



soberton inc.

# WSP WATERPROOF SPEAKER

Acoustic Product Specification

Product Number: WSPH-3605L



Release | Revision: D/2021

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## Dynamic Speaker Electroacoustic Characteristics

### Sound Pressure Level

90±3dB SPL @1.0 Watt , 0.1 Meter  
Average at 0.8, 1.0, 1.2 & 1.5KHz

Measuring Condition: 1.0W (Sine wave) 10cm measured with baffle shown in Figure.1

### Frequency Response Curve

As shown in Figure 2

### Response Frequency

550±20%Hz @ 1V

### Response Range

F0 ~ 2.0KHz

### Input Power (Nominal and Maximum)

Rated Noise Power 1.0 Watt

Short Term Max Power 1.5 Watt

### Operation Test

Result must be normal when tested @2.83 Volts in free air

### Distortion

10% Max @1.0KHz, 1.0 Watt, 0.1 Meter

### Polarity

The Diaphragm will move forward when a positive DC current is applied To the '+' or 'marked' Terminal.

## General Specifications

### Temperature Range

Operating Temperature -20°C ~ +60°C

Storage Temperature -25°C ~ +65°C

### Standard Test Conditions

Temperature 15°C ~ 35°C

Relative Humidity 45% ~ 85% (RH)

### Voice Coil Impedance

DC: 8±15%Ω

### Dimension

Ø36.0 x H5.0mm

Wire: 30mm ( UL3302 / AWG32# )

### IP Level

IP67

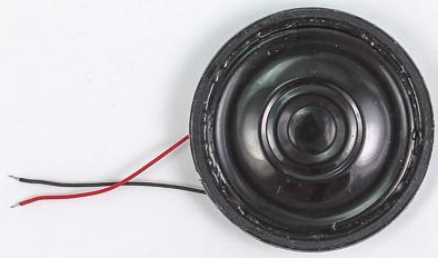


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## Reliability Tests

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	$+65\pm 2^\circ\text{C}$
Duration	96 hours

### Low Temperature Test

Low Temperature	$-25\pm 2^\circ\text{C}$
Duration	96 hours

### Heat Shock Test

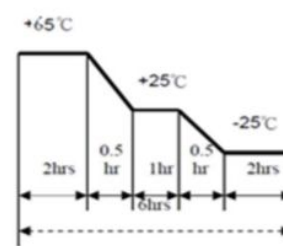
High Temperature	$+65\pm 2^\circ\text{C}$
Low Temperature	$-25\pm 2^\circ\text{C}$
Changeover time	<30 seconds
Duration	1 hour
Number of Cycles	10

### Humidity Test

Temperature	$+40\pm 2^\circ\text{C}$
Relative Humidity	90%~95%
Duration	48 hours

### Temperature Cycle Test

The part shall be subjected to 5 cycles. Each cycle shall be 6 hours and consist of this step diagram.



### Drop Test

The speaker is mounted onto the dummy assembly, placed in a standard cardboard box and then dropped onto a concrete board.

Height	0.75m
Number of Cycles	6

### 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 860mbar ~ 1060mbar

### Standard Test Fixture

Input Power 1.0W / 2.83V

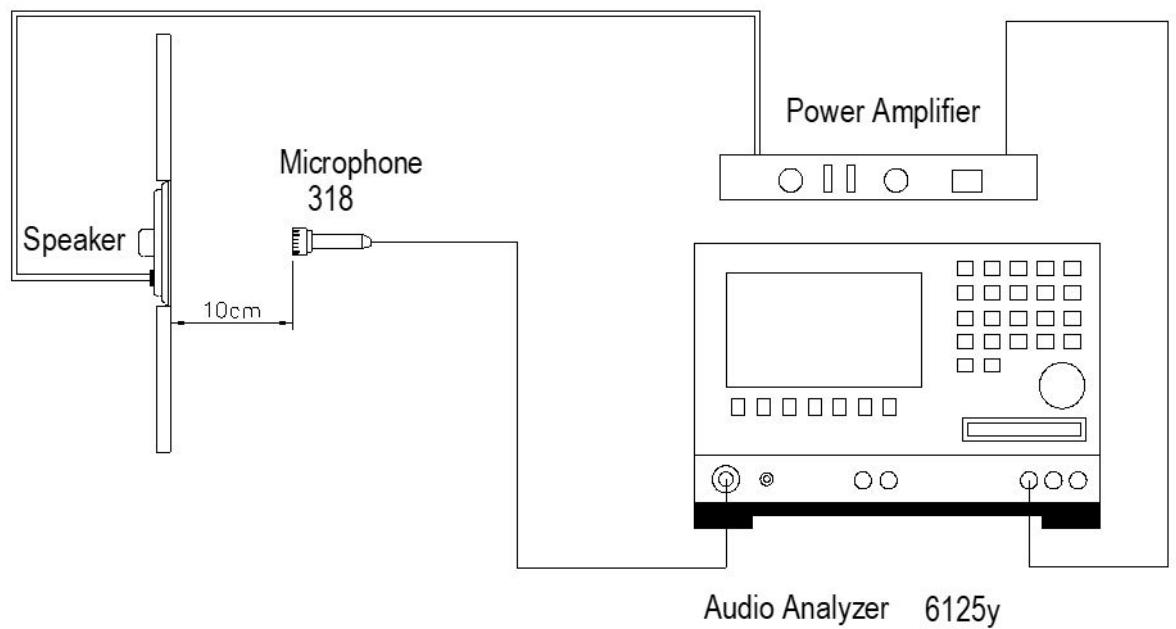
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

## Standard Test Condition of Speaker (Fig. 1)





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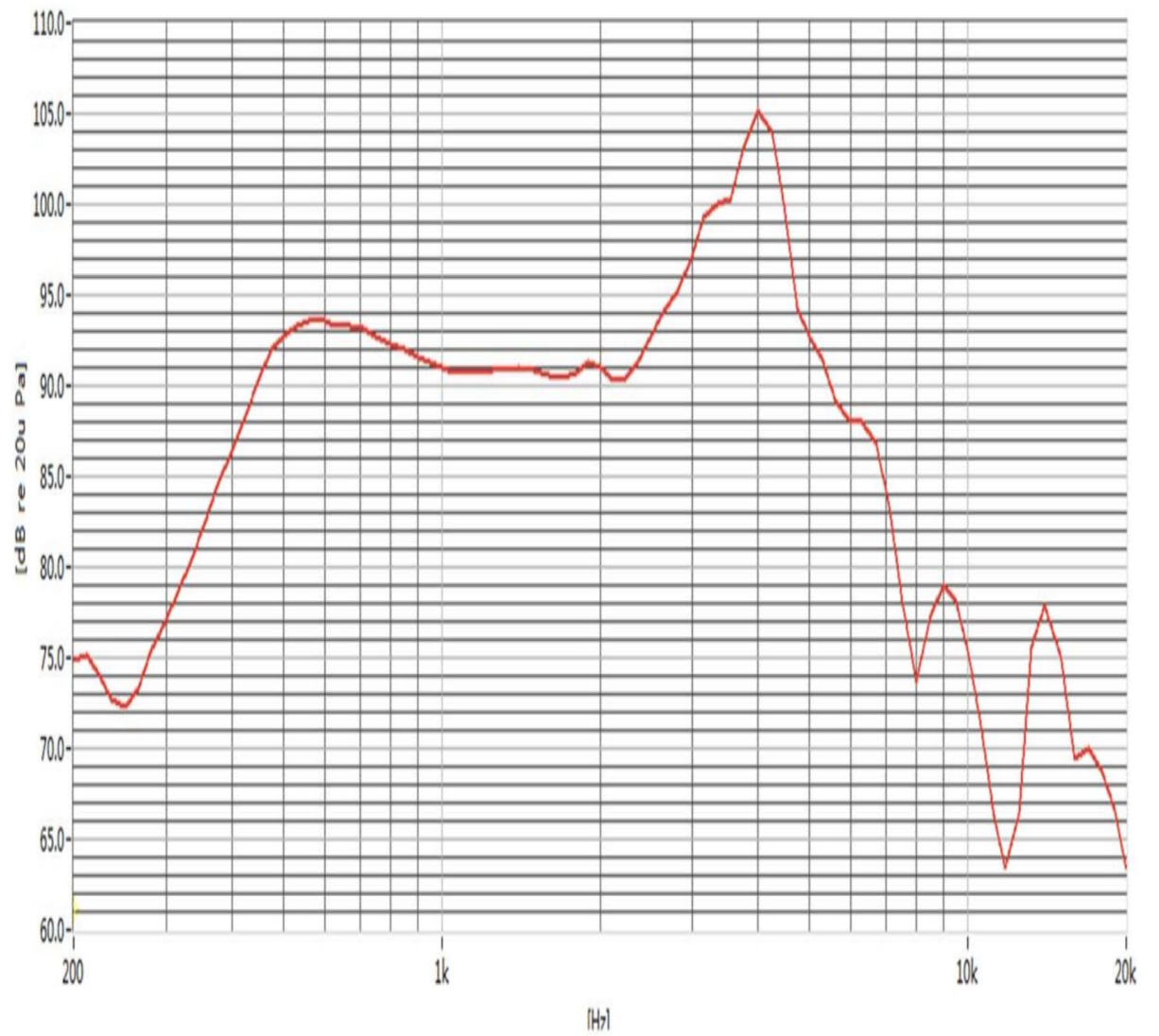
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## Frequency Response Curve (Fig. 2)

Test condition: 1.0W / 0.1M





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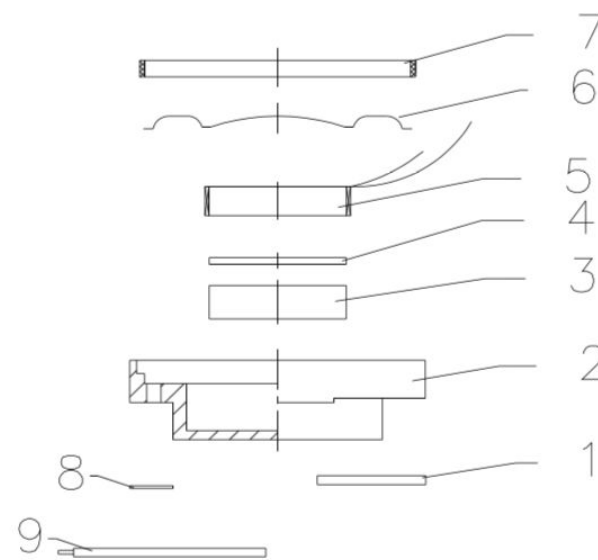
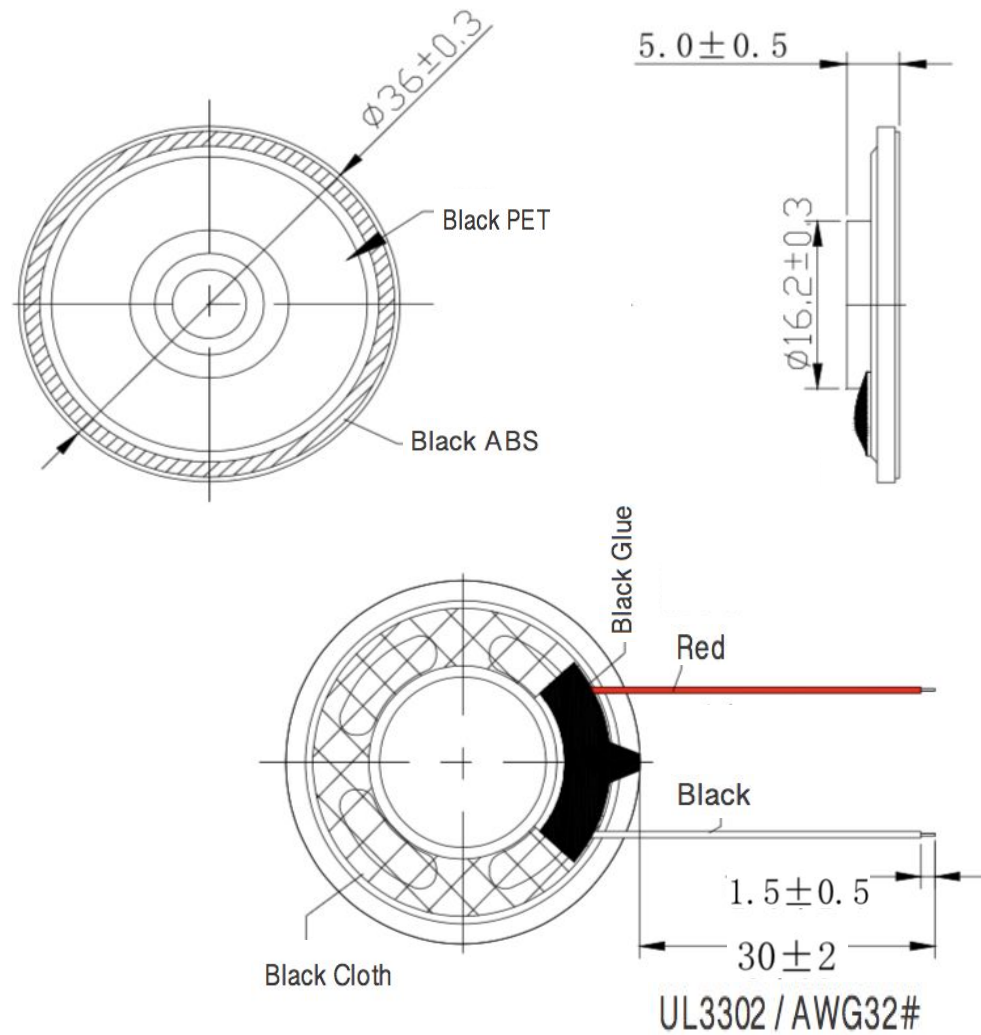
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## Dimensions

Tolerance:  $\pm 0.5$  (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 + Cu	1
6	Diaphragm	Black PET	1
7	Gasket	Black ABS	1
8	Silk Screen	Black Cloth	1
9	WIRE (30mm)	UL3302 / AWG32#	2





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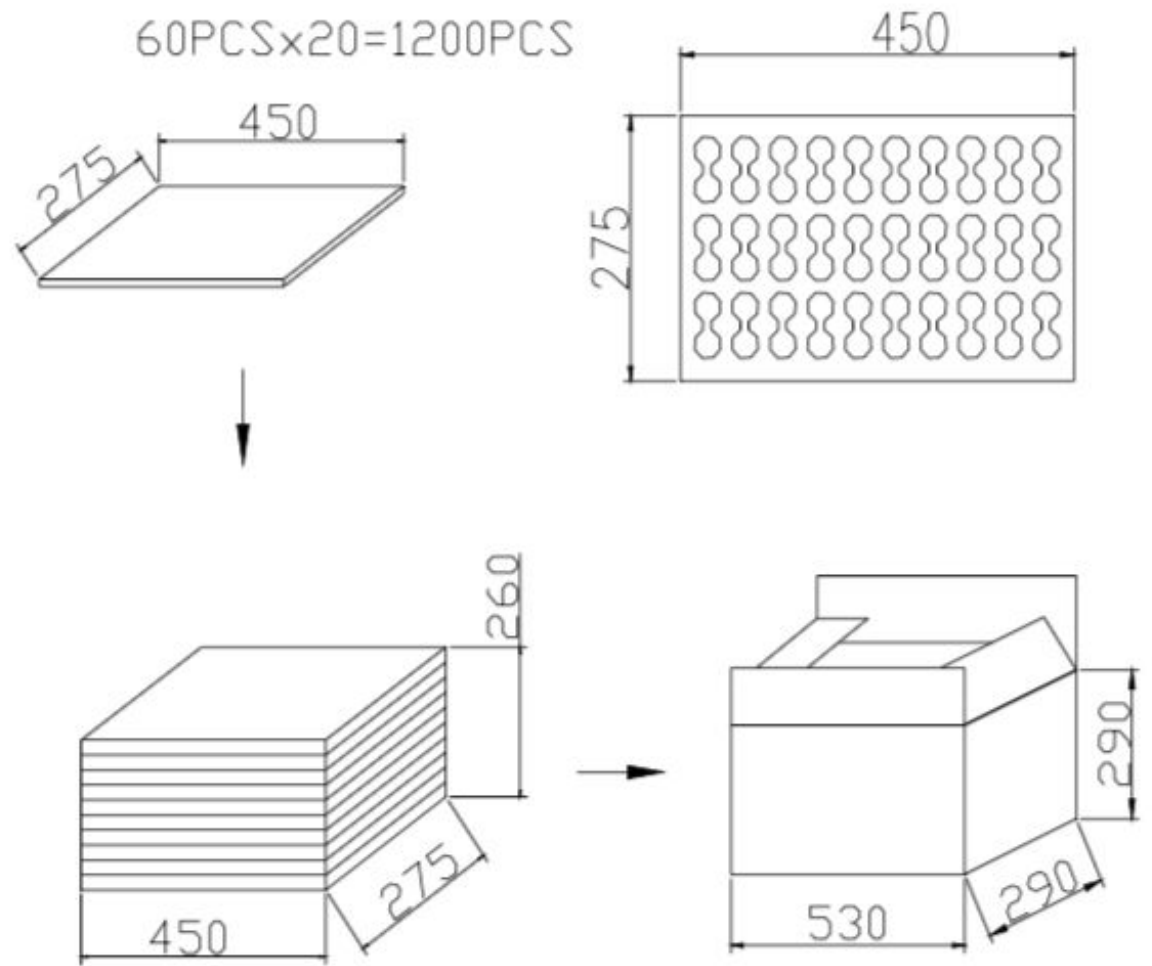
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## Packing



**Per Tray: 60pcs**

**Per Carton: 1,200pcs**

**Carton size: 530 x 290 x 290mm**