

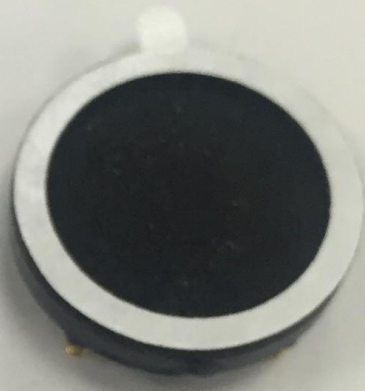


soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2005S



Release | Revision: B/2018

CONTENTS

This document contains the technical specifications for the dynamic speaker unit.

Page 1

Speaker Electroacoustic Characteristics

General Specifications

Page 2

Reliability Tests

Page 3

Measuring Method (Speaker Mode)

Standard Test Condition of Speakers

Page 4

Frequency Response Curve

Page 5

Dimensions

Page 6

Packing

Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

91±3dB (0.1W/0.1M) @AVE 0.8KHz, 1.0KHz, 1.5KHz, 2.0KHz (0dB SPL=20µPa)

Measuring Conditions

1W (Sine wave) 10cm measured with baffle shown in Fig.1

Frequency Response Curve

As shown in Figure 2

Response Frequency

750±20%Hz @1.0V (Without baffle)

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

AC Impedance

8±15%Ω (@ 2 KHz 1V) without baffle

Buzz, Rattle, Etc.

Not audible from 300Hz to 8KHz with 2.53V sine wave input

Distortion

Less Than 10% @1KHz, 10cm, 0.1W

General Specifications

Operating Temperature Range

-20°C~+60°C

Storage Temperature Range

-25°C ~ +65°C

Standard Test Conditions

Temperature 17°C~25°C

Relative Humidity 45%~80%(RH)

Dimension

Ø 20.0x7.7mm

IP Level

No rating



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Page 5

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Page 6

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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 $+60\pm 2^\circ\text{C}$

Duration 96 hours

Low Temperature Test

Low Temperature $-20\pm 2^\circ\text{C}$

Duration 96 hours

Heat Shock Test

High Temperature $+60\pm 2^\circ\text{C}$

Low Temperature $-20\pm 2^\circ\text{C}$

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 -20°C $+65^\circ\text{C}$

Duration 45 minutes 45 minutes

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

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.

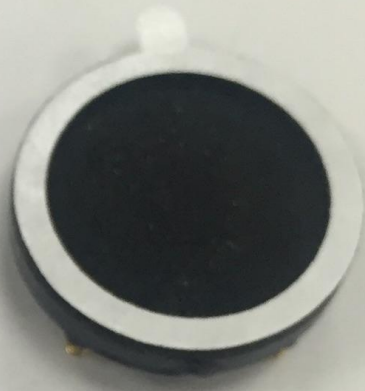


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Page 2

Reliability Tests

Page 3

Measuring Method (Speaker Mode)

Standard Test Condition of Speakers

Page 4

Frequency Response Curve

Page 5

Dimensions

Page 6

Packing

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 0.1W (0.89V)

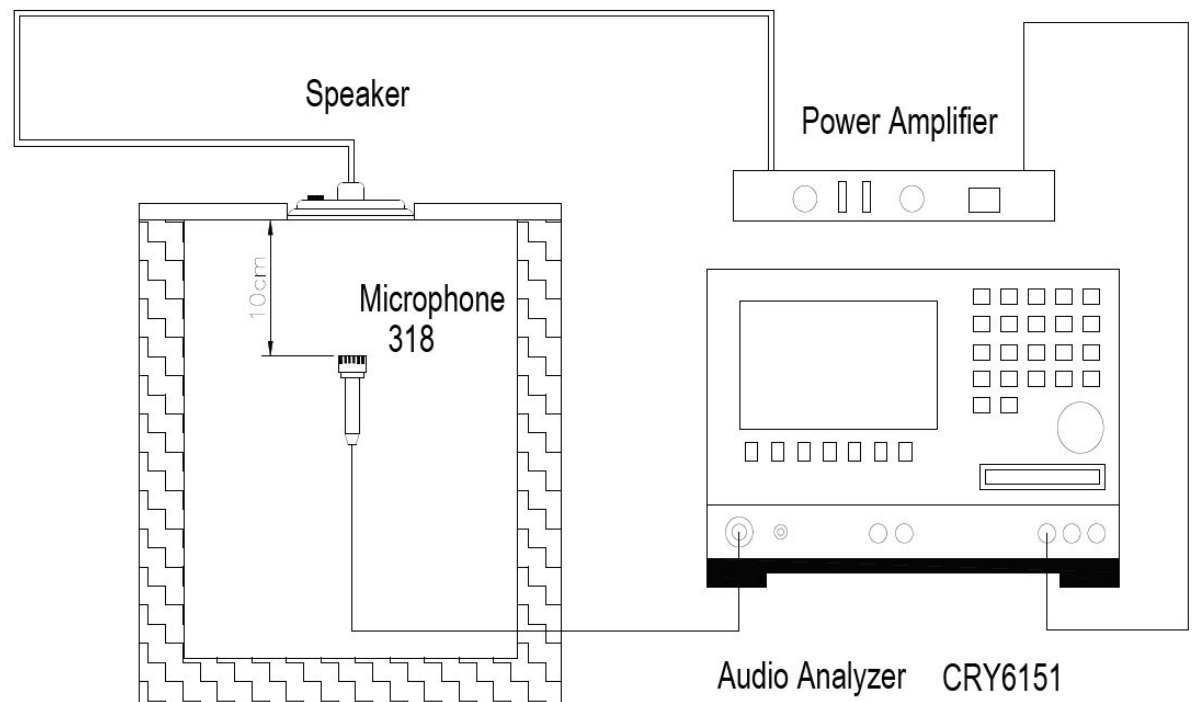
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)



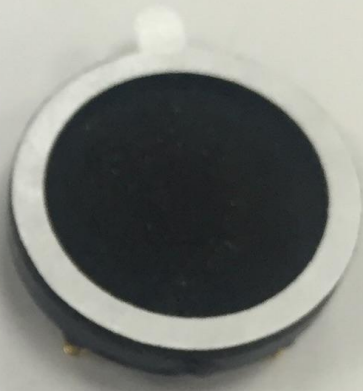


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CONTENTS

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Page 1

Speaker Electroacoustic Characteristics

General Specifications

Page 2

Reliability Tests

Page 3

Measuring Method (Speaker Mode)

Standard Test Condition of Speakers

Page 4

Frequency Response Curve

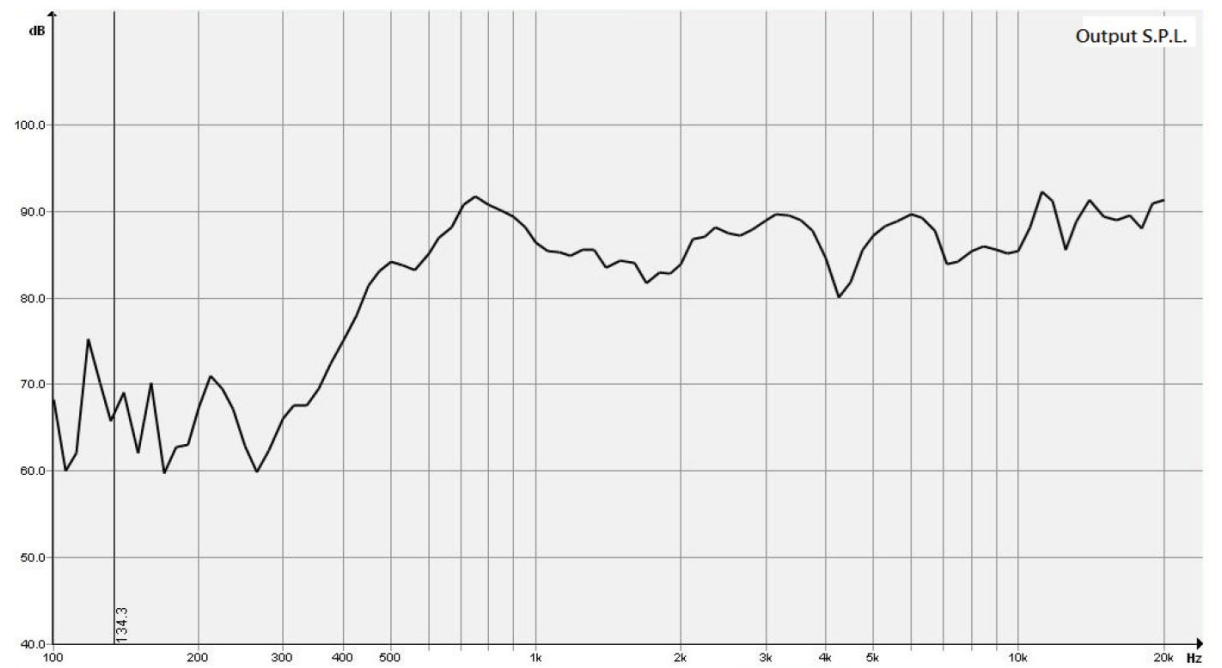
Page 5

Dimensions

Page 6

Packing

Frequency Response Curve (Fig. 2)



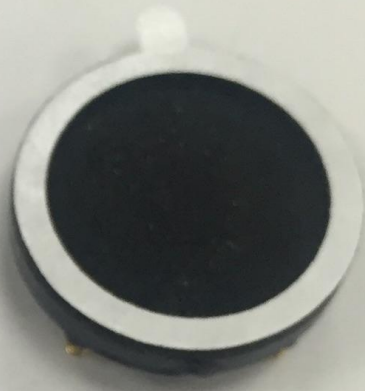


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Page 2

Reliability Tests

Page 3

Measuring Method (Speaker Mode)

Standard Test Condition of Speakers

Page 4

Frequency Response Curve

Page 5

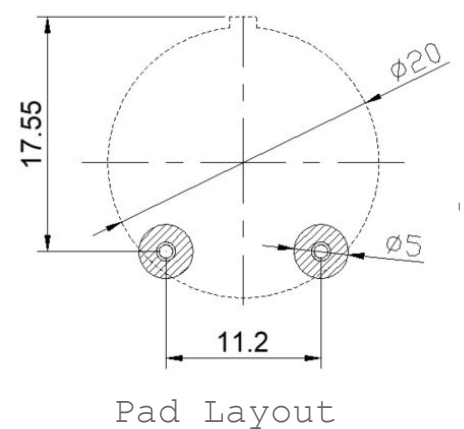
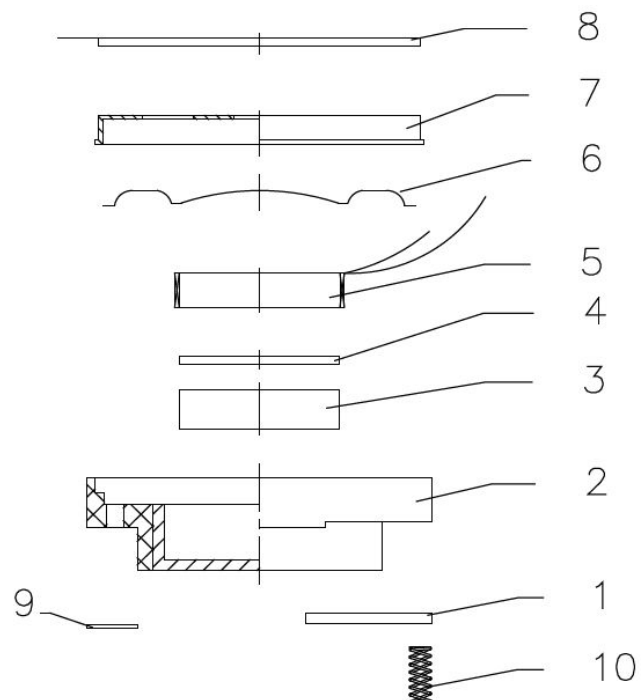
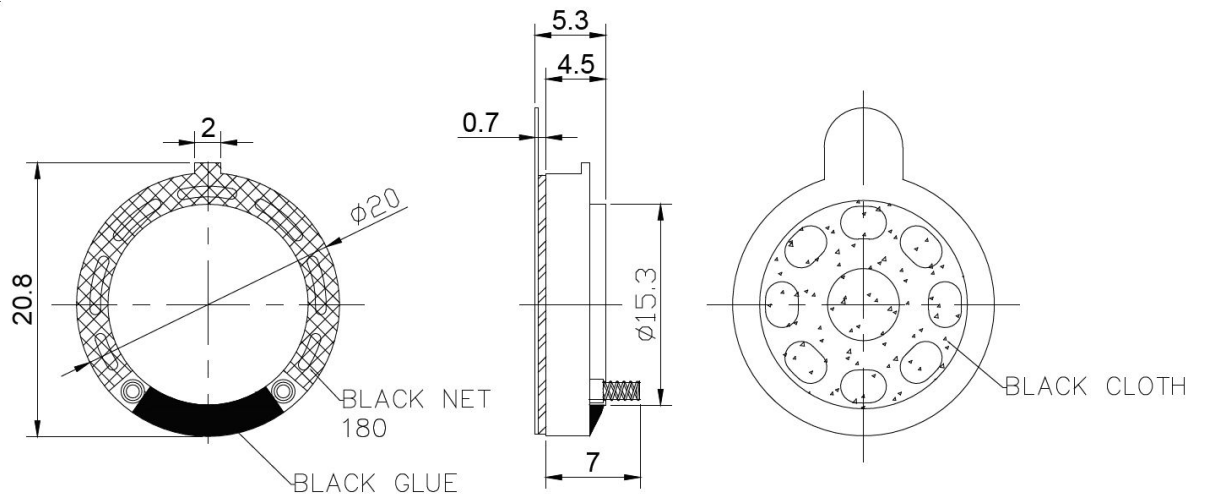
Dimensions

Page 6

Packing

Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	PCB	FR-4	1
2	Frame	PBT	1
3	Magnet	Nd Fe B	1
4	Plate	SPCC	1
5	Voice Coil	Copper	1
6	Membrane	PEN	1
7	Cap	SUS304	1
8	Screen Gasket	Black cloth	1
9	Silk Screen	Black cloth	1
10	Spring	Bronze	2



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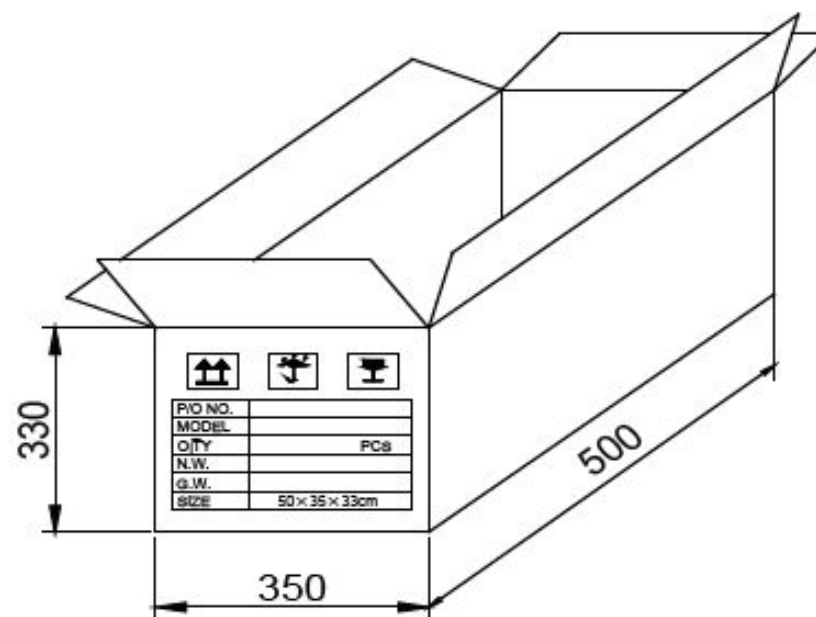
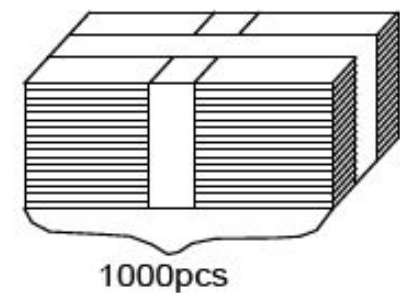
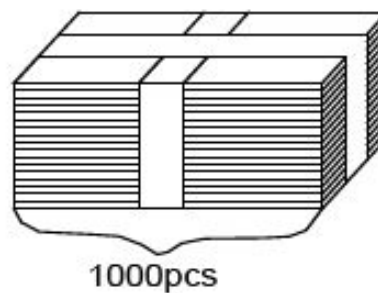
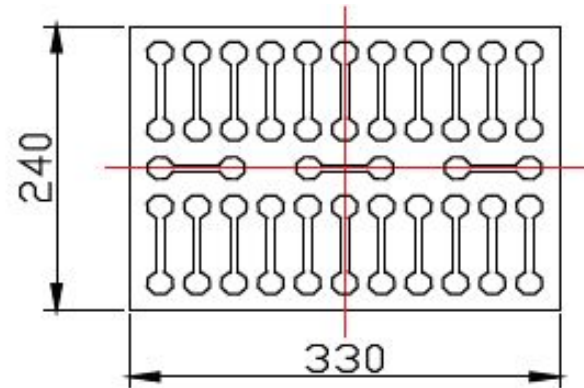
Dimensions

Page 6

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Packing

50 pcs per tray
20 trays for unit
2 unit per carton
Total:2000 pcs per box
Size:500×350×330mm



↑↑	↑	↑
P/O NO.		
MODEL		
QTY		PCs
N.W.		
G.W.		
SIZE	50×35×33cm	