



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2618W



Release | Revision: B/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

91±3dB SPL @0.8, 1.0, 1.2 and 1.5KHz in Average

Measuring Condition: 0.8W (Sine wave) 10cm measured with baffler shown in Fig.1

Frequency Response Curve

As shown in Figure 2

Response Frequency

650±20%Hz @ 1V (Without Baffler)

Input Power (Nominal and Maximum)

Rated Noise Power 0.8W

Short Term Max Power: 1.0W must be normal at a white noise (F0 ~20KHz) for one minute

Operation Test

Must be free audible noise (buzzes and rattles)

(300 ~ 6KHz frequency range, input level up to 2.53Vrms)

Distortion

Less than 10% @1KHz, 10cm, 0.8W

Polarity

Diaphragm shall be move forward when applies a positive DC. Current to the "+", the red wire is the "+".

General Specifications

Operating Temperature Range

-30°C~+70°C

Operating Temperature Range

-40°C ~ +85°C

Standard Test Conditions

Temperature 17°C ~ 25°C

Relative Humidity 45% ~ 80% (RH)

AC Impedance

8±15%Ω(@2KHz 1V without baffler.

Dimension

26.0 x 18.0 x H4.8mm WIRE 90mm (UL 1571/AWG30#)

Connector 51021-0200Molex

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 ~ $3^\circ\text{C}/\text{min}$

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 @ 0.8W input power



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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 0.8W

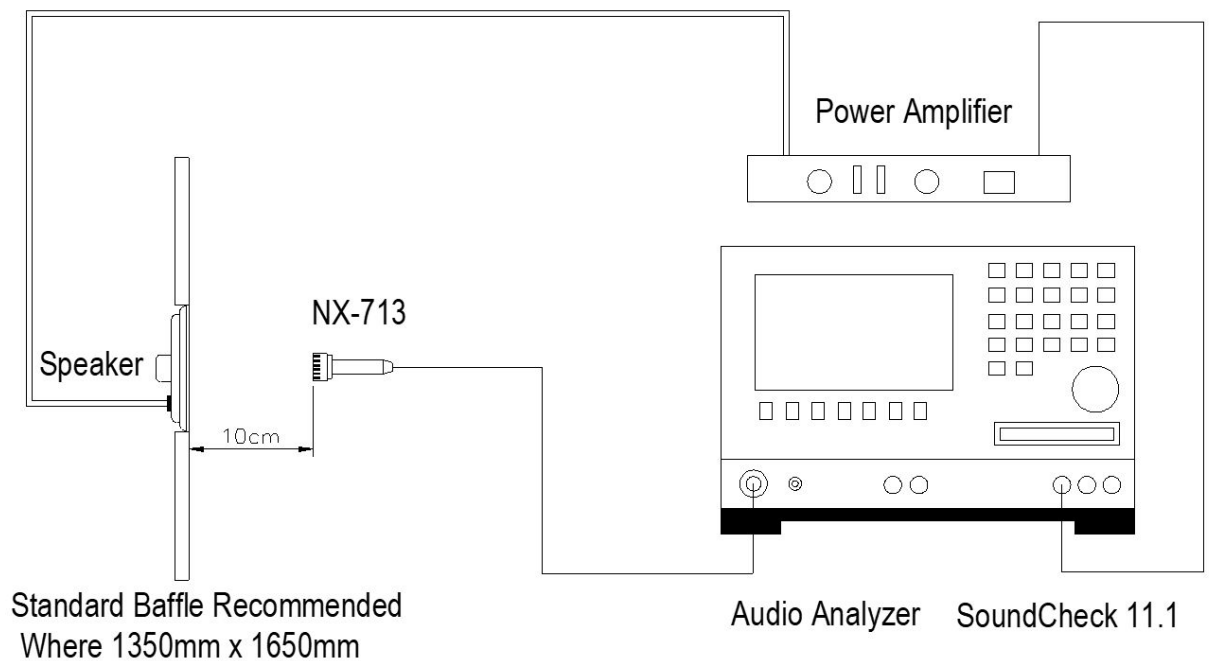
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)





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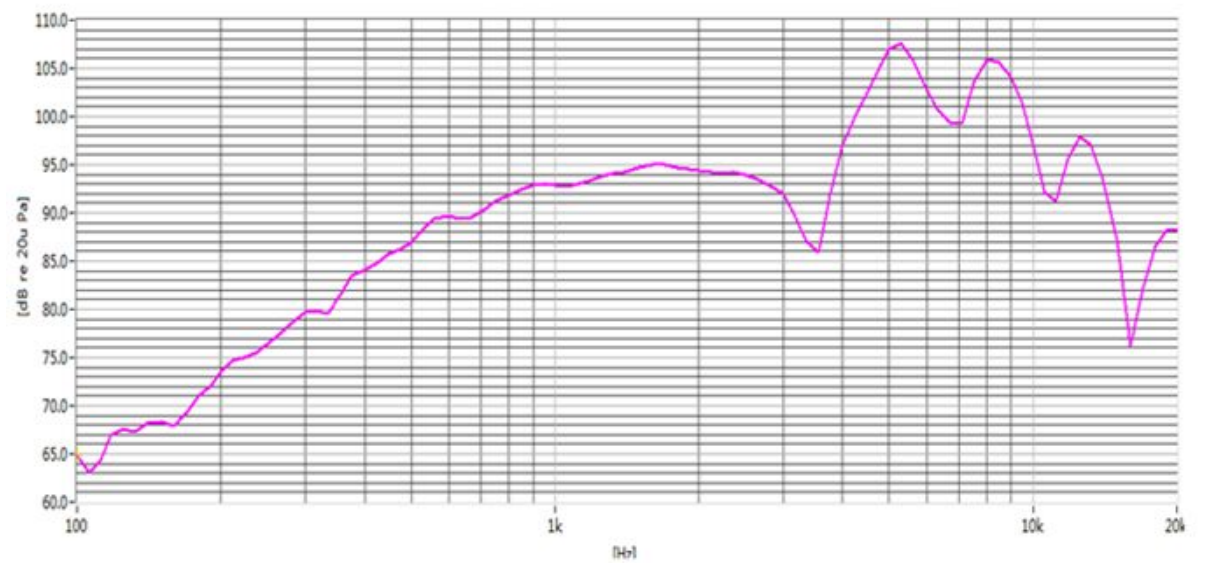
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Frequency Response Curve (Fig. 2)

0.1W/10cm, in free air





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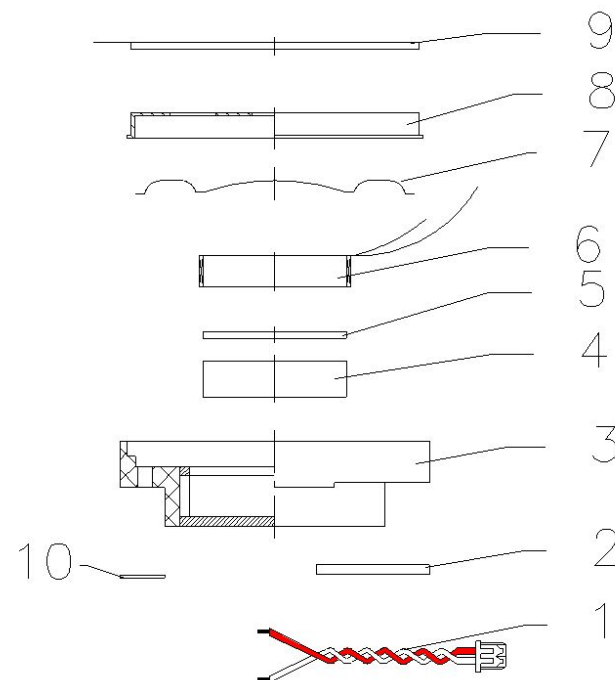
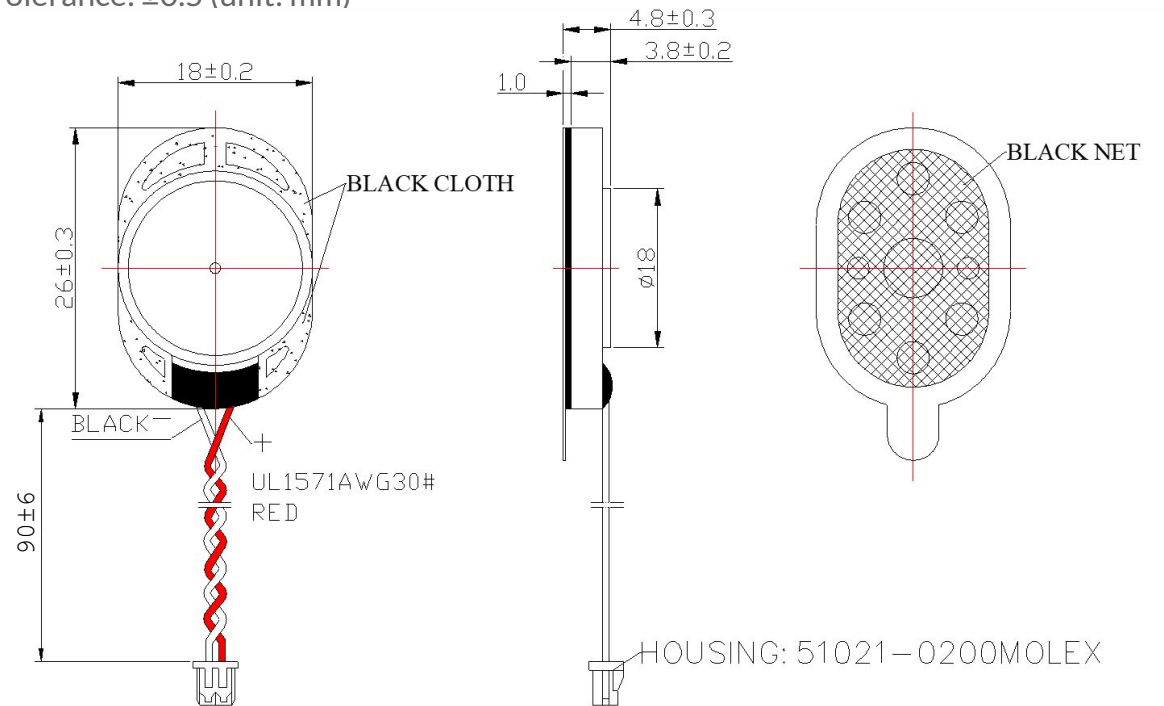
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Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Wire (90mm)	UL 1571/AWG30#	2
	Connector	51021-0200Molex	1
2	PCB	FR-4	1
3	Frame	PBT+Nd Fe B+SPCC	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	Gasket	Black Net	1
10	Screen	Black Cloth	1



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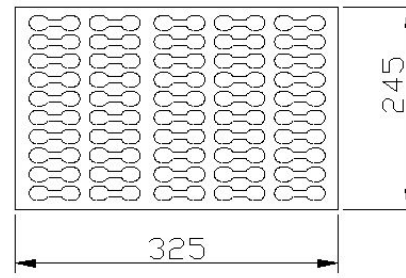
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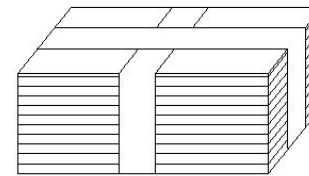
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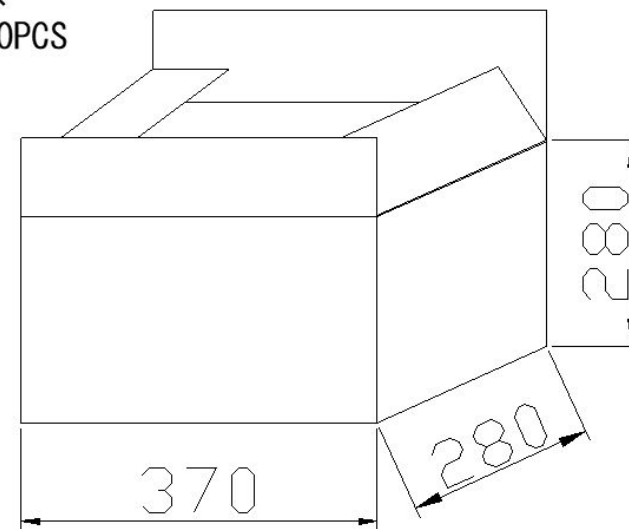
100PCS



100 ×
10=1000PCS



1000 ×
2=2000PCS



Remarks

- 100 pcs per box
- 10 units per box
- Total: 2000 pcs per box
- Total Weight: 11kg