



soberton inc.

WSP WATERPROOF SPEAKER

Acoustic Product Specification

Product Number: WSPH-3005



Release | Revision: B/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

90±3dB SPL @0.8, 1.0, 1.2 and 1.5KHz in 0.1W/0.1M
Measuring Condition: shown in Figure.1 & Figure.2

Frequency Response Curve

As shown in Figure 3

Frequency Range

F0 ~ 20KHz

Response Frequency

800±20%Hz

Input Power (Nominal and Maximum)

Rated Noise Power 0.25W
Short Term Max Power 0.5W

Buzz, Rattle, Etc.

Must be normal at sine wave between (F0 ~ 20KHz at 2.0V)

Distortion

Less than 5% @1KHz, 1W

Polarity

When a positive DC current is applied, the Diaphragm will engage forward.
Current is a positive(+). The red wire is positive (+).

General Specifications

Temperature Range

Operating Temperature -20°C~+60°C
Storage Temperature -30°C ~ +70°C

Standard Test Conditions

Temperature 17°C ~ 25°C
Relative Humidity 45% ~ 80% (RH)

AC Impedance

16±15%Ω

Dimension

Ø 30.0 X 5.0mm

IP Level

IP67



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Reliability Tests

After any following test, parts should conform to original performance within ± 3 dB tested with Rated Power, after 6 hours of recovery period.

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

Vibration Test

Frequency Range: 10Hz ~ 50Hz ~ 10Hz

Amplitude 1.5mm

Duration 2 hours each of 3 perpendicular directions

Temperature Cycle Test

Temperature -25°C $+65^{\circ}\text{C}$

Duration 6 hours 6 hours

Temperature gradient $\pm 2^{\circ}\text{C}$

Cycle 5

Drop Test

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

Operation Life Test

Must Perform normal with program White-Noise source at Rated Power for 96 hours

Lead Wire Pull Strength

The pull force shall 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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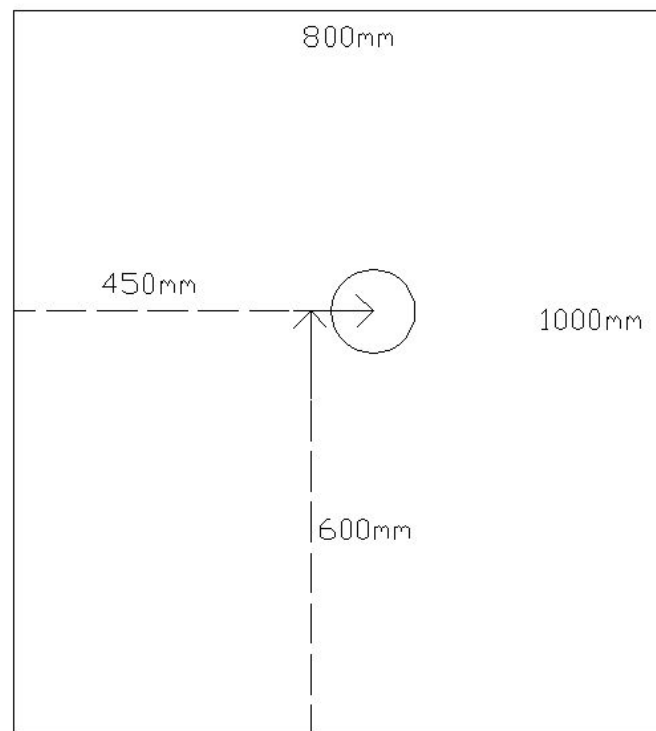
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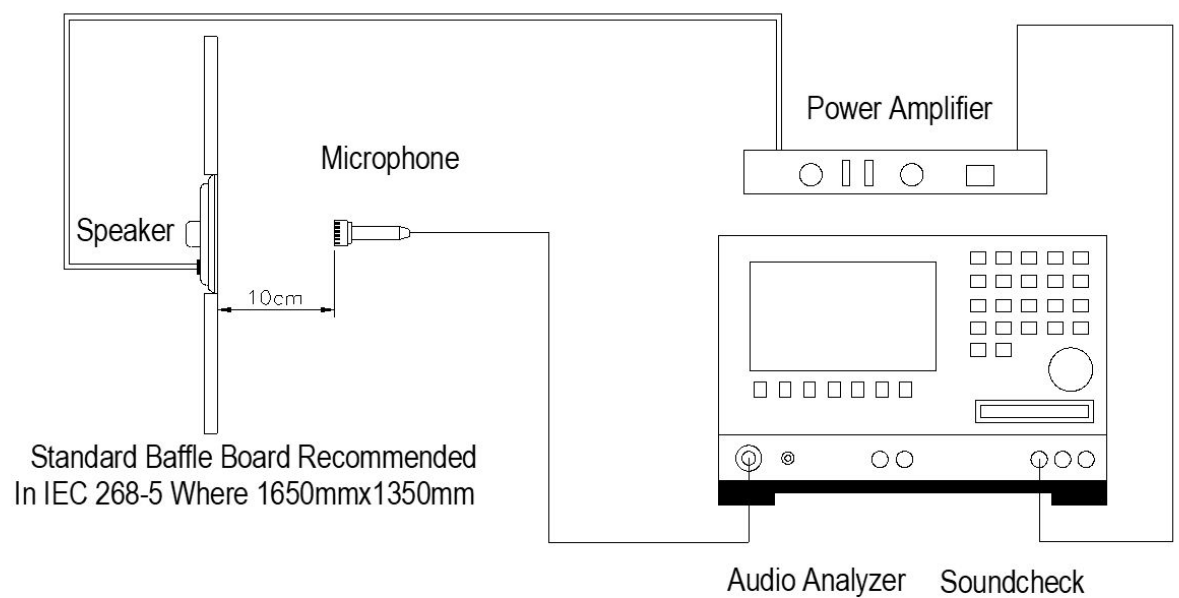
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Measuring Method (Speaker Mode)

Block Diagram for Measurement method



Standard Test Condition of Speaker (Fig. 1)





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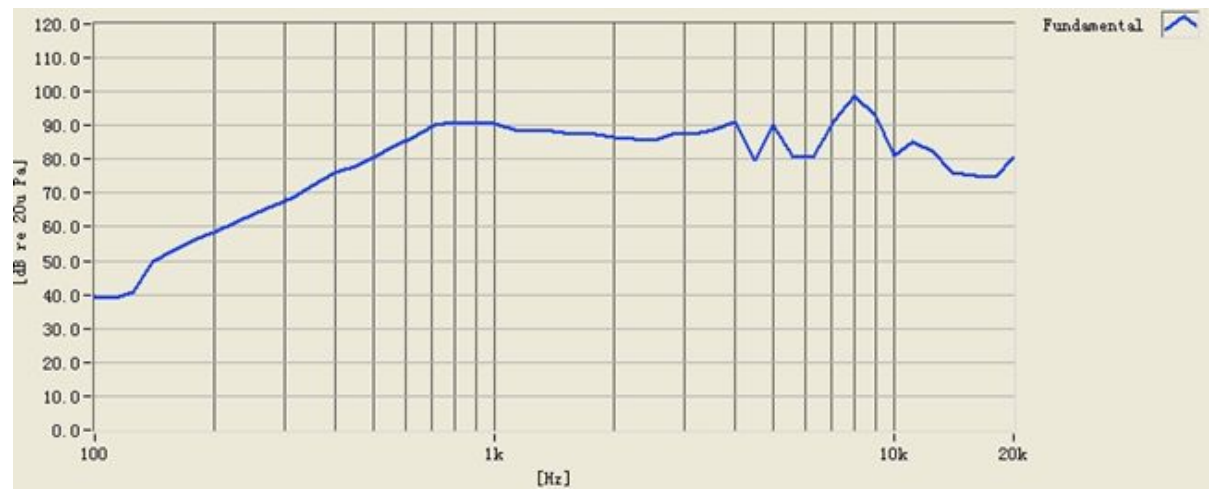
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Frequency Response Curve (Fig. 3)





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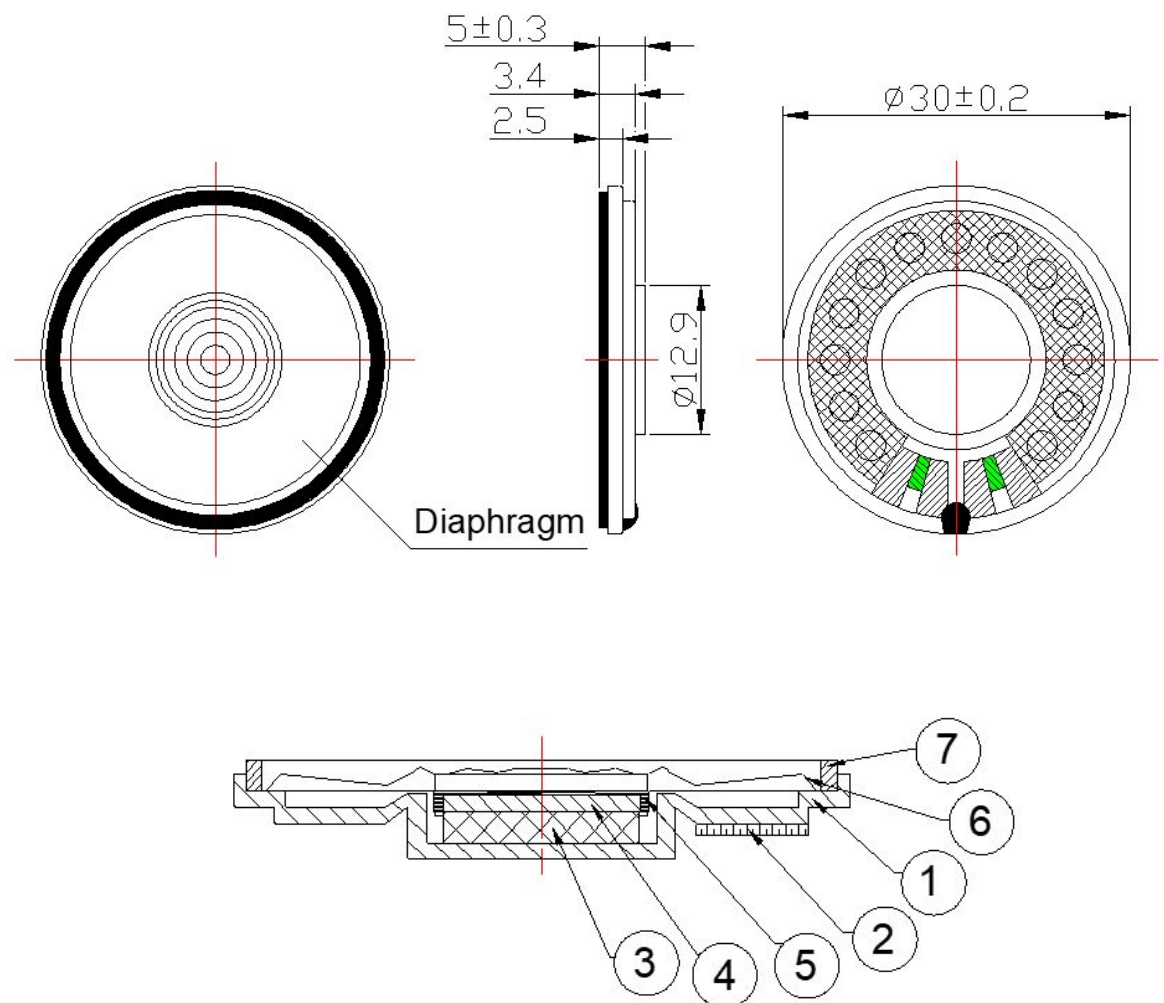
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Dimensions

Tolerance: ± 0.2 (unit: mm)



No.	Part Name	Material	Quantity
1	Frame	SPCC	1
2	PCB Terminal	FR-4	1
3	Magnet	NdF B	1
4	Plate	SPCC	1
5	Voice Coil	Paper + Cu	1
6	Diaphragm	PET	1
7	Gasket	ABS	1



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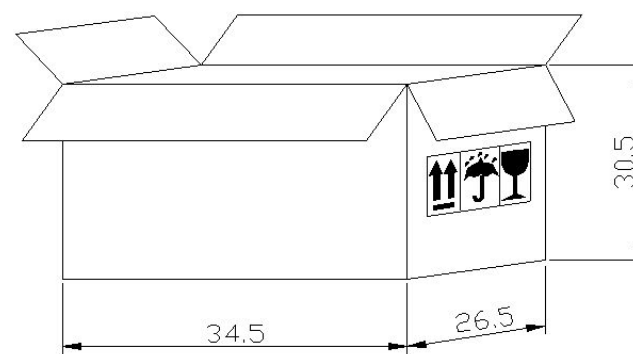
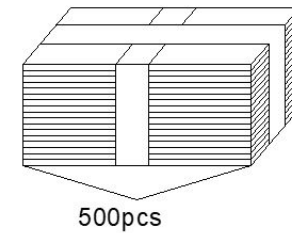
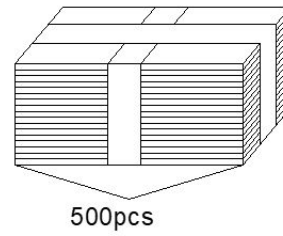
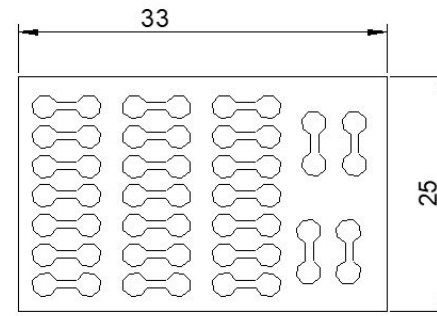
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Remarks

50pcs per tray
10 trays for unit, 2 units per carton
Total: 1000 pcs per box
Size: 34.5 x 26.5 x 30.5cm