



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2027NW



Release | Revision: B/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

83dB± 3dB (1.0W/0.5m) at 1.0KHz
Test Set Up: Measuring conditions and procedures shown in Figure 1 & 2

Frequency Response Curve

As shown in Figure 3

Frequency Range

F0 Hz ~ 10 KHz

Resonance Frequency

750 ± 20%Hz

Input Power (Nominal and Maximum)

Rated Noise Power 1.0W
Short Term Max Power: 1.5W

Distortion

Less than 5% @1KHz, Input Rated Power

Buzz & Rattle, Etc.

Should not be audible at 2V sine Wave between F0 ~ 20KHz

Polarity

When positive voltage is applied to the terminal marked (+), diaphragm should be moved to the front.

Appearance

Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.

Magnet

Rare earth permanent (NdFeB) magnet φ11*1.5mm

General Specifications

Temperature Range

Operating Temperature -25°C~+50°C
Storage Temperature -20°C~+60°C

Standard Test Conditions

Temperature 5°C ~ 35°C
Relative Humidity 45% ~ 85% (RH)

AC Impedance

4 Ω±15%Ω

Dimension

27.0 x 20.0 x H6.4mm WIRE 70mm (UL1571 / AWG28#)
Connector ZJTA1251H00-2P

IP Level

No rating



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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 $+60\pm 3^\circ\text{C}$

Duration 96 hours

Low Temperature Test

Low Temperature $-20\pm 3^\circ\text{C}$

Duration 96 hours

Humidity Test

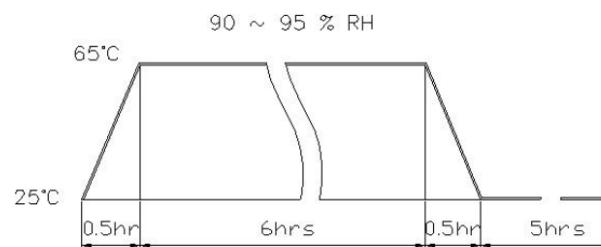
Temperature $+40\pm 3^\circ\text{C}$

Relative Humidity 92%~95%

Duration 3 hours

Temperature/Humidity Cycle

The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of



Fix Drop Test

Fix on jig, then drop from 152cm height to the concrete floor X,Y, Z 6 direction. 5 times each, total 30 times

Free Drop Test

Free drop from 100cm height to the concrete floor X,Y, Z 6 direction. 1 time each, total 6 times.

Vibration Test

10Hz ~ 55Hz ~ 10Hz sine-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.

Load Test

Rated Power White noise is applied for 48 hours

Max Power Test

Max power 1 minute- ON - 2 minutes- OFF, 10 cycles.

Terminal Strength Test

Capable of withstanding 1kg load for 30 seconds without resulting in any damage or rejection.



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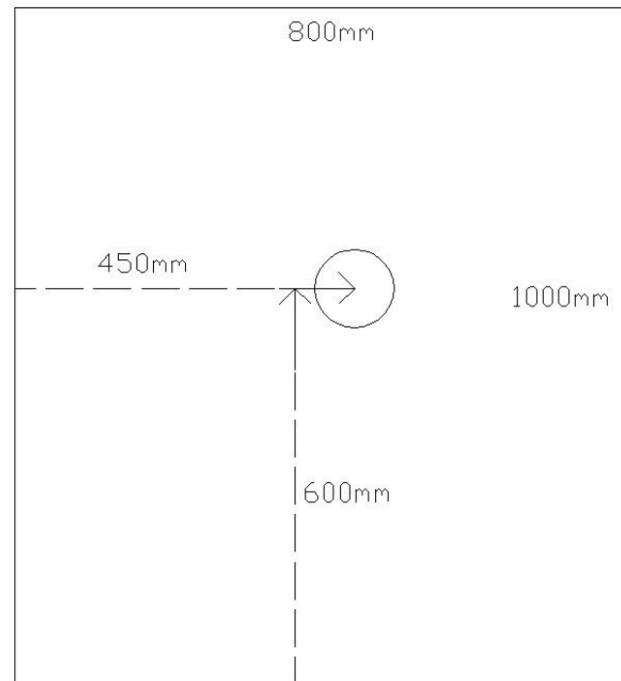
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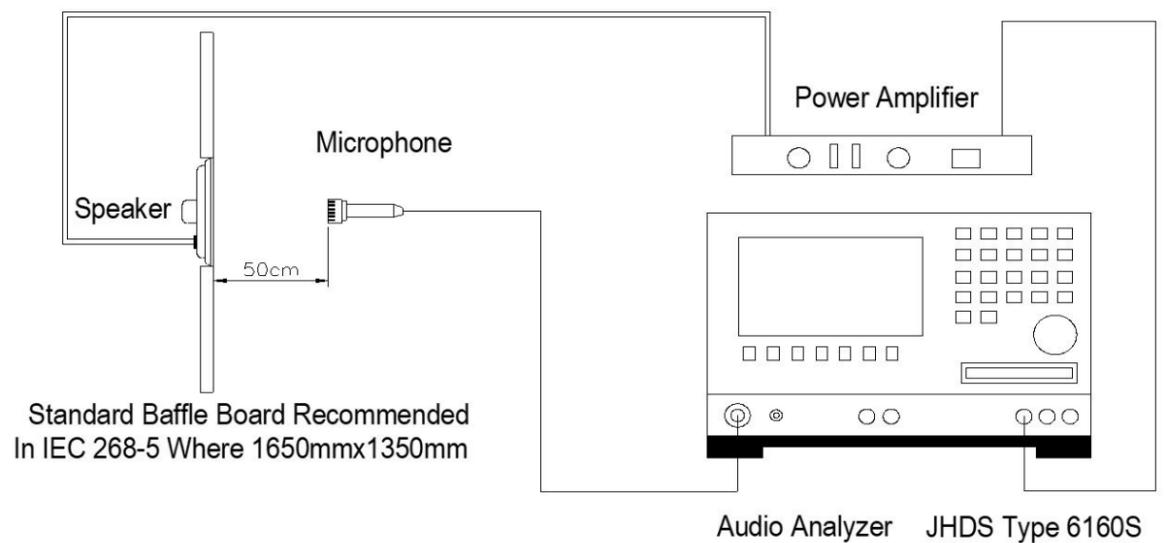
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Measuring Method (Fig. 1)



Standard Test Condition of Speaker (Fig. 2)





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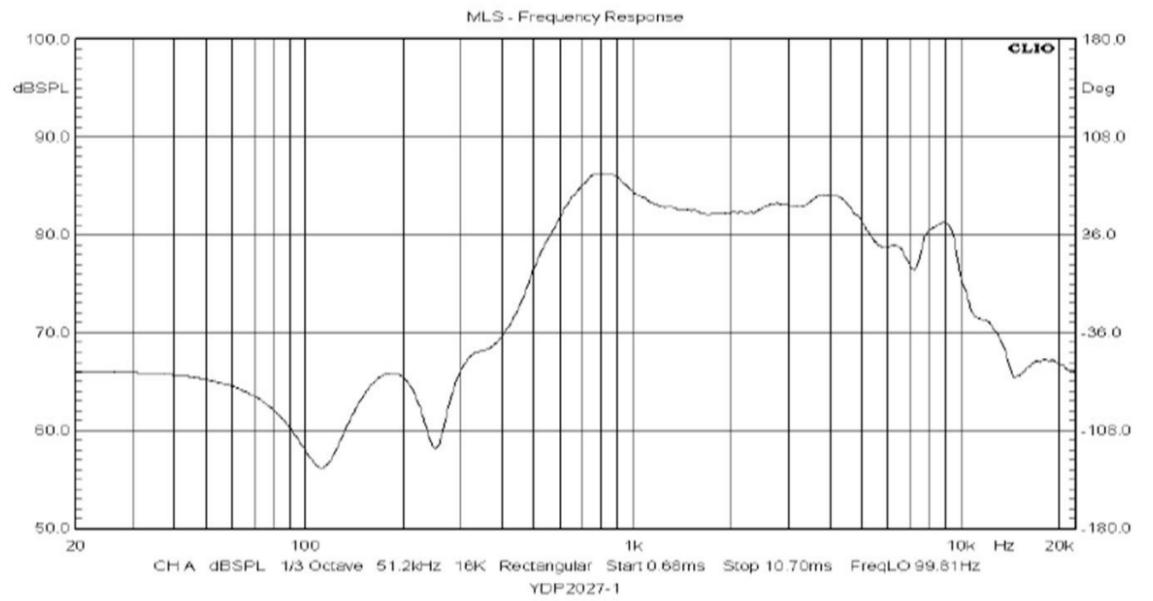
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Frequency Response Curve (Fig. 3)

The swept sine-wave frequency response of a loudspeaker should ideally not deviate more than indicate per Fig.3





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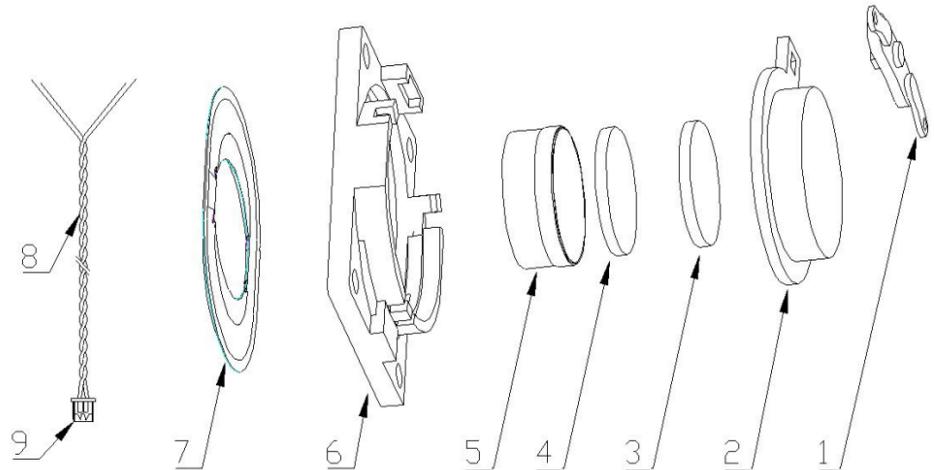
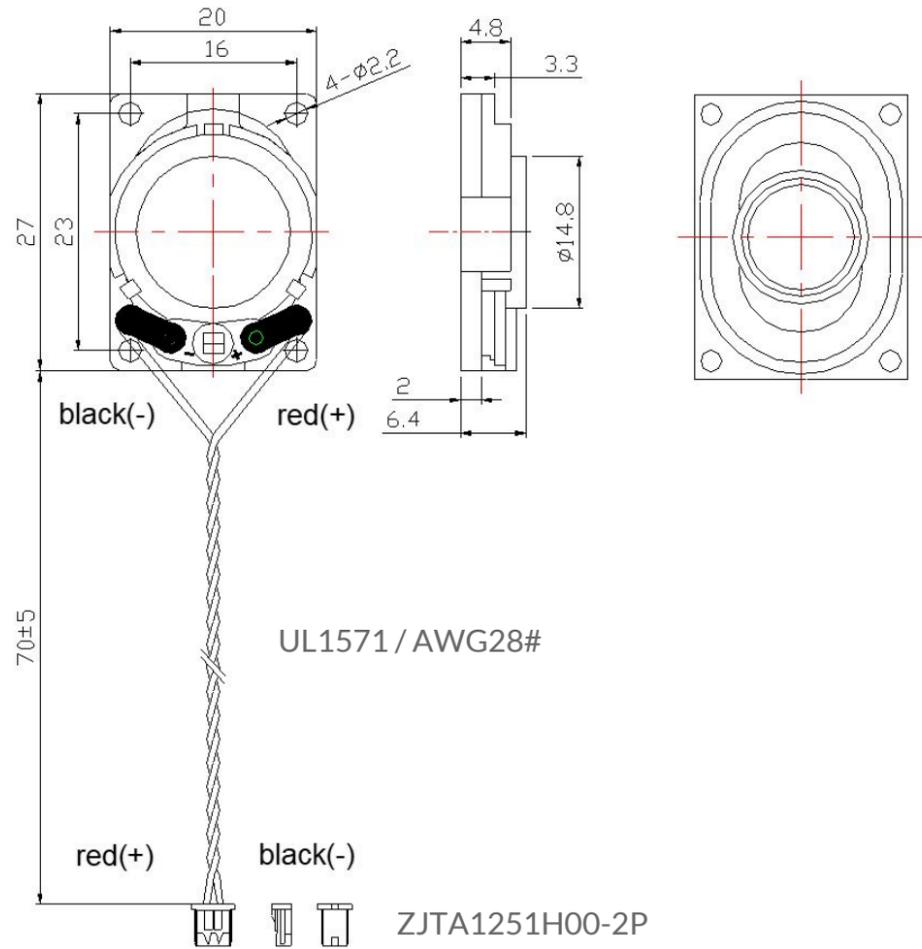
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Dimensions

Tolerance: ± 0.5 (unit: mm)



| No. | Part Name | Material | Quantity |
|-----|--------------|----------------|----------|
| 1 | PCB Terminal | Paper + Cu | 1 |
| 2 | Yoke | SPCC | 1 |
| 3 | Magnet | Nd Fe B | 1 |
| 4 | Plate | SPCC | 1 |
| 5 | Voice Coil | Paper +Cu | 1 |
| 6 | Frame | Plastic | 1 |
| 7 | Diaphragm | Cloth | 1 |
| 8 | Wire (70mm) | UL1571/AWG28# | 2 |
| 9 | Connector | ZJTA1251H00-2P | 1 |



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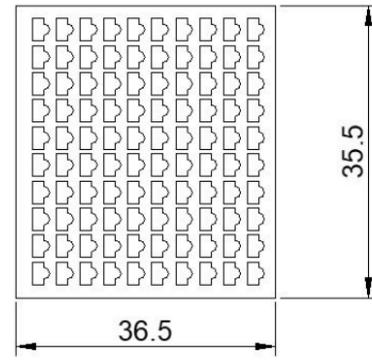
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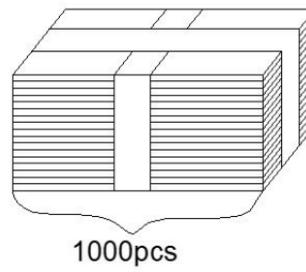
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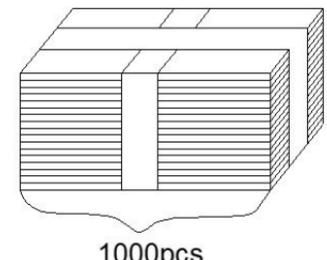
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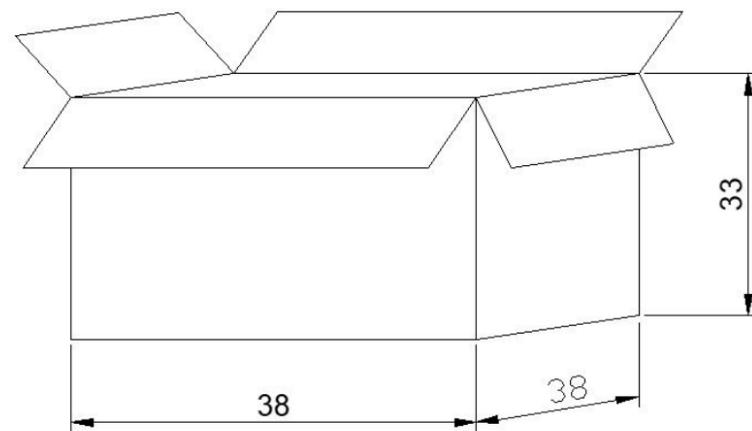
36.5*35.5*1.5
100PCS



1000pcs



1000pcs



Remarks

- 100pcs per tray
- 10 trays for unit, 2 units per carton
- Total:** 2000 pcs per box
- Size:** 38x38x33cm
- Net Weight:** 12kg
- Gross Weight:** 13kg