



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014L-1



Release | Revision: B/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

85±3dB@1.0W, 0.5M at 0.8, 1.0, 1.2, 1.5KHz in average
Measuring Condition: 0.5W (Sine wave) 10cm measured with baffler shown in Figure 1

Frequency Response Curve

As shown in Figure 2

Frequency Range

F0 Hz ~ 6.0 KHz

Response Frequency

900Hz±20% at 1.0V

Input Power (Nominal and Maximum)

Rated Noise Power 0.5W

Short Term Max Power: 1.0W must be normal at a white noise (1W, F0 ~ 20KHz) for one minute

Operation Test

Must be audible noise (buzzes and rattles)
(F0 ~ 3400Hz frequency range, input level to 2.0Vrms)

Total Harmonic Distortion

Less than 10%@1KHZ, 10cm, 0.1W

Polarity

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

General Specifications

Operating Temperature Range

-25°C~+65°C

Storage Temperature Range

-40°C~+75°C

Standard Test Conditions

Temperature 17°C ~ 25°C

Relative Humidity 45% ~ 80% (RH)

AC Impedance

8±15%Ω (@ 1 KHz 1V)

Dimension

20.0 x 14.0 x H3.3mm
WIRE 50mm (UL1571/ AGW32#)

IP Level

IP50



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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 $+75\pm 2^\circ\text{C}$

Duration 96 hours

Low Temperature Test

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

Duration 96 hours

Humidity Test

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

Relative Humidity 90%~96%

Duration 96 hours

Temperature Cycle Test

Temperature -40°C $+75^\circ\text{C}$

Duration 45 minutes 45 minutes

Temperature gradient $1 \sim 3^\circ\text{C}/\text{min}$

Cycle 10

Drop Test

Mounted with dummy set mass 100g

Height 1.5 m

Cycle 6 (1 each plain) onto the concrete board

Load Test

Speaker mode: White noise(EIA filter)for 96 hours @0.5W input power



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Measuring Method (Speaker Mode)

Standard Test Condition

Temperature 17 ~ 25°C

Relative humidity 45% ~ 85%

Atmospheric pressure 86KPa to 106KPa

Standard Test Fixture

Input Power 0.1W

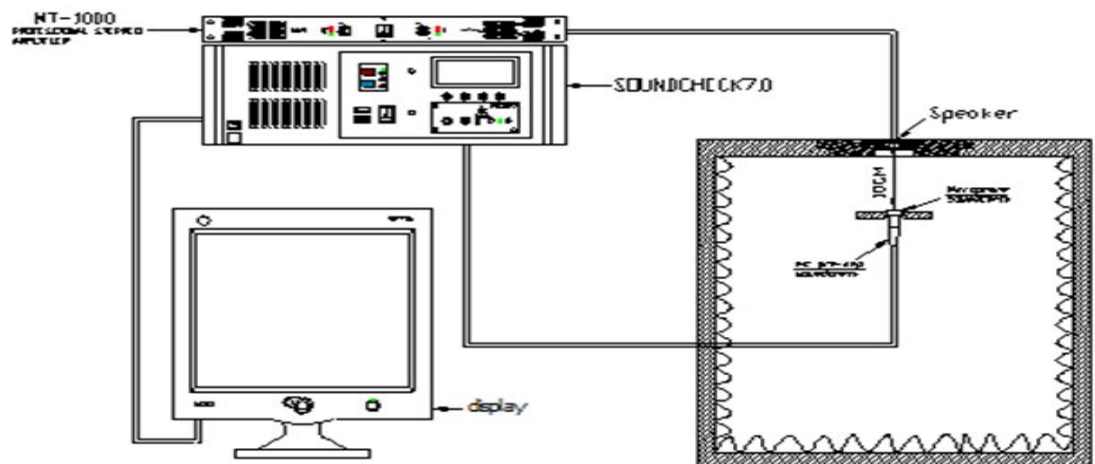
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)





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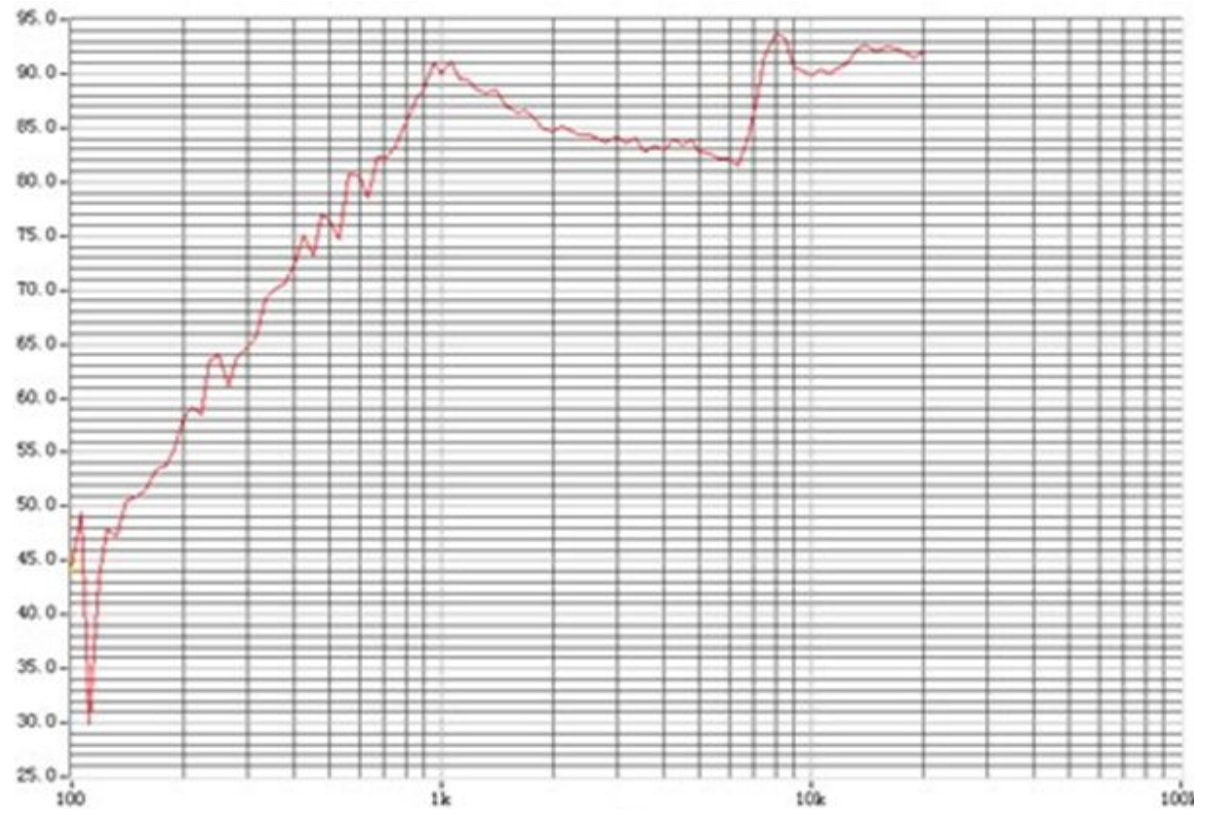
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Frequency Response Curve (Fig. 2)





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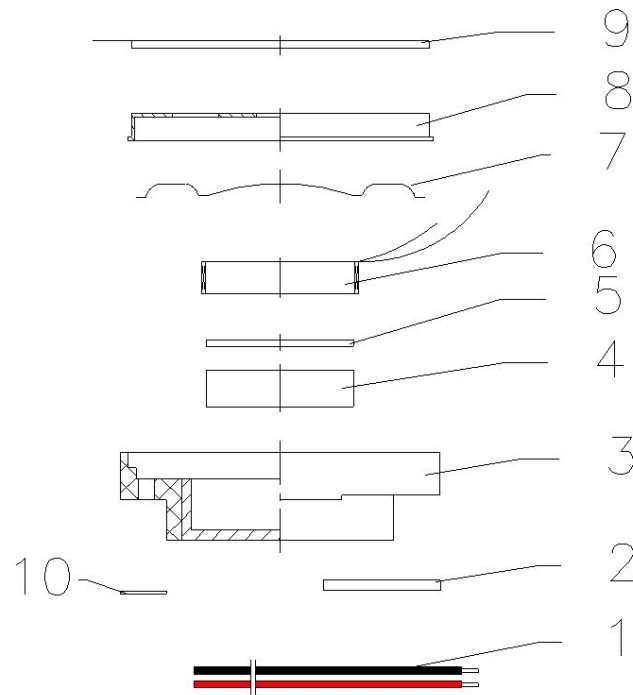
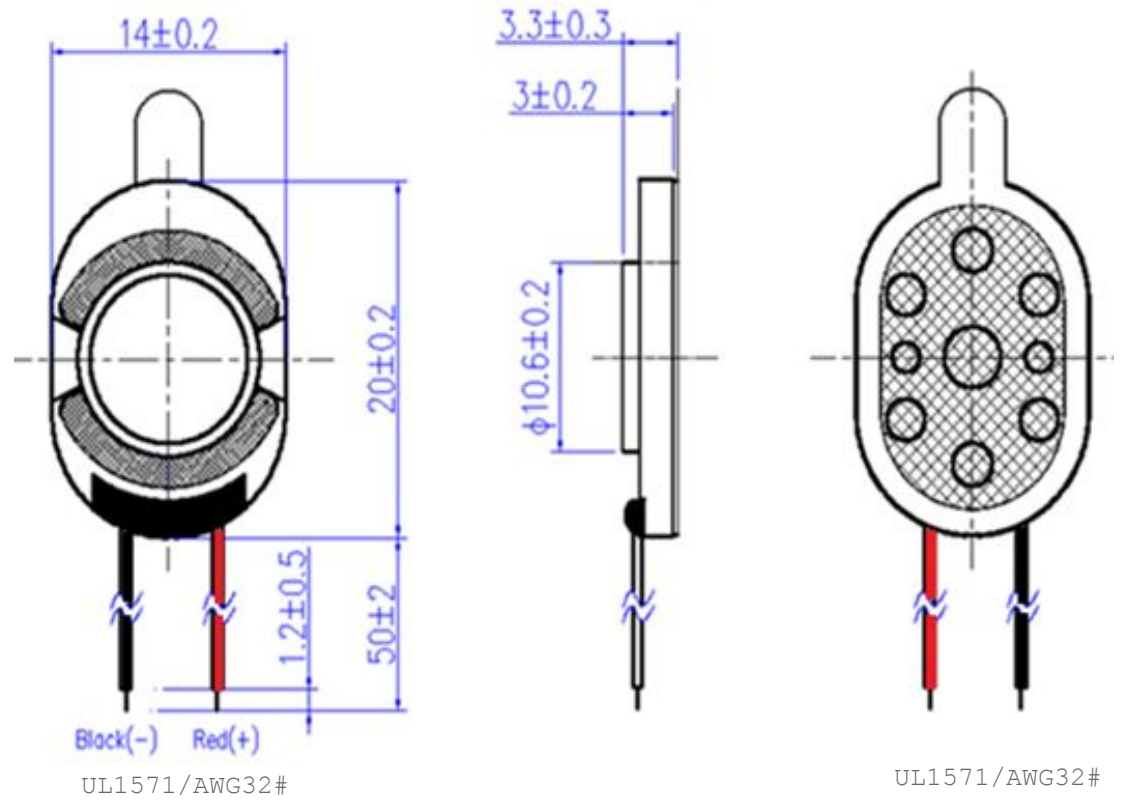
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Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Wire (50mm)	UL1571/AWG32# 30V $\phi 0.5$ mm	2
2	PCB	FR-4	1
3	Frame	PBT	1
4	Magnet	Nd Fe B	1
5	Plate	SPCC	1
6	Voice Coil	Copper	1
7	Membrane	PET	1
8	Cap	Stainless Steel	1
9	Gasket	Black Net	1
10	Screen	Black Net	1



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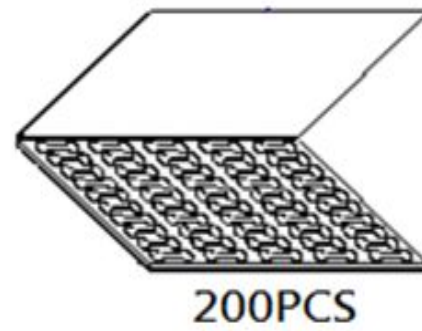
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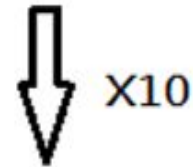
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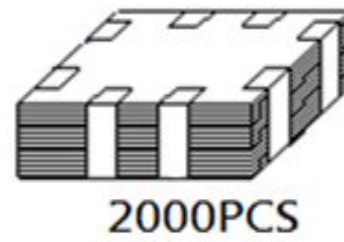
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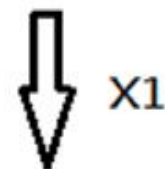
200PCS



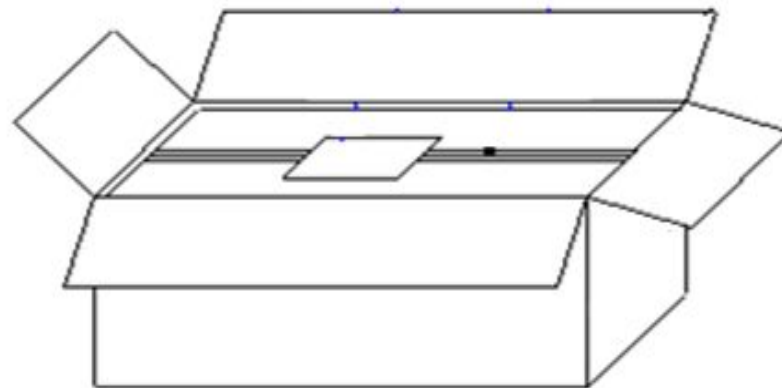
X10



2000PCS



X1



Remarks

200 pcs per box
10 units per box
Total:2000 pcs per box
Size:37×28×47cm