soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-1813S

Release | Revision: B/2018

CONTENTS

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

Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

85±3dB SPL @ 2KHz 1.0V(Sine wave) 0.1m measured with baffler shown in Fig.1. (1CC BOX)

Measuring Diagram

Shown in Fig.1

Typical Frequency Response Curve

Shown in Fig. 2

Resonance Frequency

800±20%Hz @ 1Vrms. (In 1CC BOX)

Input Power (Nominal and Maximum)

Rated Noise Power: 0.5W (In 1CC Box)

Short Term Max Power: 0.7W (In 1CC Box)

Operation Test

Must be free audible noise (buzzes and rattles)

200 ~ 3400Hz frequency range, input level up to 2.0Vrms (In 1CC BOX)

Distortion

Less than 10% at 1KHz, 0.1M, 0.1W

General Specifications

Operating Temperature Range

-25℃ ~ +65℃

Storage Temperature Range

-40℃ ~ +75℃

AC Impedance

8Ω±15% (@2KHz 1Vrms)

Dimension

18 x 13 x 3.9 mm

IP Rating

No rating

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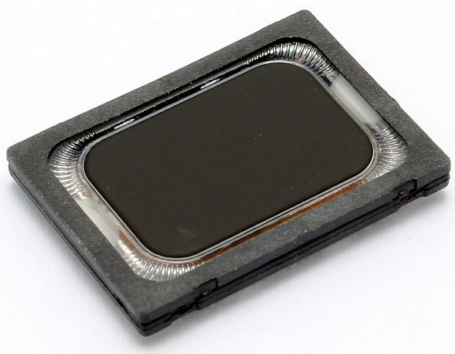

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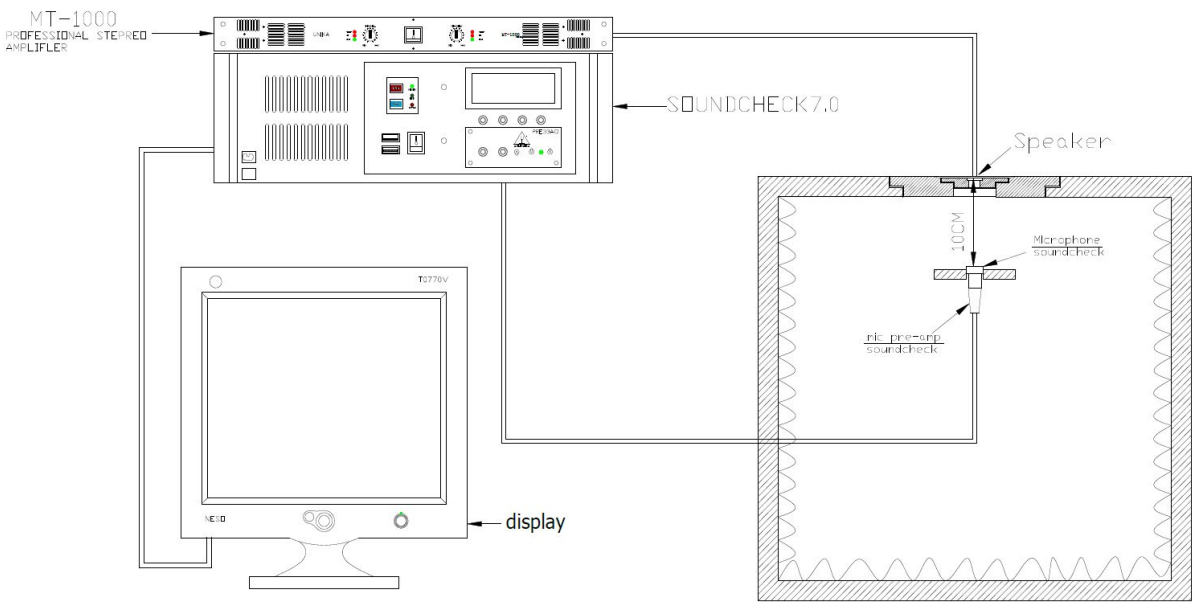
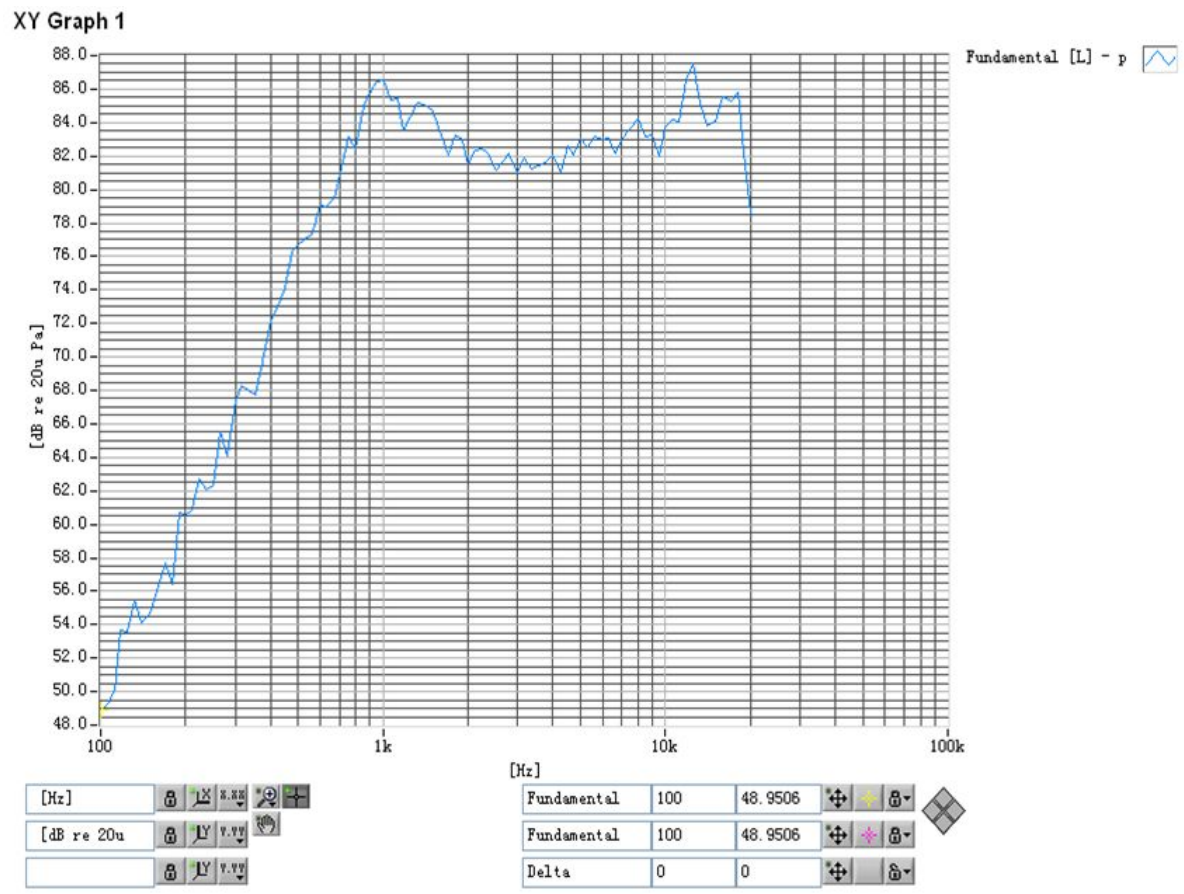
Frequency Measuring Circuit - Receiver Mode (Fig, 1)



Typical Frequency Response Curve - Speaker Mode (Fig, 2)



TEST CLIMATIC CONDITIONS

Standard Test Condition

Temperature 17 ~ 25℃

Relative humidity 45% ~ 80%

Atmospheric pressure 860~1060 hPa

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Reliability Tests

The sound pressure as specified will neither deviate more than ±3dB from the initial value, nor have any significant damage after any of following testing.

High Temperature Test

High Temperature +75±2℃

Duration 96 hours

Low Temperature Test

Low Temperature -25±2℃

Duration 96 hours

Heat Shock Test (See in Fig. 3)

High Temperature +75±2℃

Low Temperature -40±2℃

Changeover Time <30 seconds

Duration 1 hour

Cycle 10

Humidity Test

Temperature +40±2℃

Relative Humidity 90%~95%

Duration 48 hours

Temperature Cycle Test (See in Fig. 4)

Temperature -40℃ +75℃

Duration 45 minutes 45 minutes

Temperature gradient 1~3℃/min

Cycle 10

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 @ 0.5W (1CC BOX) (2.37Vrms)

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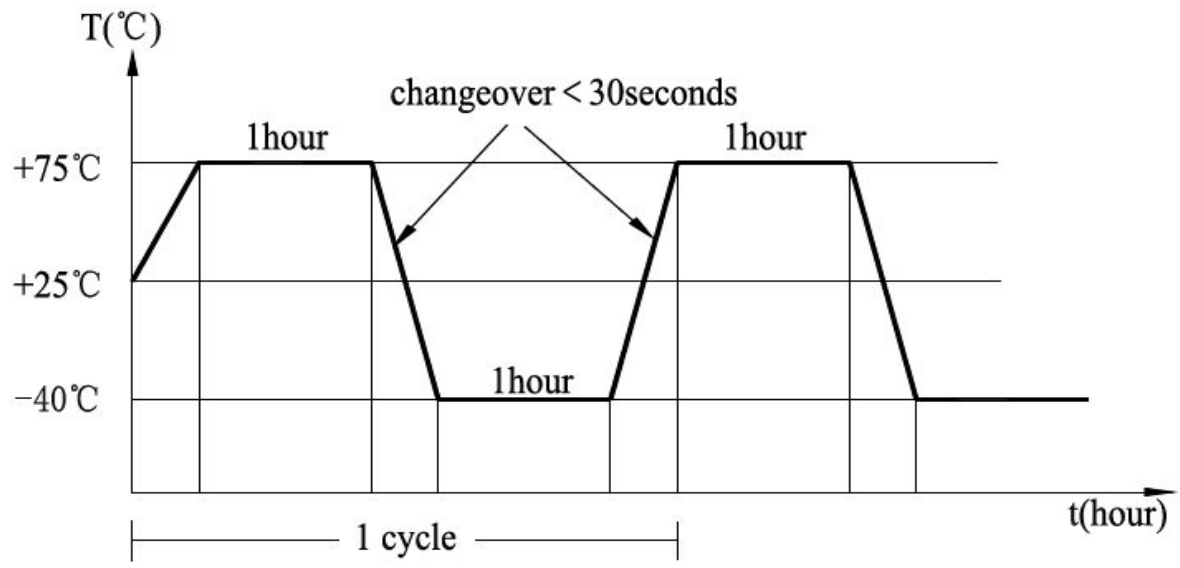
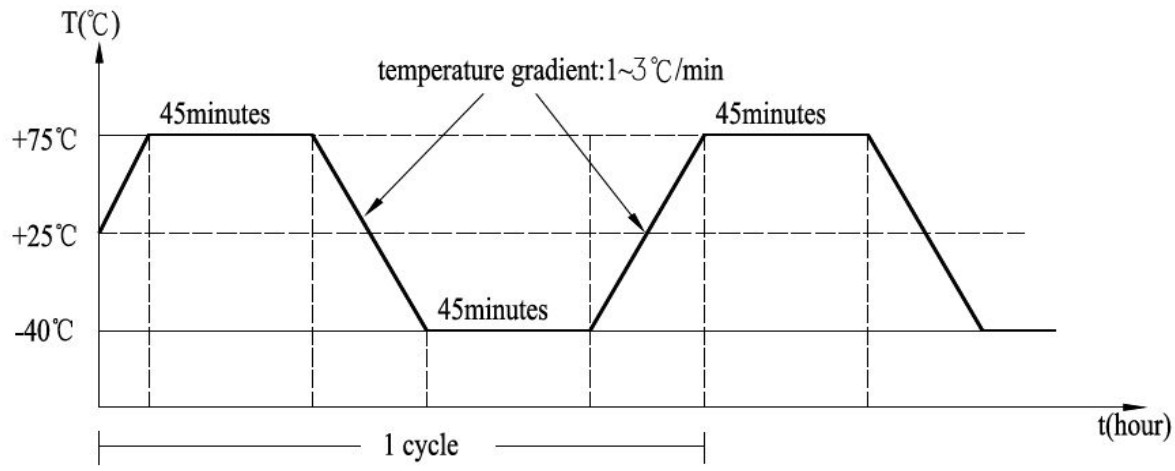
Heat Shock Test (Fig. 3)



Temp. Cycle Test (Fig. 4)



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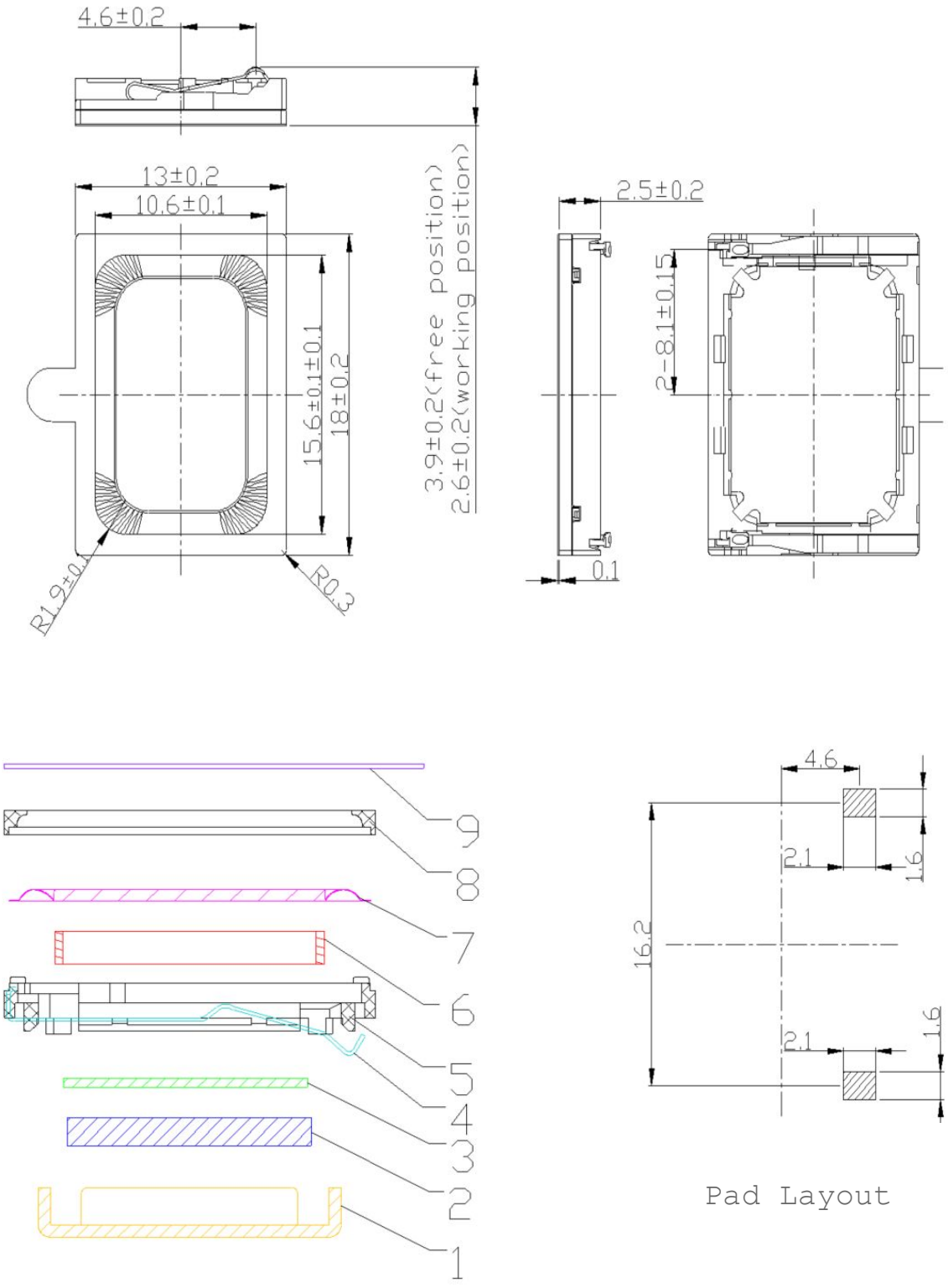
Dimensions

Tolerance: ±0.5 (unit: mm)



Pad Layout

No.	Part Name	Material	Quantity
1	Yoke	Iron	1
2	Magnet	Nd Fe B	1
3	Plate	Iron	1
4	Spring Terminal	SUS	2
5	Frame	PPA	1
6	Voice Coil	Copper	1
7	Diaphragm	PEEK	1
8	Cap	PPA	1
9	PAD	PE	1

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Packing