



soberton inc.

WSP WATERPROOF SPEAKER

Acoustic Product Specification

Product Number: WSPH-1805W



Release | Revision: B/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

86±3dB SPL @1.5, 2.0, 2.5 and 3.0KHz in average

Measuring Condition: 0.1W (Sine wave) 10cm measured with baffler shown in Figure.1

Frequency Response Curve

As shown in Figure 2

Response Frequency

950±20%Hz @ 1V

Input Power (Nominal and Maximum)

Rated Noise Power 1.0W

Short Term Max Power 1.2W must be normal at a white noise (1.0W, F0 ~ 20KHz)

Operation Test

Must be free audible noise (buzzes and rattles)

(300 ~ 8KHz frequency range, input level up to 2.83Vrms)

Distortion

Less than 10% @2KHz, 10cm, 0.1W

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

8±15%Ω(@2KHz 1V) without baffler.

Dimension

Ø18.0 x H4.8mm

Wire: 73.5mm (UL3302 / AWG28#)

Connector: ACES50276-0020H0H0-001

IP Level

IP67



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

Duration 96 hours

Low Temperature Test

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

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

Cycle 100

Humidity Test

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

Relative Humidity 90%~95%

Duration 96 hours

Temperature Cycle Test

Temperature -30°C $+70^\circ\text{C}$

Duration 45 minutes 45 minutes

Temperature gradient 1 ~ 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: White noise (EIA filter) for 96 hours @ 1.0W input power.



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Measuring Method (Speaker Mode)

Standard Test Condition

Temperature 15 ~ 35°C

Relative humidity 45% ~ 85%

Atmospheric pressure 86KPa ~ 106KPa

Standard Test Fixture

Input Power 0.1W (0.89V)

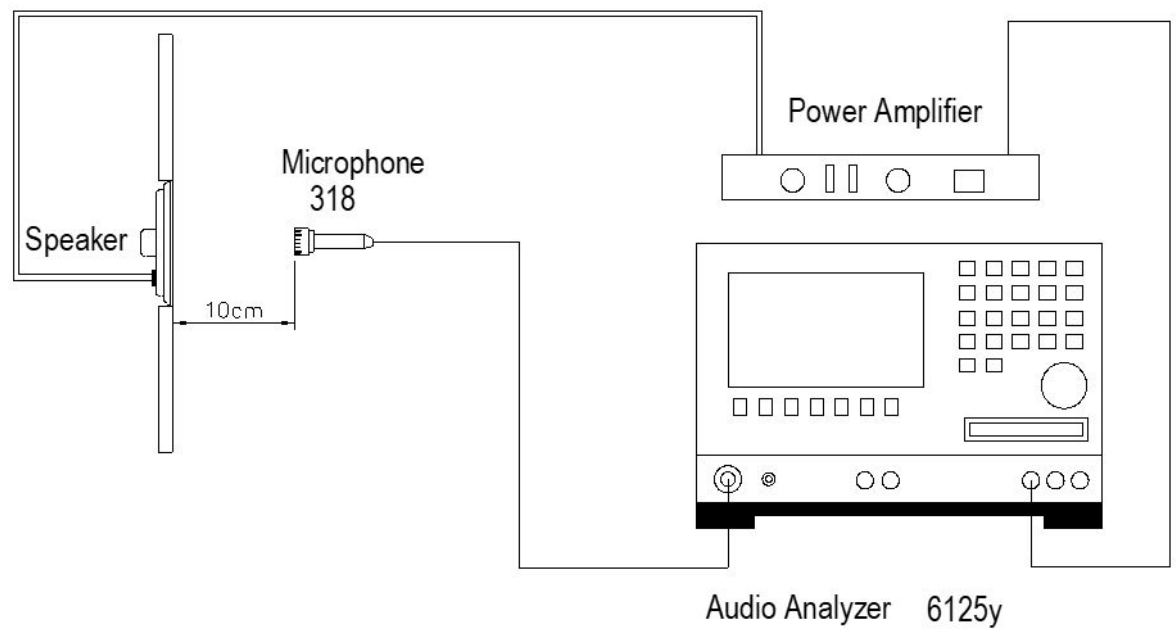
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)





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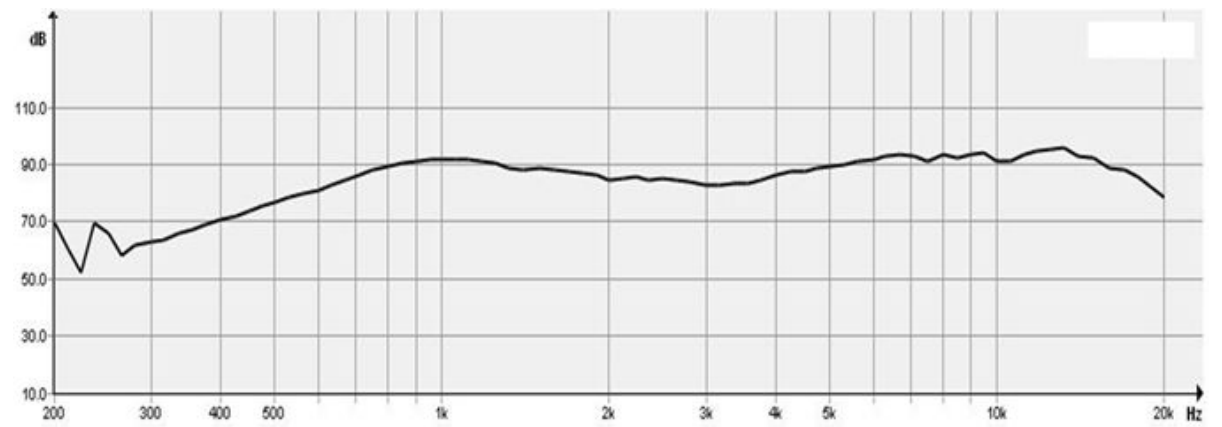
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Frequency Response Curve (Fig. 2)





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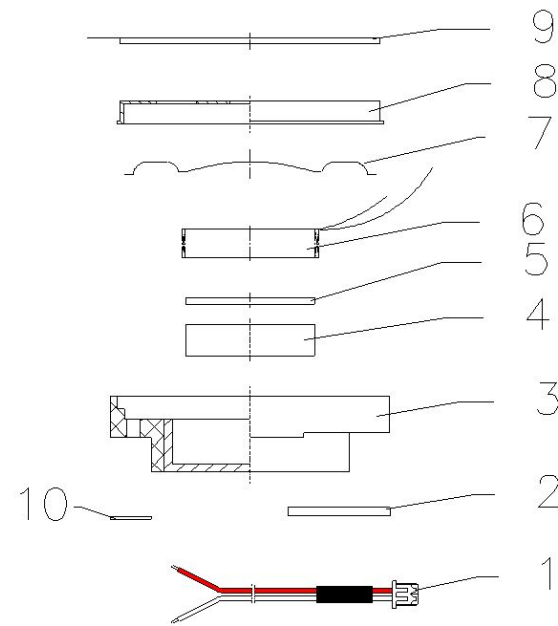
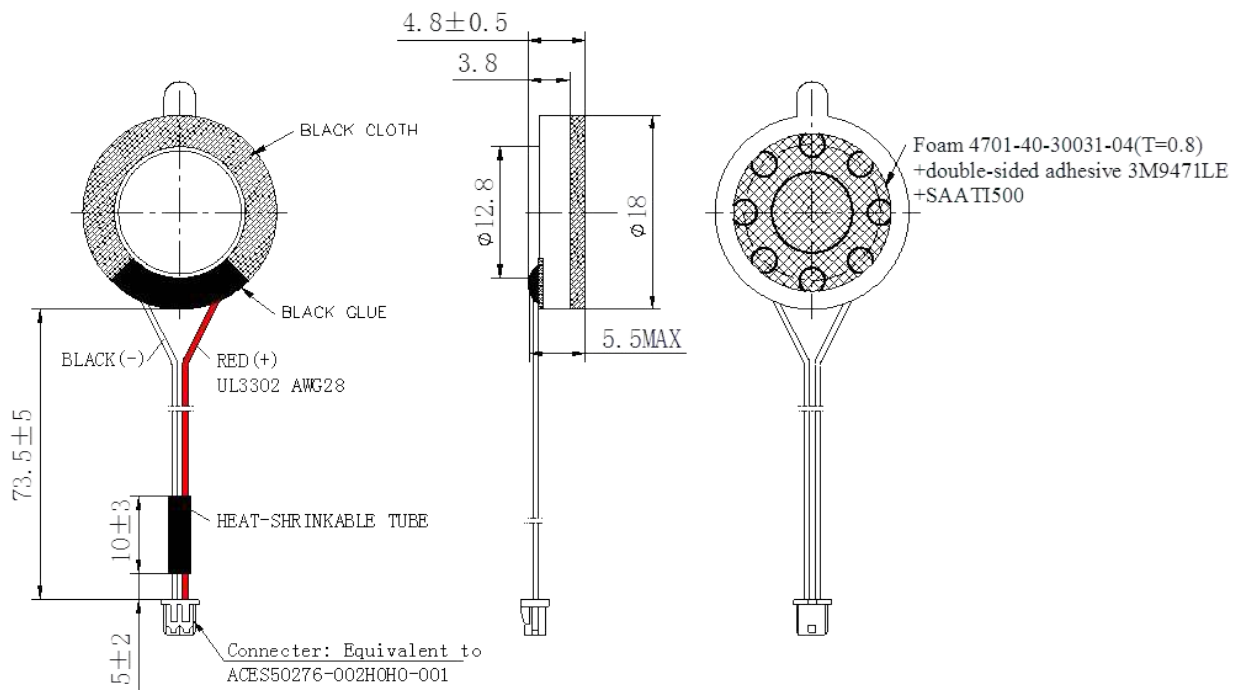
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Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Wire (73.5mm) Connector	UL3302 / AWG28# ACES50276-002H0H0-001	2 1
2	PCB	FR-4	1
3	Frame	PBT	1
4	Magnet	Nd Fe B	1
5	Plate	SPCC	1
6	Voice Coil	Cu	1
7	Membrane	PEN	1
8	Cap	SUS	1
9	Screen Gasket	Black Net	1
10	Damping	Black Cloth	1



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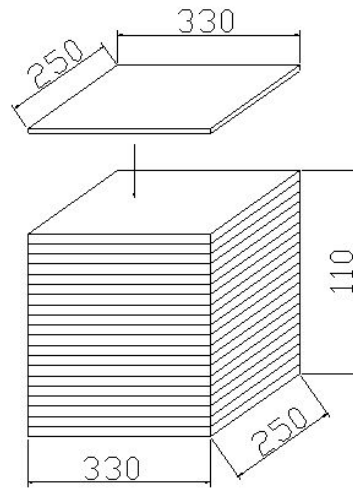
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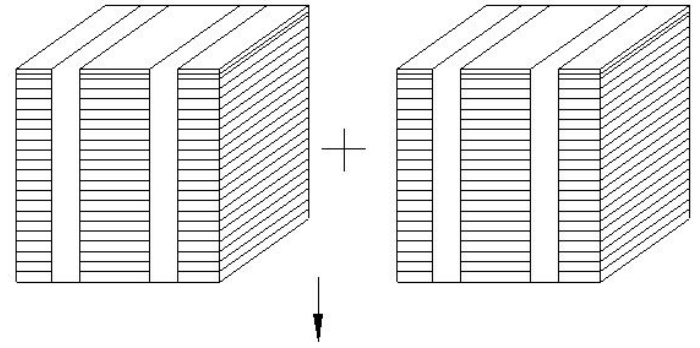
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100PCS×10=1000PCS

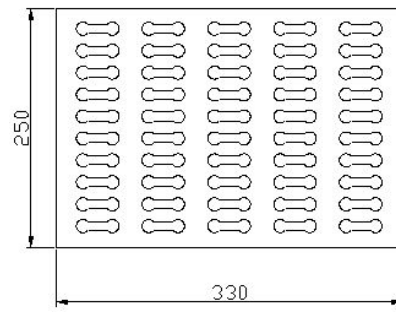


100PCS×10=1000PCS

100PCS×10=1000PCS



100PCS



1000PCS×2=2000PCS

