



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-1508S



Release | Revision: C/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

86±3dB SPL @1.0, 1.2, 1.5 and 2.0KHz with 1cc back cavity average
Measuring Condition: 0.6W(Sine wave) 10cm in 1cc back cavity measured with baffle shown in Fig.1

Frequency Response Curve

As shown in Figure 2

Response Frequency

850±20%Hz @2V in 1cc back cavity.

Input Power (Nominal and Maximum)

Rated Noise Power 0.6W (in 1cc box)

Short Term Max Power: 1.0W (in 1cc box)

Operation Test

Must be free audible noise (buzzes and rattles)

(300~5KHz frequency range, input level up to 1.98Vrms in 1cc box)

Distortion

Less than 5% @1KHz,0.1M,0.6W

General Specifications

Operating Temperature Range

-20°C~+60°C

Storage Temperature Range

-40°C~+85°C

Standard Test Conditions

Temperature 17°C~25°C

Relative Humidity 45%~80%(RH)

AC Impedance

6.6±15%Ω(@1.5KHz 1V) without baffle.

Dimension

15.0 x 8.0mm

IP Level

IP50



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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 following testing.

High Temperature Test

High Temperature $+85\pm 2^\circ\text{C}$

Duration 96 hours

Low Temperature Test

Low Temperature $-40\pm 2^\circ\text{C}$

Duration 96 hours

Heat Shock Test

High Temperature $+85\pm 2^\circ\text{C}$

Low Temperature $-40\pm 2^\circ\text{C}$

Changeover Time < 30 seconds

Duration 1 hour

Cycle 100

Humidity Test

Temperature $+ 40\pm 2^\circ\text{C}$

Relative Humidity 90%~95%

Duration 96 hours

Temperature Cycle Test

Temperature -40°C $+85^\circ\text{C}$

Duration 45 minutes 45 minutes

Temperature gradient $1\sim 3^\circ\text{C}/\text{min}$

Cycle 25

Drop Test

Mounted with dummy set mass 100 g

Height 1.5 m

Cycle 6 (1 each plain) onto the concrete board

Load Test

Speaker mode: pink noise (EIA filter) for 96 hours@0.6W input power (in 1cc back cavity)



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Measuring Method (Speaker Mode)

Standard Test Condition

Temperature 15 ~ 35°C

Relative humidity 45% ~ 85%

Atmospheric pressure 860mbar to 1060mbar

Standard Test Fixture

Input Power 0.6W

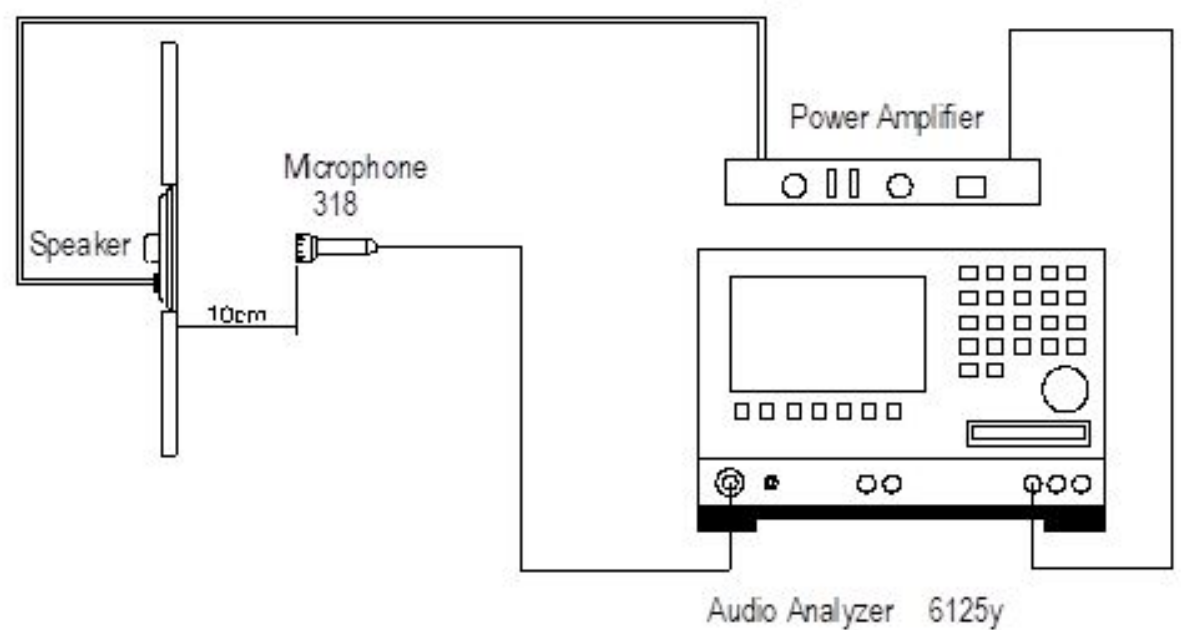
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)





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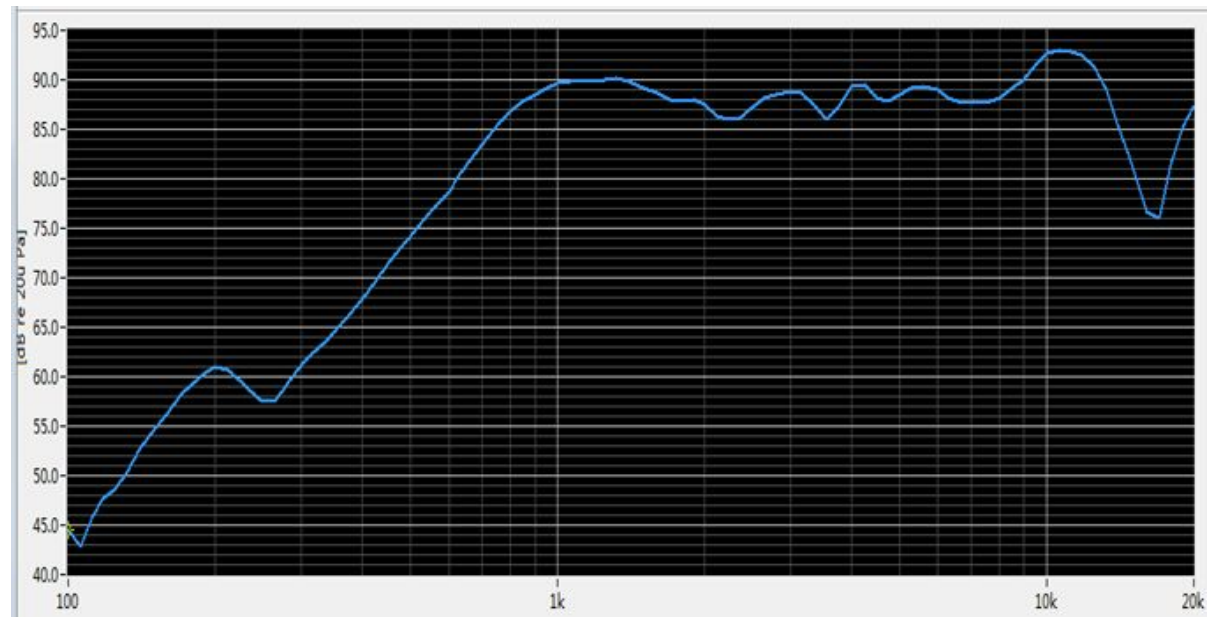
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Frequency Response Curve (Fig. 2)





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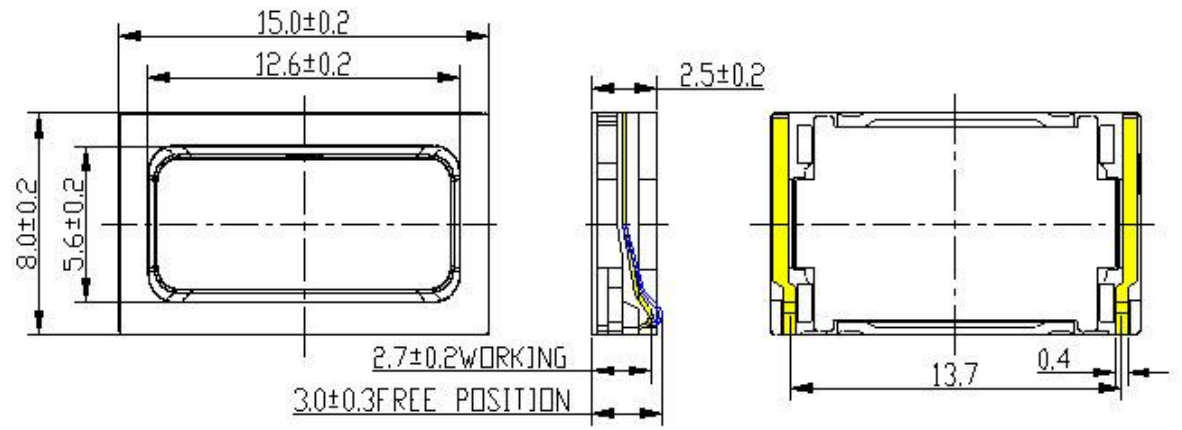
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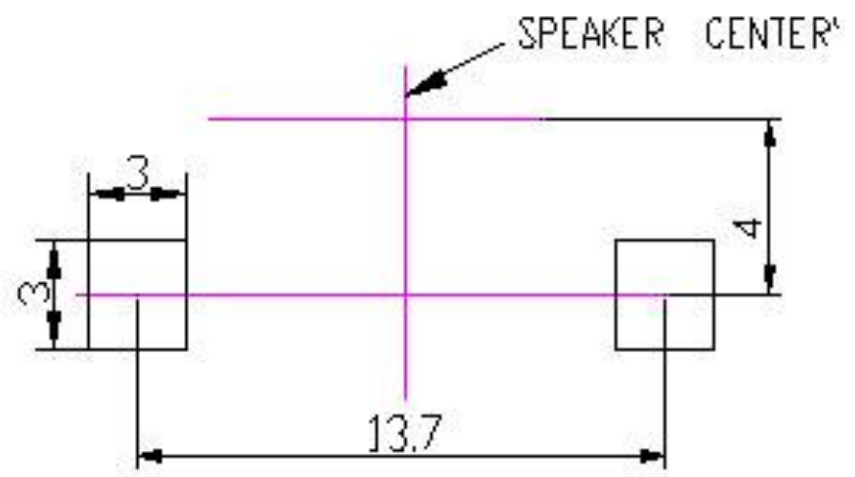
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Dimensions

Tolerance: ± 0.5 (unit: mm)



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PCB Layout



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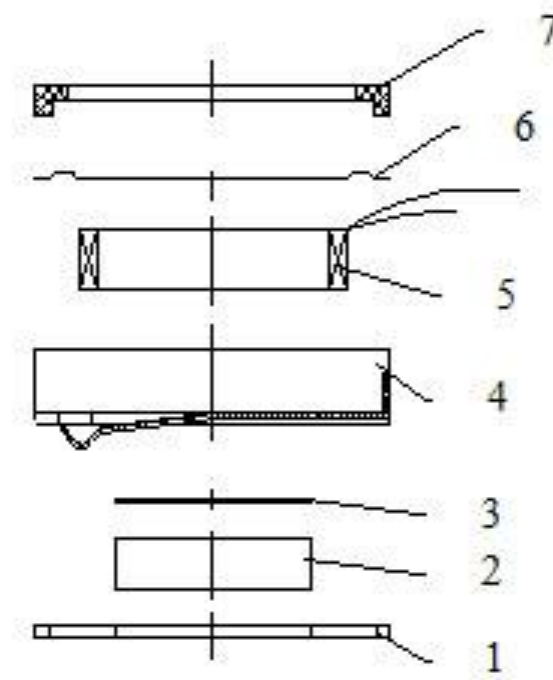
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Exploded Diagram and Materials Table



No.	Part Name	Material	Quantity
1	Frame	PPA	1
2	Magnet	Nd Fe B	3
3	Plate	SPCC	1
4	U Yoke	SPCC	1
5	Diaphragm	PEEK	1
6	Voice Coil	Copper Wire	1
7	Cap	PPA	1
8	Spring Terminal	SUS	2



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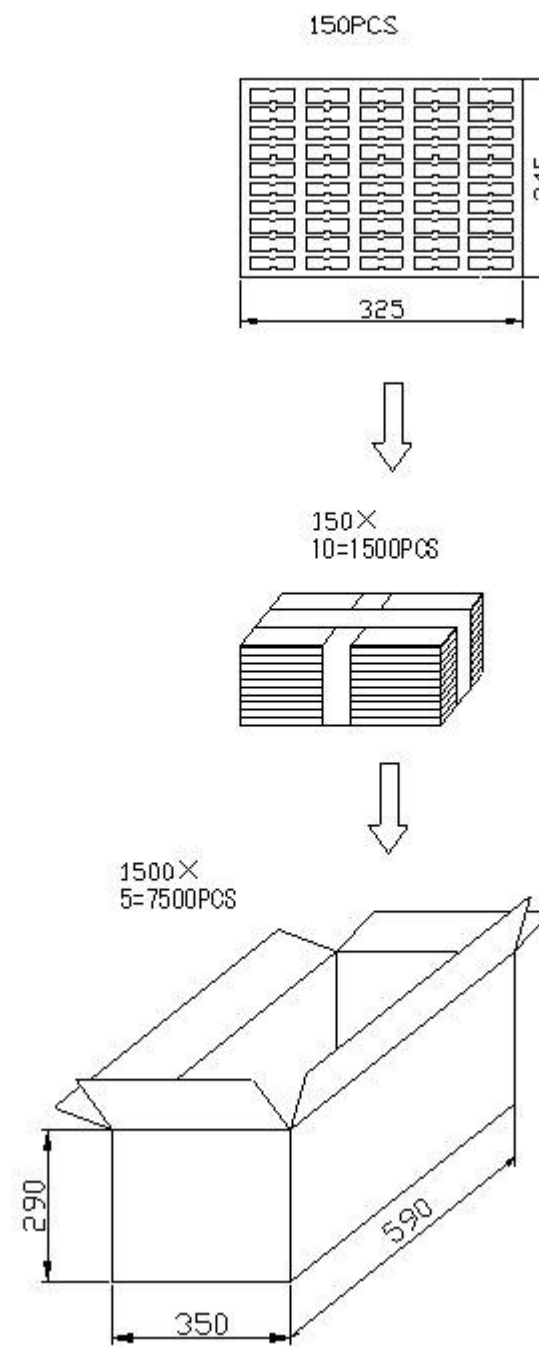
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Remarks

- 150 pcs per tray
- 10 trays for unit
- 1500 pcs per carton
- 5 carton per box
- Total: 7500 pcs per box**
- Size: 59×35×29 cm**