



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-4029



Release | Revision: B/2018

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Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

85±3dB SPL @ 0.8, 1.0, 1.2 and 1.5KHz in (1.0W/0.5M) in average
Test Set Up: Measuring conditions and procedures shown in Figure 1 & 2

Frequency Response Curve

As shown in Figure 3

Frequency Range

F0 Hz ~ 20 KHz

Resonance Frequency

450 ± 20%Hz

Input Power (Nominal and Maximum)

Rated Noise Power 2.0W

Short Term Max Power: 3.0W

Distortion

Less than 7% @1KHz, 1.0W/0.5W

Buzz & Rattle, Etc.

Should not be audible at 5.65V sine Wave between F0 ~ 20KH

Polarity

Cone will move forward with positive dc current to “+” terminal

General Specifications

Temperature Range

Operating Temperature -20°C~+60°C

Storage Temperature -25°C~+70°C

Standard Test Conditions

Temperature 17°C ~ 25°C

Relative Humidity 45% ~ 85% (RH)

AC Impedance

16±15%Ω

Dimension

40.2 x 28.5 x H11.5 mm
Wire 40 mm UL1571 / AWG 28#
Connector JST-SHR-02V-S-B

IP Level

No rating



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Reliability Tests

After any following test, parts should conform to original performance within ± 3 dB tested with Rated Power, after 6 hours of recovery period.

High Temperature Test

High Temperature $+70\pm 3^{\circ}\text{C}$

Duration 96 hours

Low Temperature Test

Low Temperature $-25\pm 3^{\circ}\text{C}$

Duration 96 hours

Humidity Test

Temperature $+30\pm 3^{\circ}\text{C}$

Relative Humidity 90%~96%

Duration 96 hours

Temperature Cycle Test

Temperature -25°C $+65^{\circ}\text{C}$

Duration 6 hours 6 hours

Temperature gradient $\pm 3^{\circ}\text{C}$

Cycle 5

Drop Test

The speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm

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 Pink Noise is applied for 24 hours at room temperature

Lead Wire Pull Strength Test

The pull force shall be applied to double lead wire :
Horizontal 3.0N(0.306kg) for 30 seconds.
Vertical 2.0N(0.204kg) for 30 seconds.



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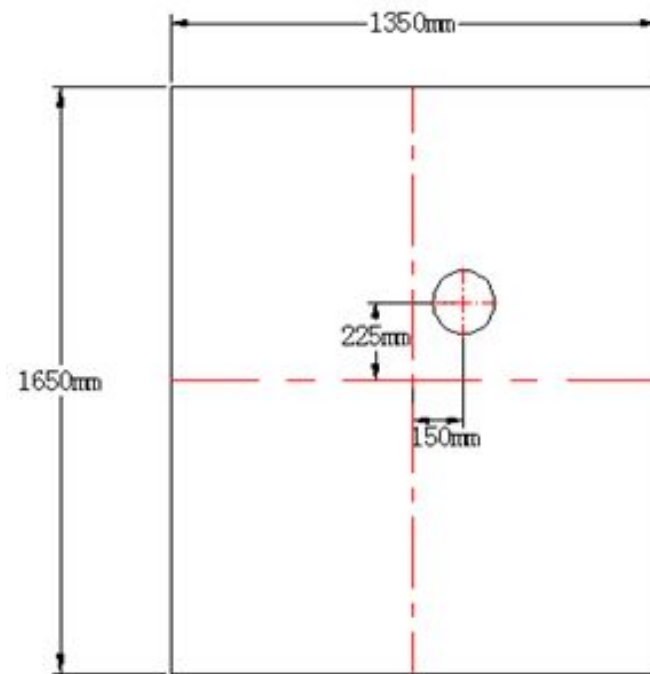
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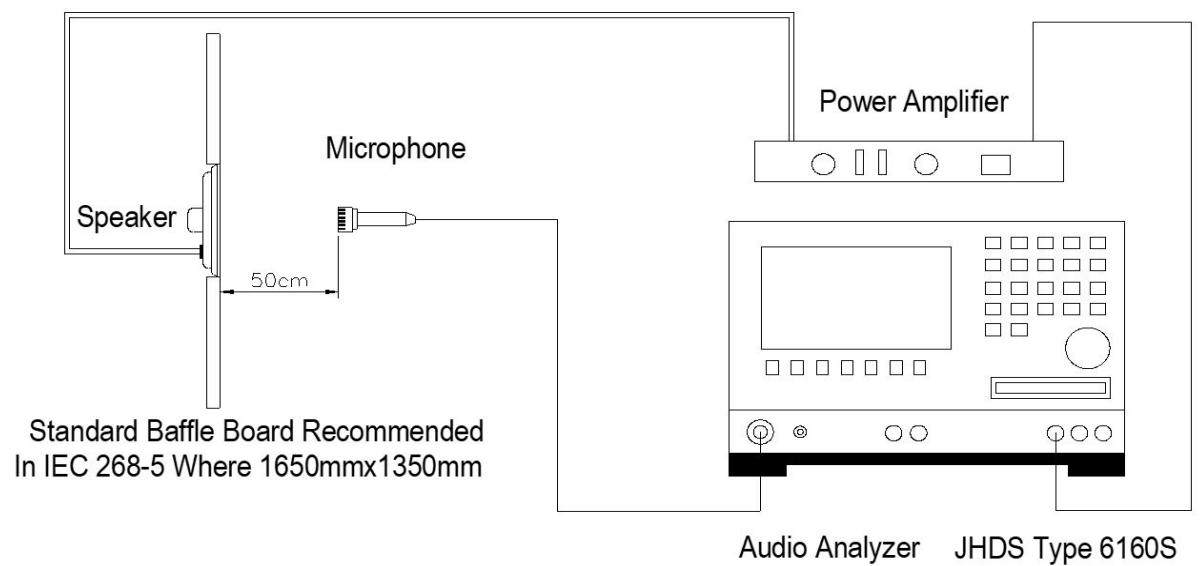
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Measuring Method (Fig. 1)



Standard Test Condition of Speaker (Fig. 2)





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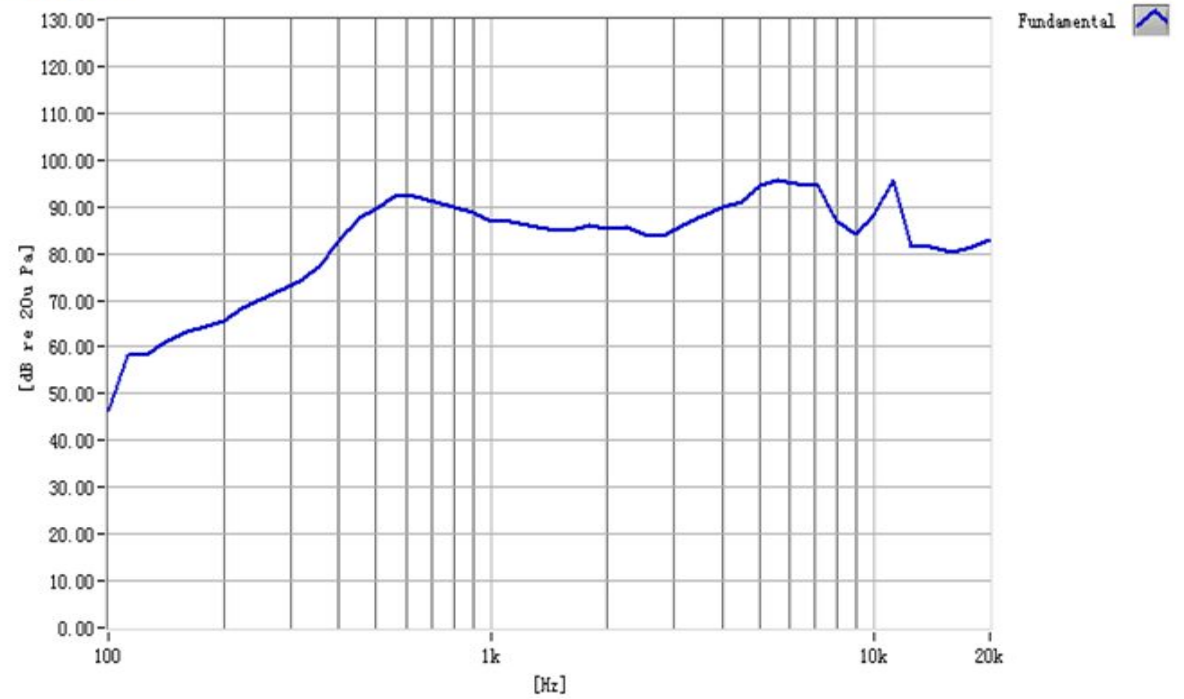
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Frequency Response Curve (Fig. 3)

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

XY Graph 3





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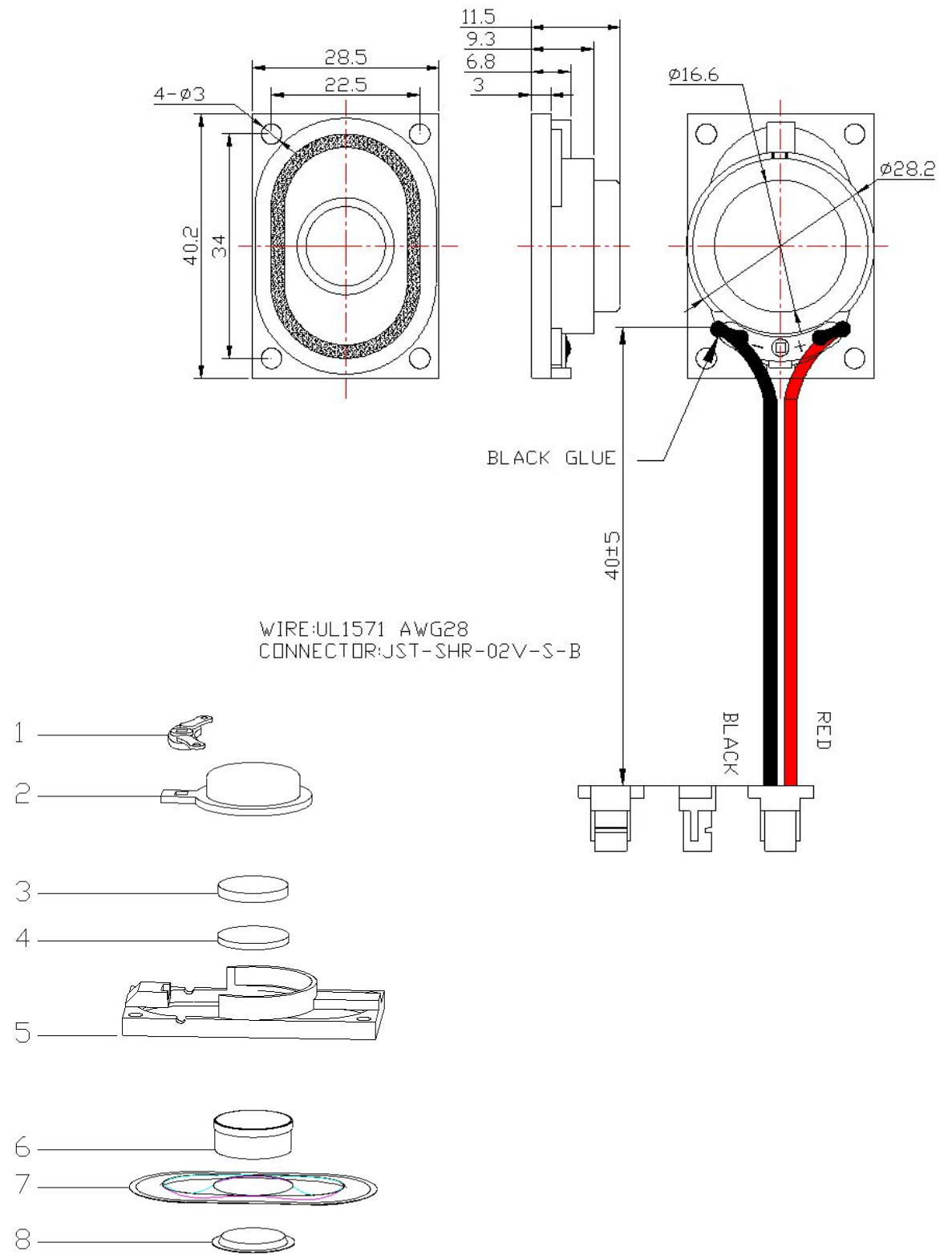
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Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	PCB Terminal	Paper + metal	1
2	Yoke	SPCC	1
3	Magnet	Nd Fe B	1
4	Plate	SPCC	1
5	Frame	ABS	1
6	Voice Coil	Paper + Cu	1
7	Diaphragm	Cloth-edge + paper	1
8	Cap	Paper	1
9	Wire (40mm)	UL1571 / AWG 28#	2
10	Connector	JST-SHR-02V-S-B	1



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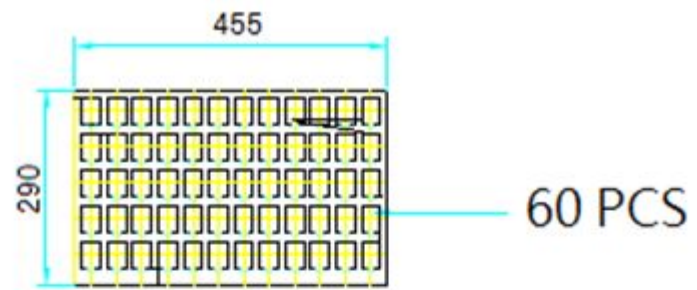
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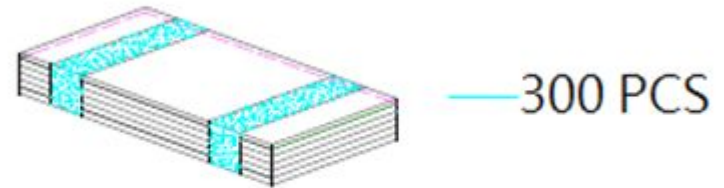
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X5



X3+100 PCS

