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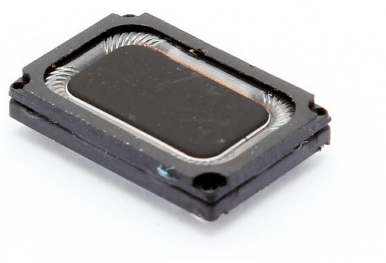
SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-1208



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

Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

63±3dB at 0.8Vrms/10cm at 2KHz (Mounted in free air without baffle)
Measuring conditions and procedures shown in Fig 1 & Fig 2

Resonance Frequency

500 +/- 15% Hz, 1 Vrms input in free air
800 +/- 15% Hz, 1 Vrms input in 0.5cc Box

Rated Frequency Range

100-10KHz

Frequency Response

See Figure 1

THD

See Figure 2, Table 2 (Mounted in Free air 0.5 at without baffle)
Test at 0.25w/10cm

Rub & Buzz

A sine sweep among 100-1500Hz at rated noise power with 0.5cc back cavity will not result in any buzzing or extraneous sound.

AC Impedance

8±15% Ω@2KHz, 1Vrms input

Input Power

Rated Noise Power: 0.25Watts (in 0.5cc box)

Short term Power: 0.5Watts (in 0.5cc box)

Dimension

12.0 x 8.0 x H2.63mm

IP Level

No rating

Polarity Requirements

Polarity

When a DC source's "+" polarity is attached to speaker's "+" polarity,"-" polarity is attached speaker's "-" polarity, the membrane will move forward.

Magnetic Polarity

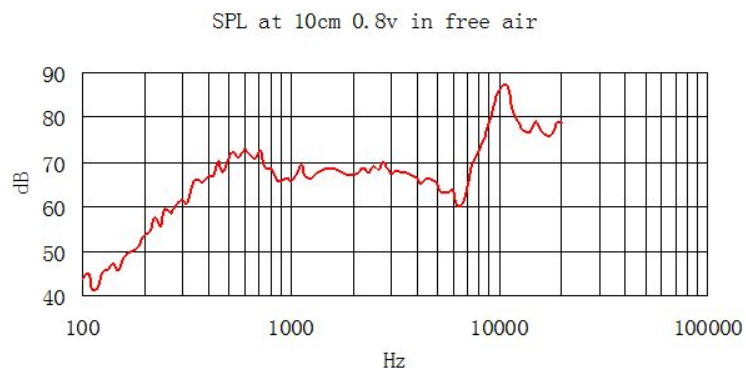
Top of the magnet is the north pole.

Typical Frequency Response (Fig. 1)

Magn dB re 20µPa

Table 2 Limit Data for THD

Freq.(Hz)	Limit (%)
500	30
600	20
1500	10
15000	5



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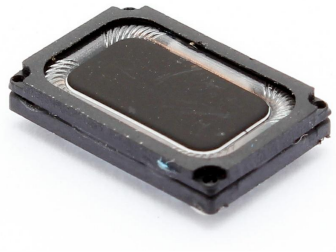

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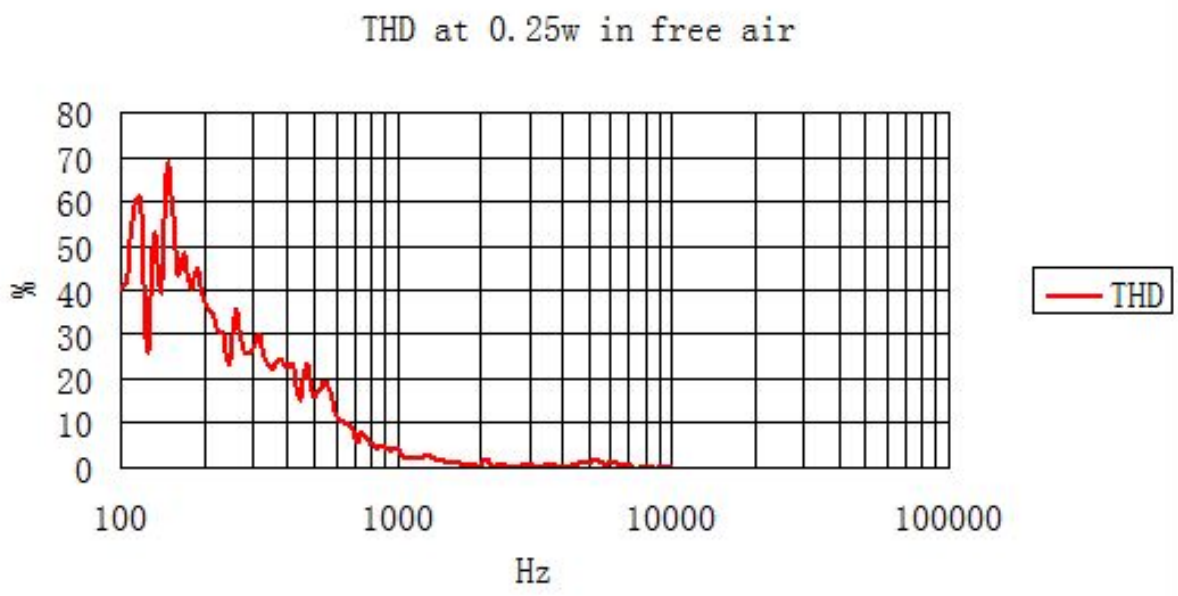
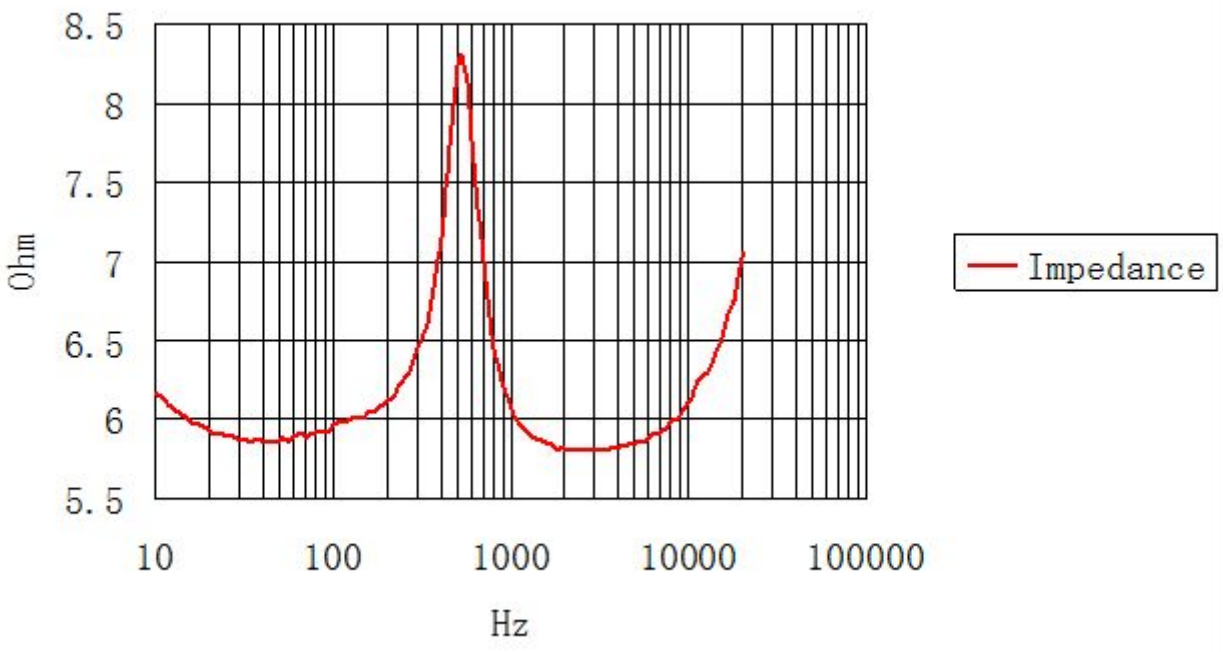
Typical Frequency Response (Fig. 2)

Typical THD



Typical IMP Curve, 0812,1 VRMS INPUT



Test Climatic Condition

Ambient Temperature

15˚C -35˚C, preferably 20˚C

Relative Humidity

25% to 75%

Air Pressure

86kPa - 106kPa

Refer to IEC 268-1

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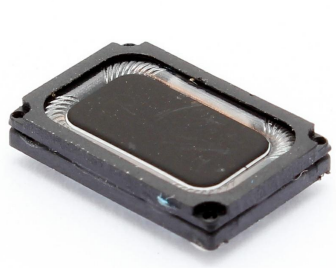

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Test Method

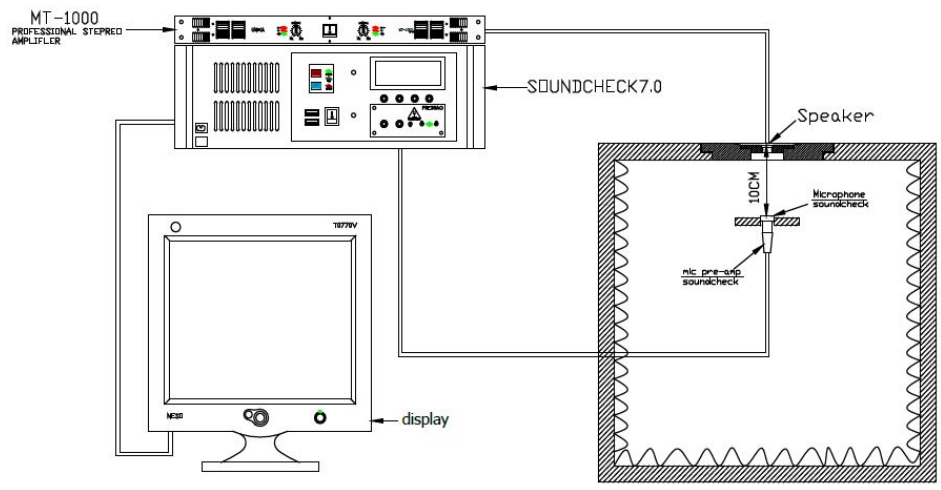
SPL and Frequency Response Curve

The loudspeaker in 0.5cc box shall be mounted in specified baffle, the measuring microphone shall be free-field microphone and placed at specified distance from DUT, on axis. The drive power is 0.4Watts, and swept sine-wave range is 20Hz to 20KHz with a R40 of test sequence.

THD

Tested per Section 9.1 and driven at 0.25Watts , sweep at specified frequency range with R40 test sequence.

Test Setup (Fig. 3) Speaker Measurement Circuit



Reliability Tests

The sound pressure as specified shall 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. 4)

High Temperature +75±2℃

Low Temperature -40±2℃

Changeover Time < 30 seconds

Direction 1 hour

Cycle 10

Humidity Test

Temperature +40±2℃

Relative Humidity 90%~95%

Duration 48 hours

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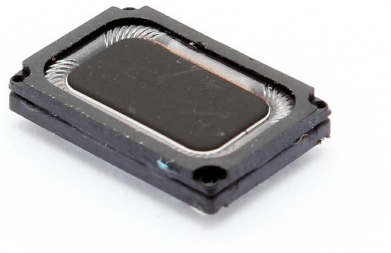

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Reliability Tests (continued)

Temperature Cycle Test (See in Fig.5)

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 1.5m

Cycle 6 (1 each plain) On to the concrete board

Load Test

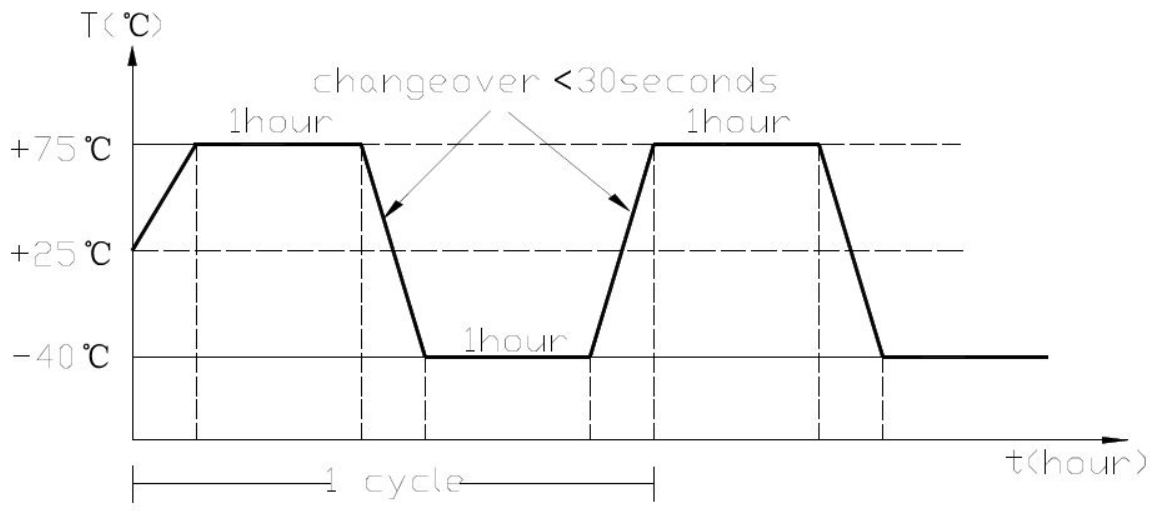
Noise Signal Pink noise (EIA filter)

Input Power 0.25W (1.4Vrms)

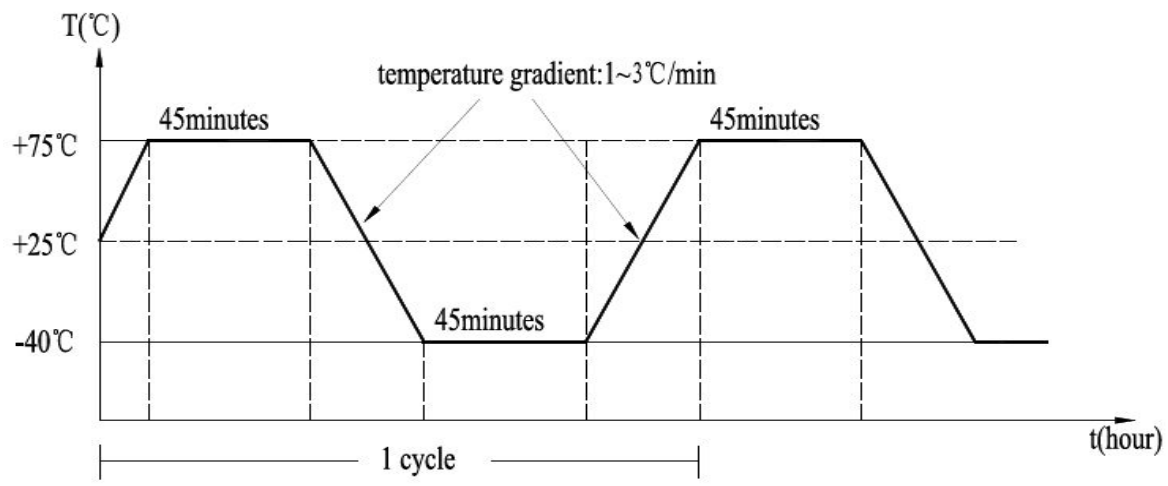
Duration 96 hours

Test Method

Heat Shock Test (Fig. 4)



Temperature Cycle Test (Fig. 5)



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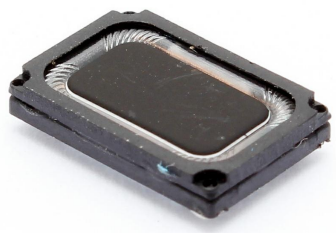

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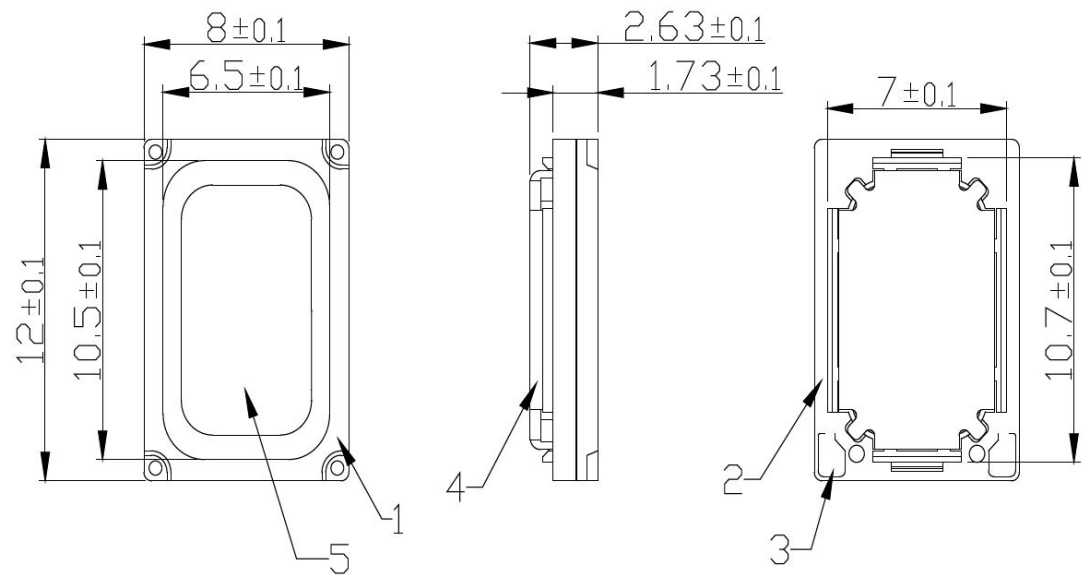
Dimensions

Tolerance: ±0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Front Cap	PEEK	1
2	Frame	Iron	1
3	Terminal	SPCC	1
4	Magnetic Cover	PPA	1
5	Diaphragm	PPA	1

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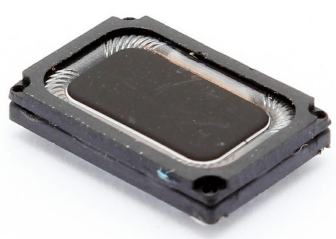

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Packing