



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-5008



Release | Revision: C/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

94±3dB (0.1W /0.1M) at 0.6, 0.8, 1.0, 1.2KHz in average
Test Set Up: Measuring conditions and procedures shown in Figure 1

Frequency Response Curve

As shown in Figure 3

Frequency Range

F0 Hz ~ 6 KHz

Resonance Frequency

500Hz±20% at 1.0V

Input Power (Nominal and Maximum)

Rated Noise Power 1.0W

Short Term Max Power: 1.5W must be normal at a white noise for one minute

Distortion

Less than 5% at 1KHz (input 1.0W)

Buzz & Rattle, Etc.

Must be normal sine signal at 2.83V from F0 Hz to 20KHz sweeping

Polarity

When a positive D.C current is applied to terminal marked (+) diaphragm shall move forward

General Specifications

Temperature Range

Operating Temperature -20°C~+65°C

Storage Temperature -30°C~+70°C

Standard Test Conditions

Temperature 17°C ~ 25°C

Relative Humidity 45% ~ 85% (RH)

AC Impedance

8±15%Ω at 2000Hz 1.0V

Dimension

ø50.0 x H8.0 mm

IP Level

No rating



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Reliability Tests

The sound pressure as specified shall 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 $+70\pm 3^\circ\text{C}$

Duration 96 hours

Low Temperature Test

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

Duration 96 hours

Humidity Test

Temperature $+40\pm 3^\circ\text{C}$

Relative Humidity 90%~96%

Duration 96 hours

Heat Shock Test

High Temperature $+70\pm 2^\circ\text{C}$

Low Temperature $-30\pm 2^\circ\text{C}$

Changeover Time <30 seconds

Duration 1 hour

Cycles 100

Vibration Test

Vibration 10Hz~55Hz~10Hz Oct/min

Amplitude 1.5mm

Duration 2 hours in each of 3 axis

Load Test

Speaker mode: White noise (EIA filter) for 96 hours @1.0W input power.



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Measuring Method (Speaker Mode)

Standard Test Condition

Temperature 15 ~ 25°C

Relative Humidity 45% ~ 85%

Atmospheric Pressure 860hpa to 1060hpa

Speaker Mode Measuring Circuit

Input power : 0.1W

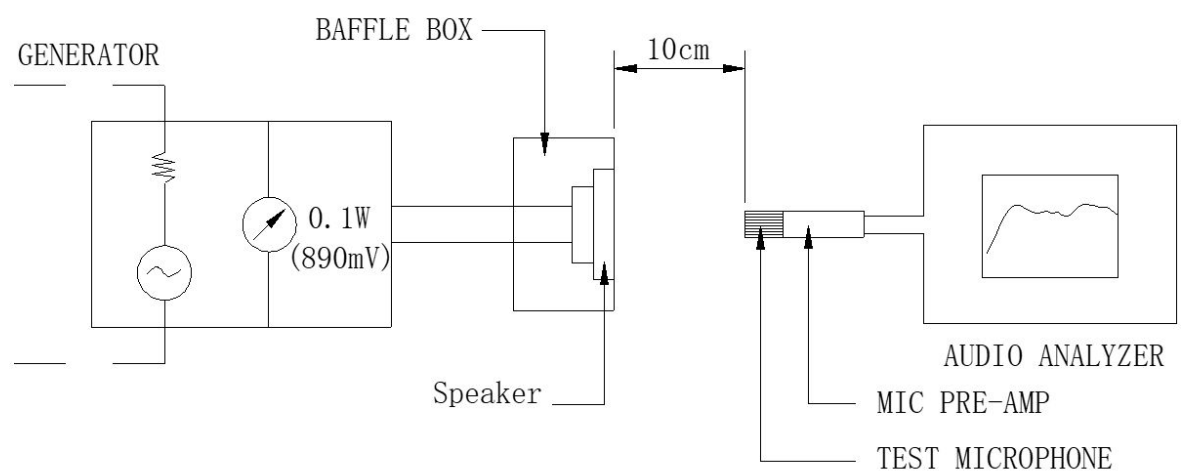
Zero level : -dB

Mode : TSR

Potentiometer Range : 50dB

Sweep Time : 0.5 sec

Standard Test Condition of Speaker (Fig. 1)





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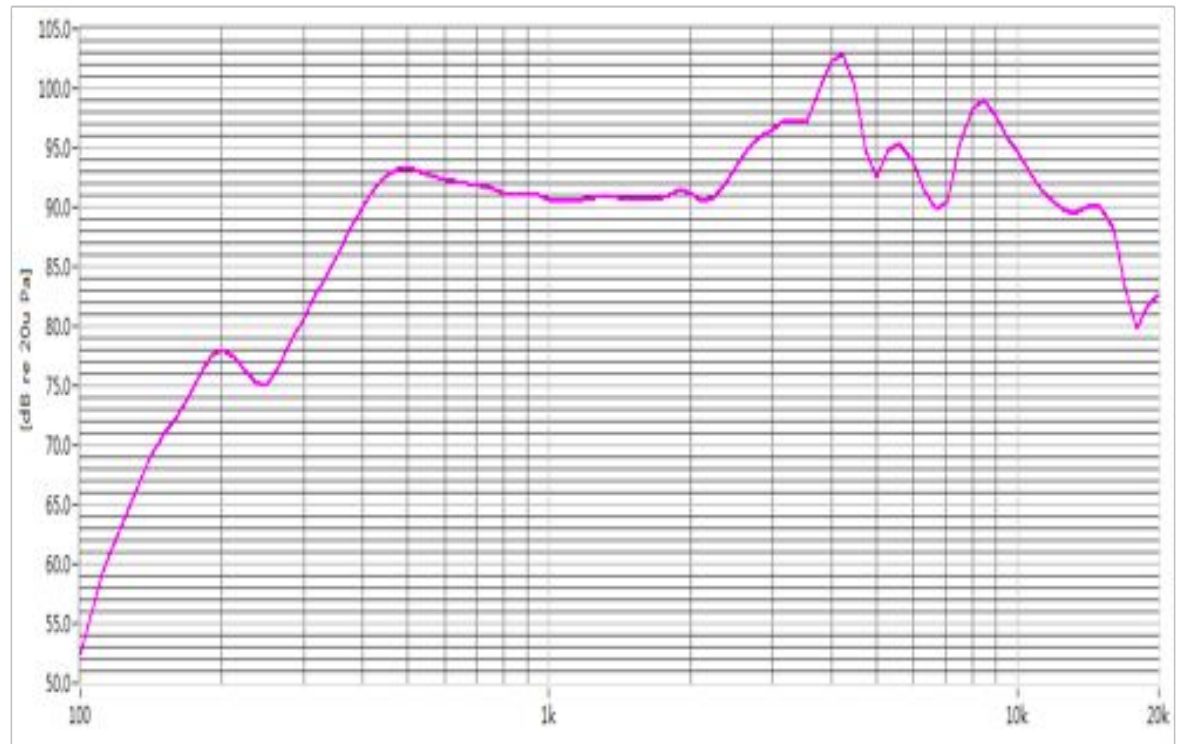
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Frequency Response Curve (Fig. 3)





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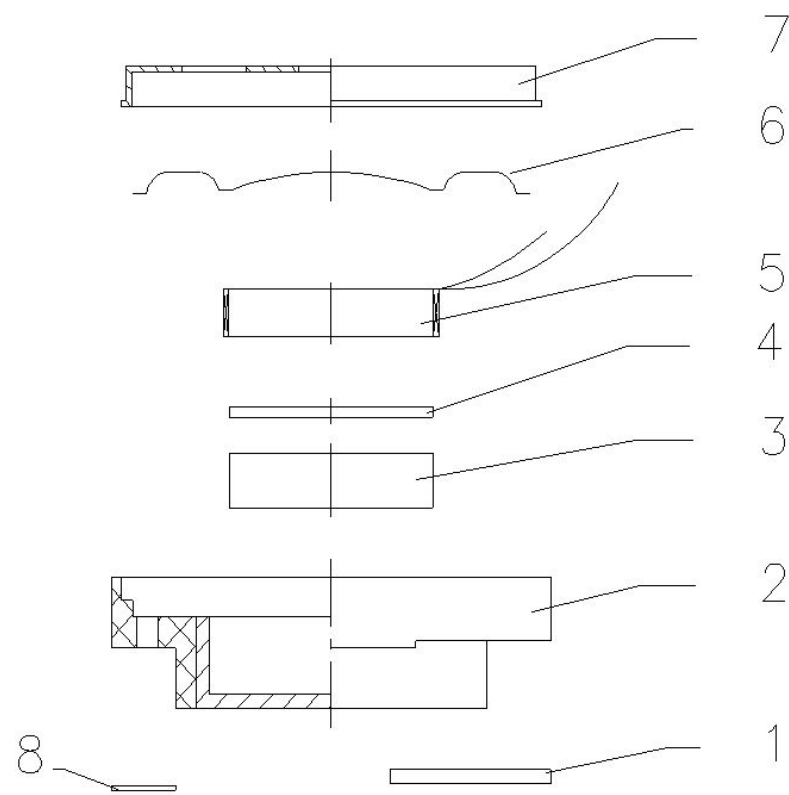
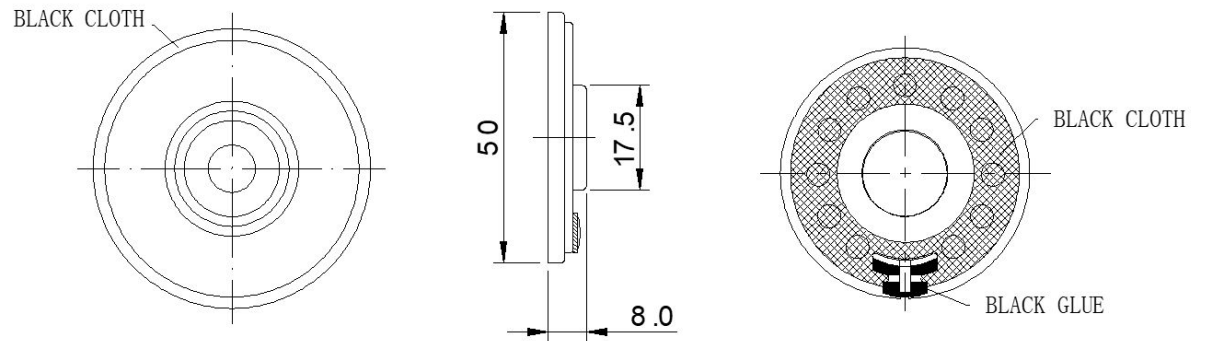
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Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	PCB	FR-4	1
2	Frame	SPCC	1
3	Magnet	Nd Fe B	1
4	Plate	SPCC	1
5	Voice Coil	PL-13.3-2.4-7.4Ω	1
6	Diaphragm	Black PET	1
7	Gasket	Black Paper	1
8	Silk Screen	Black Cloth	1



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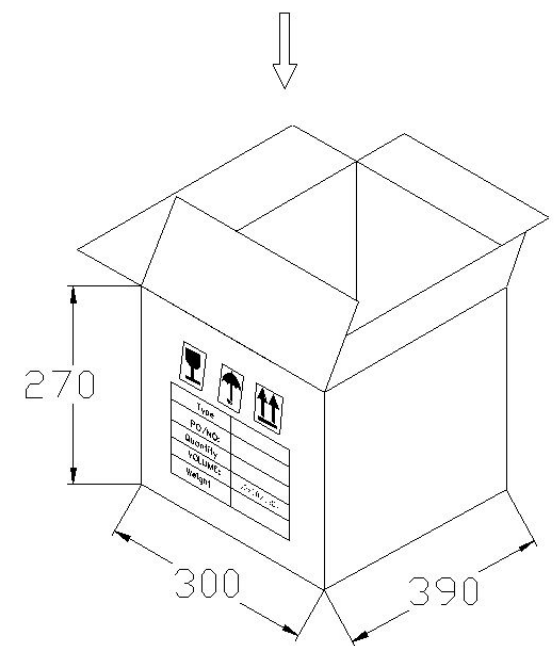
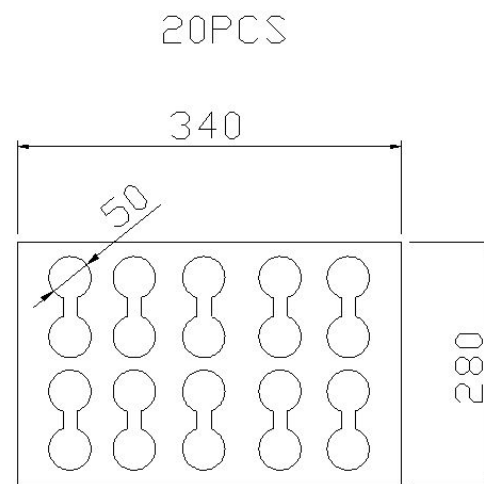
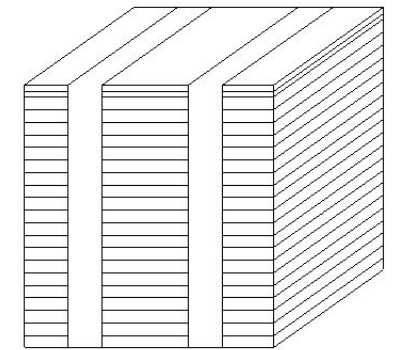
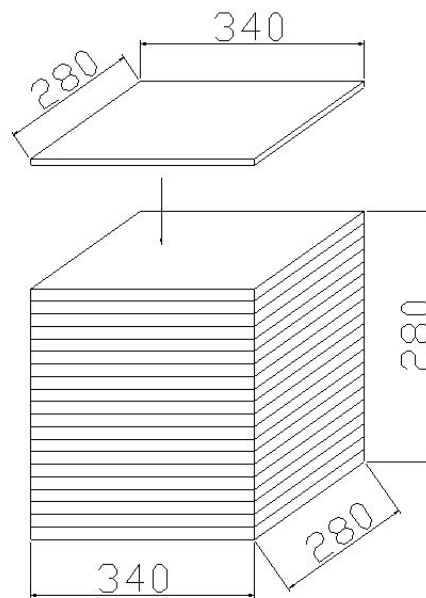
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Packing

20PCS×25=500PCS



Remarks

20 pcs per tray

25 trays per unit

Total: 500 pcs per box

Size: 390×300×270mm

Total weight: 6.5kg