



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014F



Release | Revision: C/2021

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

93±3dB SPL @0.1 Watt, 5cm
Average at 0.6, 0.8, 1.0 & 1.2KHz

Measuring Condition: 0.1W (Sine wave) 5cm measured with baffler, as shown in Figure 1

Frequency Response Curve

As shown in Figure 2

Frequency Range

F0 ~ 20.0KHz

Response Frequency

900±20%Hz at 1.0V

Input Power (Nominal and Maximum)

Rated Noise Power: 1.0 Watt

Short Term Max Power: 1.3 Watt

Operation Test

Result must be normal when tested at 2.83 Volts in free air

Total Harmonic Distortion

10% Max @1.0KHz, 1.0 Watt

Polarity

Diaphragm shall move forward when a positive DC current is applied to the "+" or 'marked' Terminal.

General Specifications

Operating Temperature Range

-20°C ~ +60°C

Storage Temperature Range

-30°C ~ +70°C

Standard Test Conditions

Temperature 15°C ~ 35°C

Relative Humidity 45% ~ 85% (RH)

Voice Coil Impedance

DC: 8±15%Ω

Dimension

20.0 x 14.0 x H3.5mm

IP Level

No Rating



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014F



Release | Revision: C/2021

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

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 $+70\pm 2^\circ\text{C}$
Duration 96 hours

Low Temperature Test

Low Temperature $-30\pm 2^\circ\text{C}$
Duration 96 hours

Heat Shock Test

High Temperature $+70\pm 2^\circ\text{C}$
Low Temperature $-30\pm 2^\circ\text{C}$
Changeover Time < 30 seconds
Duration 1 hour
Number of Cycles 10

Humidity Test

Temperature $+40\pm 2^\circ\text{C}$
Relative Humidity 90% ~ 95%
Duration 48 hours

Temperature Cycle Test

Temperature -30°C $+70^\circ\text{C}$
Duration 45 minutes 45 minutes
Temperature gradient $1 \sim 3^\circ\text{C}/\text{min}$
Number of Cycles 25

Drop Test

The speaker is mounted onto the dummy assembly, placed in a standard cardboard box and then dropped onto a concrete board.

Height 0.75 m
Number of Cycles 6

Load Test

Speaker mode: White noise (EIA filter) for 96 hours @1.0W input power



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014F



Release | Revision: C/2021

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

Measuring Method (Speaker Mode)

Standard Test Condition

Temperature 15 ~ 35°C

Relative humidity 45% ~ 85%

Atmospheric pressure 860mbar ~ 1060mbar

Standard Test Fixture

Input Power 1.0W / 2.83V

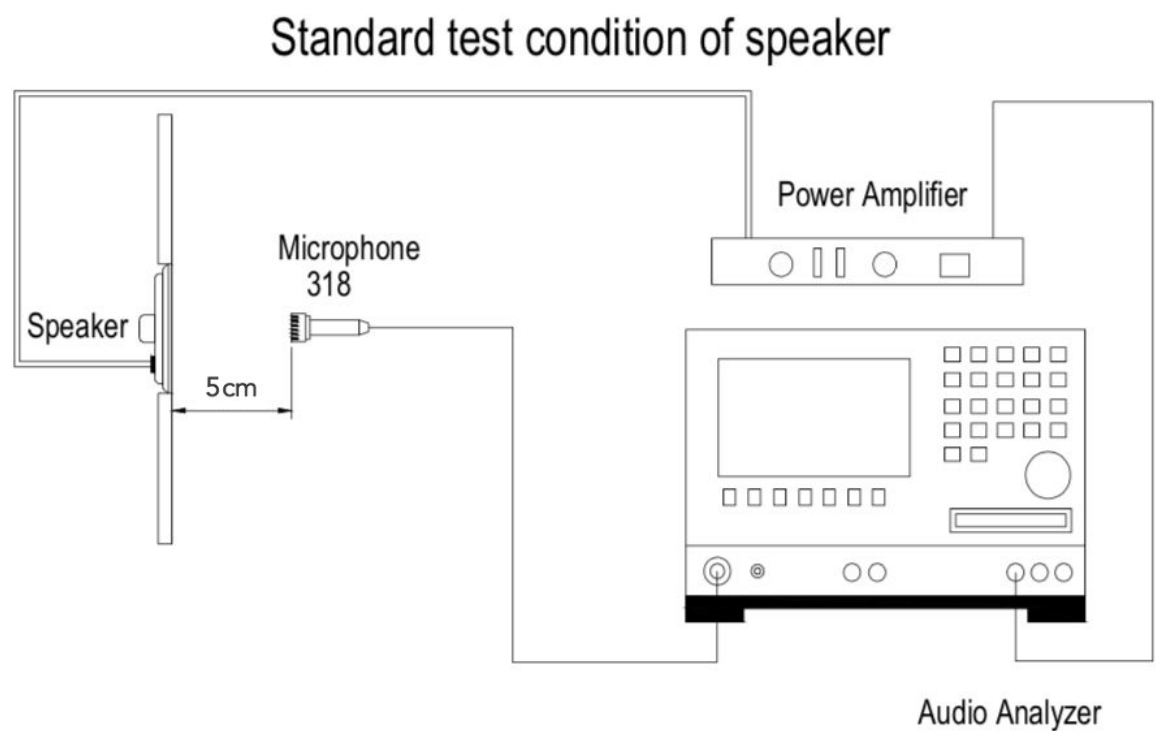
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)





soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014F



Release | Revision: C/2021

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

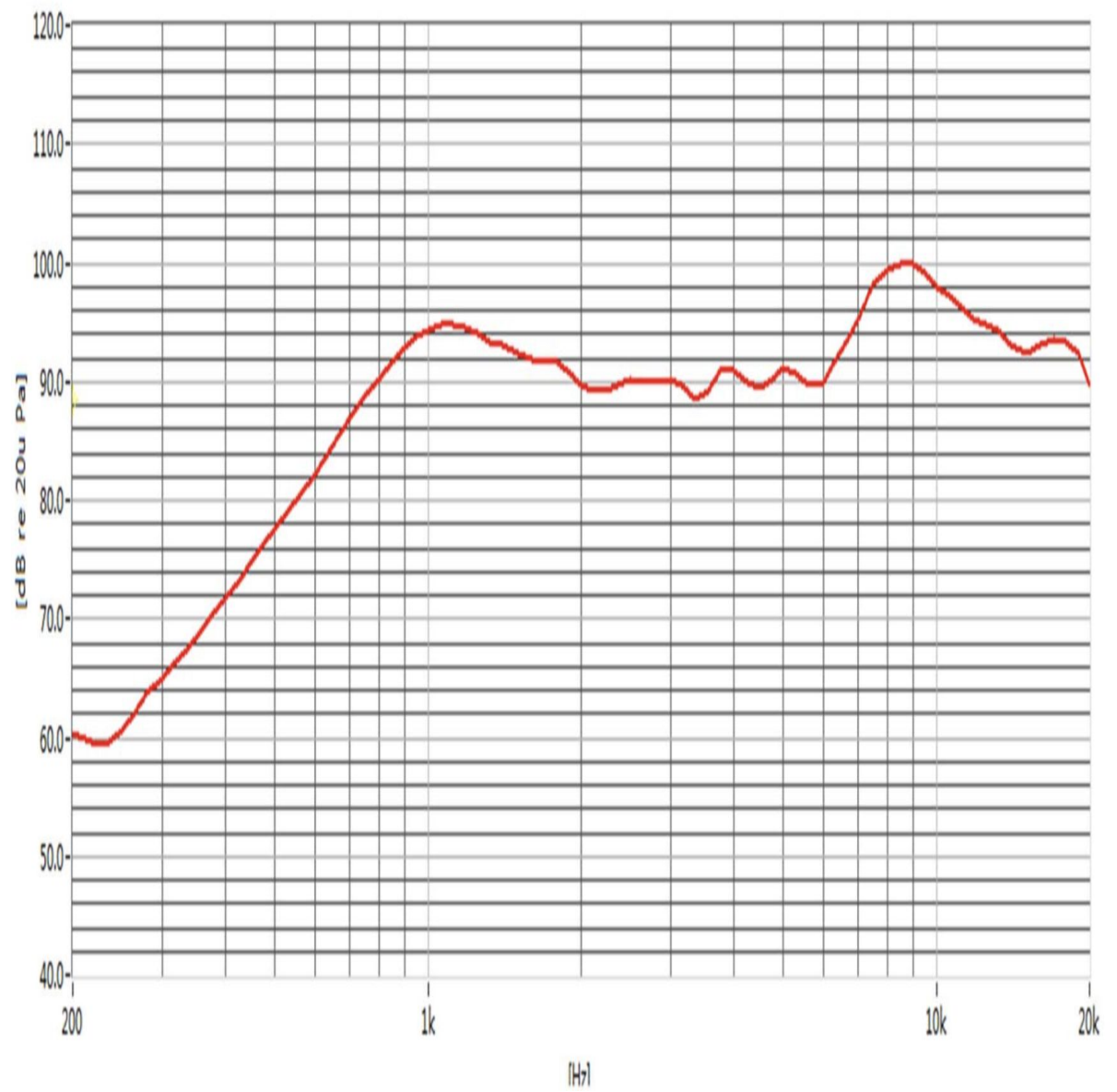
Dimensions

Page 6

Packing

Frequency Response Curve (Fig. 2)

Test Condition: 0.1W / 5cm





soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014F



Release | Revision: C/2021

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

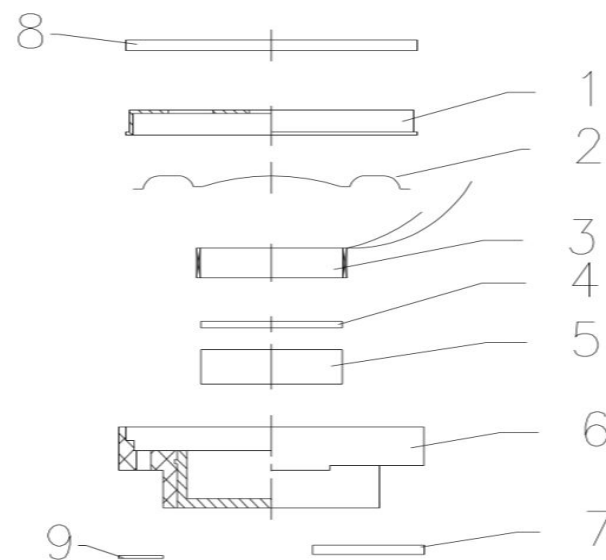
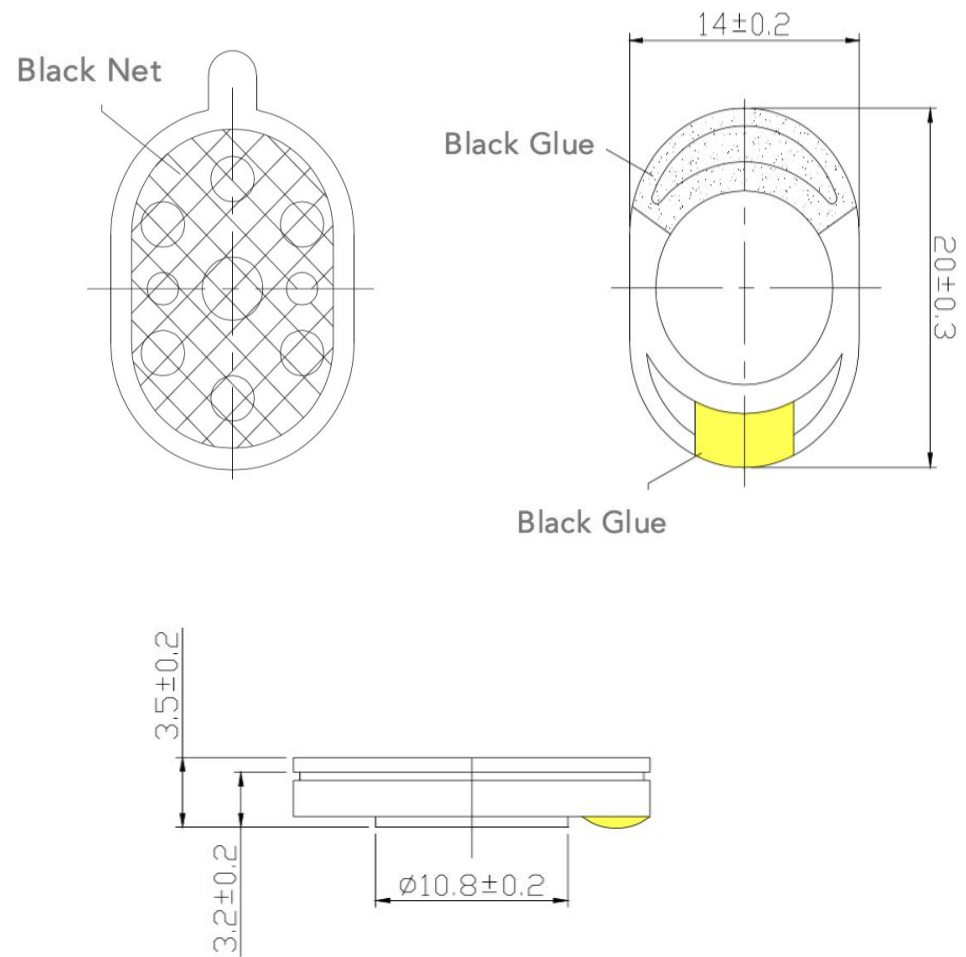
Dimensions

Page 6

Packing

Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Cap	SUS	1
2	Diaphragm	PEN	1
3	Voice Coil	Cu	1
4	Plate 1	SPCC	1
5	Magnet	Nd Fe B	1
6	Frame	PBT + SPCC	1
7	PCB	FR-4	1
8	Dustproof Net	Black Net	1
9	Silk Screen	Black Cloth	1



soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-2014F



Release | Revision: C/2021

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)

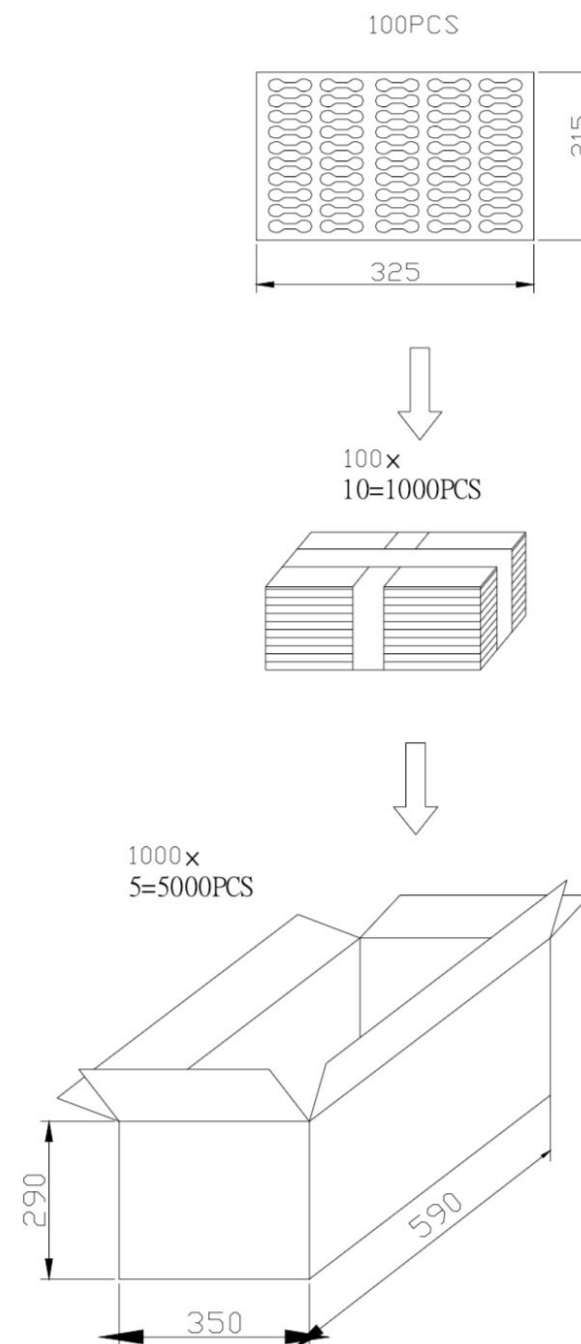
Standard Test Condition of Speakers

Page 4
Frequency Response Curve

Page 5
Dimensions

Page 6
Packing

Packing



Remarks

- Per Tray: 100 pcs
- Per Box : 1,000 pcs
- Per Carton: 5 Boxes
- Per Carton: 5,000 pcs
- Carton Size: 590 x 350 x 290mm