

Duration 96 hours

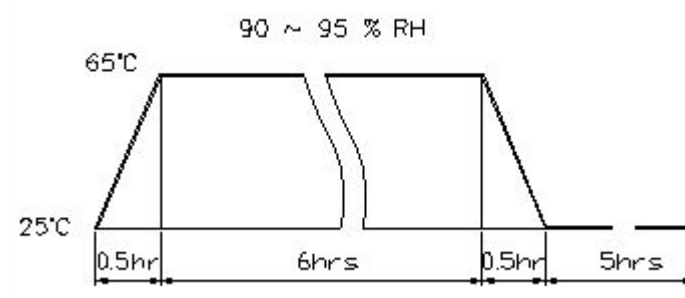
### Vibration

10Hz ~ 55Hz ~ 10Hz sine wave sweep 15 minute 5G(constant)

X, Y, Z 3 directions, 2 hours each, total 6 hours

### Temperature Cycle Test

The part will be subjected to 5 cycles. One cycle shall be 6 hours and consist of:



### Drop Test

Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm

### Load Test

Rate Power White Noise is applied for 24 hours at room temp

### Max Power Test

Max power 1 minute on - 2 minutes off, 10 cycles

### Lead Wire Pull Strength

The pull force will be applied to double lead wire

Horizontal 3.0N(0.306kg) for 30 seconds

Vertical 2.0N(0.204kg) for 30 seconds



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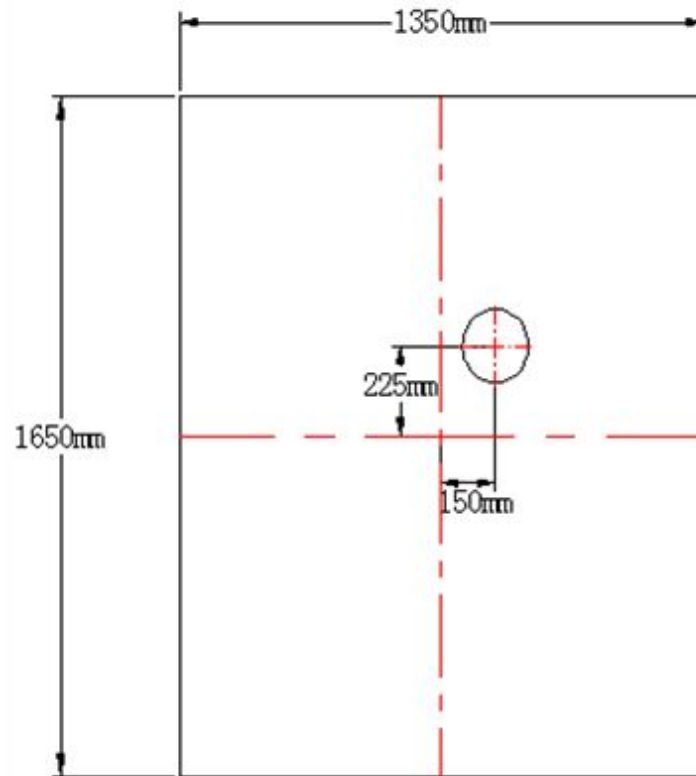
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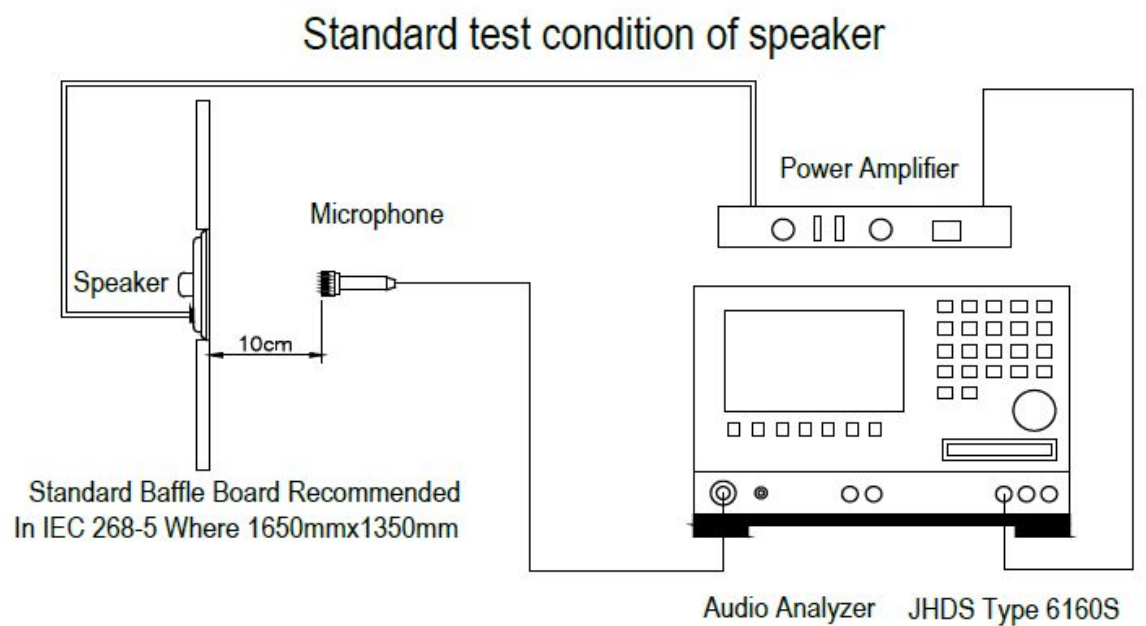
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## Measuring Method (Speaker Mode) (Fig. 1)



## Block Diagram for Measurement Method (Fig. 2)





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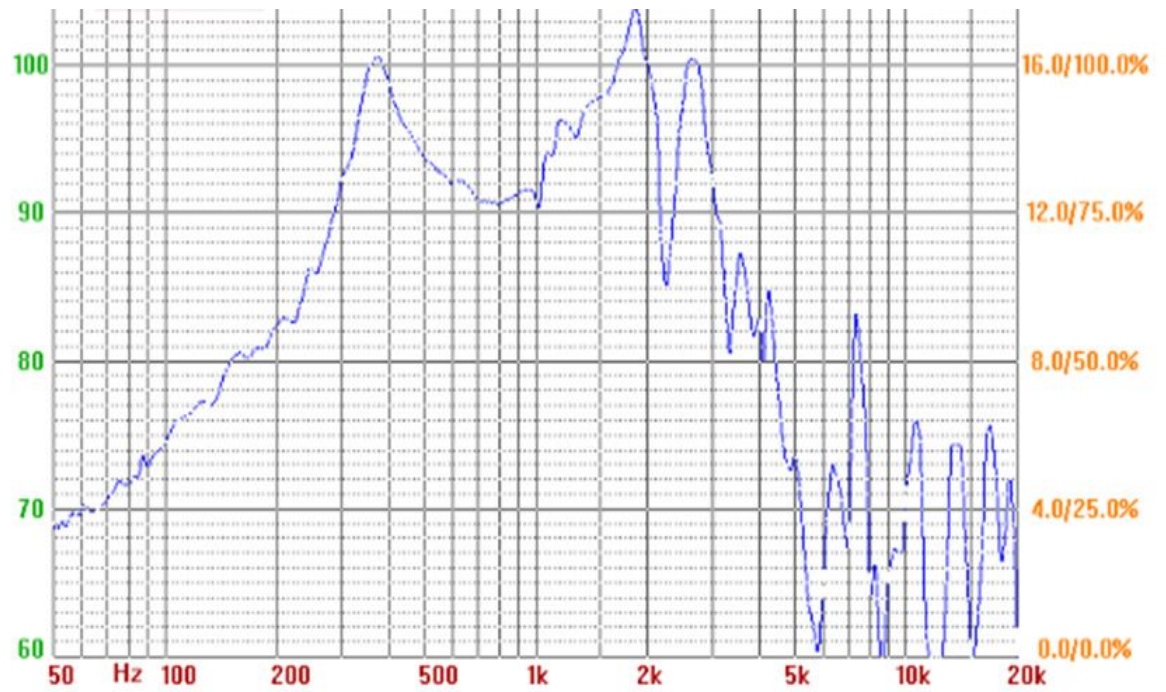
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## Frequency Response Curve (Fig. 3)

The swept sine-wave frequency response of a loudspeaker should ideally not deviate more than indicated.





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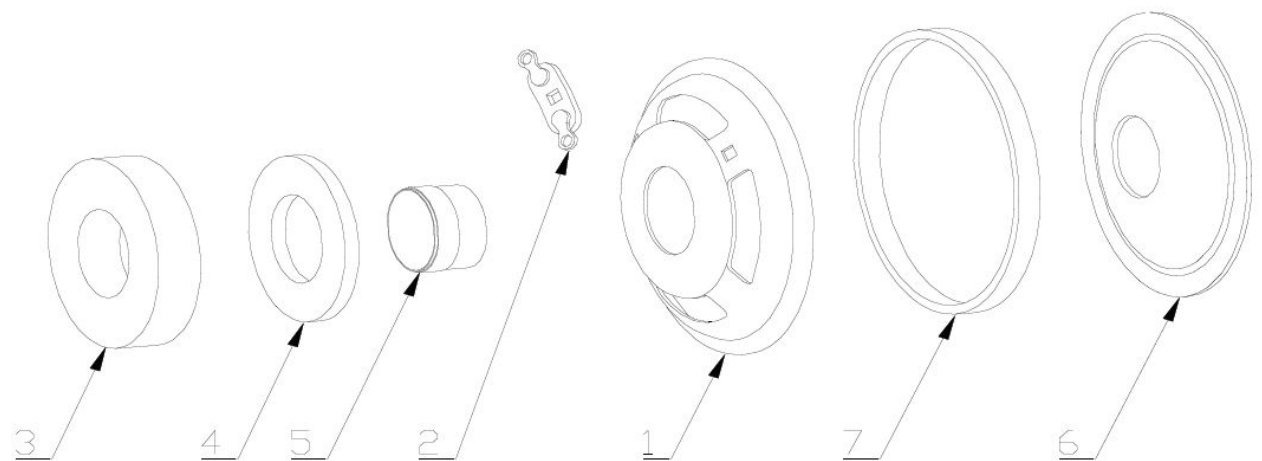
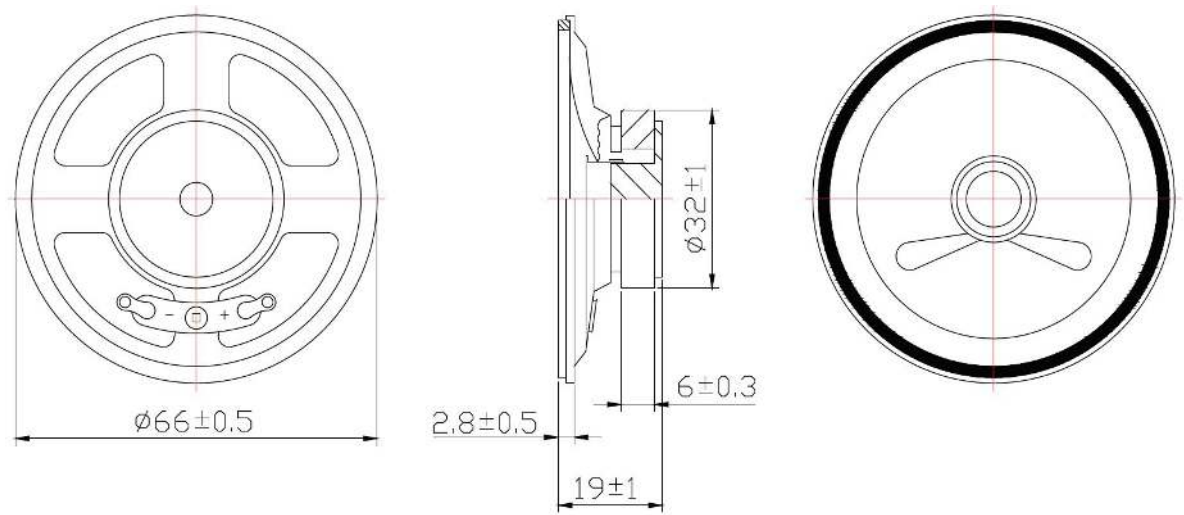
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## Dimensions

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



No.	Part Name	Material	Quantity
1	Frame	SPCC	1
2	PCB Terminal	Paper + metal	1
3	Magnet	Ferrite	1
4	Plate	SPCC	1
5	Voice Coil	Paper + Cu	1
6	Diaphragm	Paper	1
7	Gasket	Paper	1



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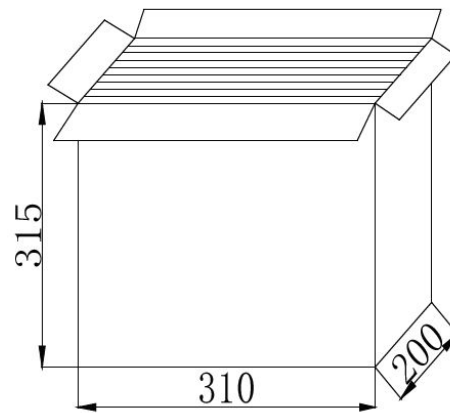
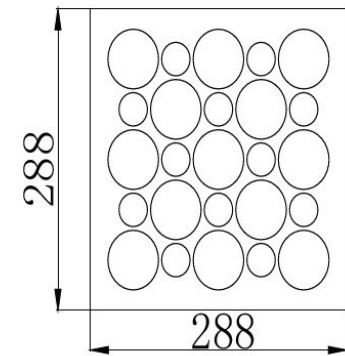
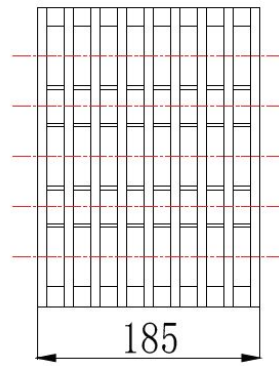
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## Packing



1. Each clap board 25pcs  
Each carton 8 pcs clap board  
200 pcs/carton
2. N.W: 10.4 KG, G.W:12.4 KG
3. Corrugated paper: 290\*290mm 1 PCS
4. Carton Size : 310\*200\*315mm 1 PCS