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soberton inc.

SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-5709



Release | Revision: C/2018

CONTENTS

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

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

96±3dB SPL @0.6, 0.8, 1.0 and 1.2KHz in average (0dB SPL=20μPa)
Measuring Condition: 0.1W (Sine wave) 10cm measured with baffler shown in Fig.1.

Frequency Range

F0 Hz ~ 6K Hz shown in Fig.2

Response Frequency

400±20%Hz @ 1V. (Without Baffler)

Input Power (Nominal and Maximum)

Rated Noise Power 0.5W

Short Term Max Power: 1.0W must be normal at a white noise for one minute

Buzzer and Rattles

Must be normal sine signal at 2.83V from F0Hz ~ 6KHz sweeping

Distortion

Less than 5% @1KHz, 0.1W

General Specifications

Operating Temperature Range

-20°C ~ +65°C

Storage Temperature Range

-30°C ~ +70°C

Standard Test Conditions

Temperature 17°C ~ 25°C

Relative Humidity 45% ~ 80%(RH)

AC Impedance

8±15%Ω (@2KHz 1V) without baffler

Dimension

Ø57.0x8.5mm

IP Level

IP50



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Frequency Response Curve

Page 5

Dimensions

Page 6

Packing

Reliability Tests

After Test

Sound pressure level of speaker difference shall be within $\pm 3\text{dB}$ after test @0.8, 1.0, 1.2, 1.5KHz average.

High Temperature Test

High Temperature $+65\pm 3^\circ\text{C}$

Duration 96 hours

Low Temperature Test

Low Temperature $-20\pm 3^\circ\text{C}$

Duration 96 hours

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 2 hours 2 hours

Cycle 5

Drop Test

Height 1.5 m

Cycle 12 cycles

Drop Test

Vibration 10Hz ~ 55Hz ~ 10Hz Oct/min

Amplitude 1.5mm

Duration 2 hours in each of 3 axes

Load Test

Speaker mode: White noise (EIA filter) for 96 hours @ 0.5W input power.



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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

Measuring Method (Speaker Mode)

Standard Test Condition

Temperature 17 ~ 25°C

Relative humidity 45% ~ 85%

Atmospheric pressure 860hpa to 1060hpa

Standard Test Fixture

Input Power 0.1W

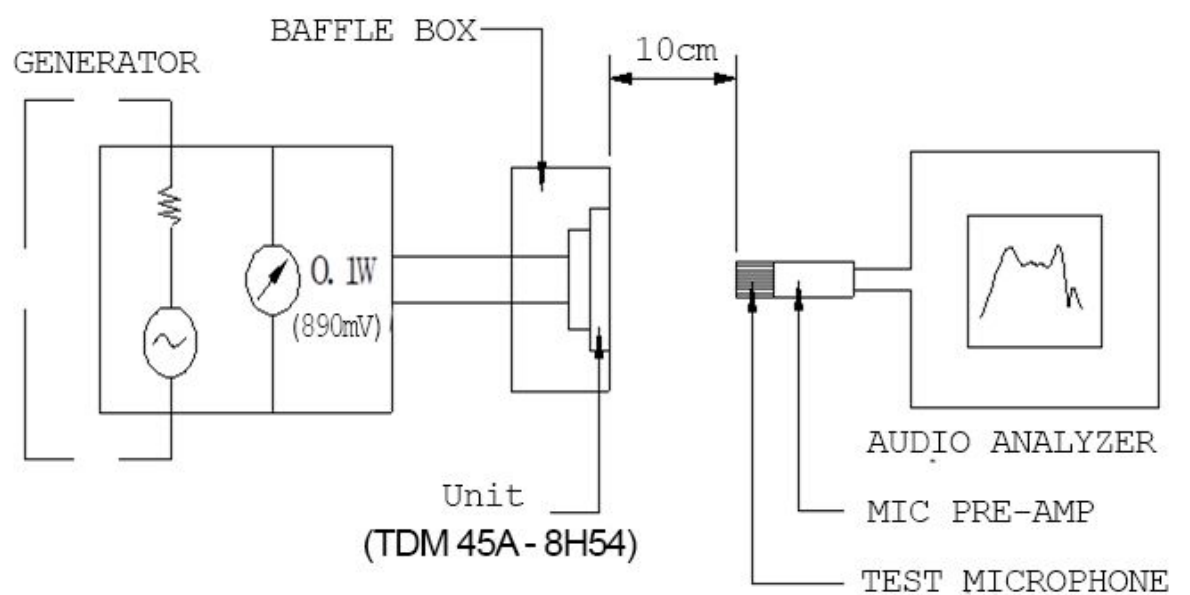
Zero Level -dB

Mode TSR

Potentiometer Range 50dB

Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)





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Release | Revision: C/2018

CONTENTS

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

Page 1
Speaker Electroacoustic Characteristics

General Specifications

Page 2
Reliability Tests

Page 3
Measuring Method (Speaker Mode)

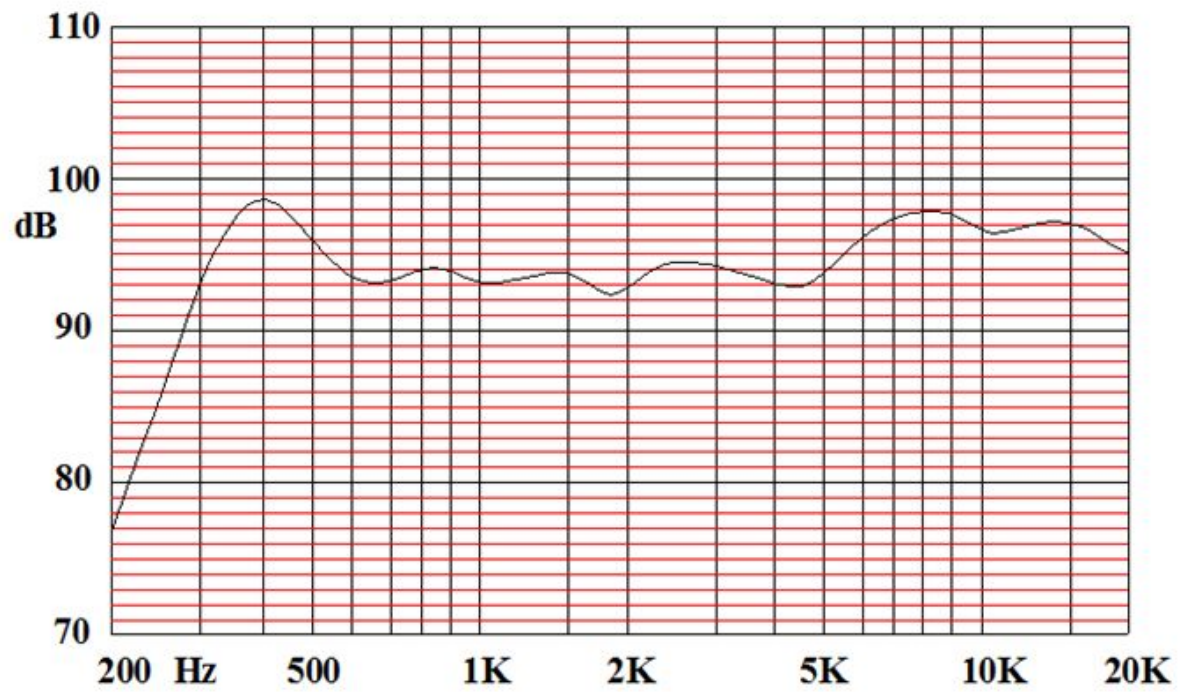
Standard Test Condition of Speakers

Page 4
Frequency Response Curve

Page 5
Dimensions

Page 6
Packing

Frequency Response Curve (Fig. 2)





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SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-5709



Release | Revision: C/2018

CONTENTS

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

Page 1
Speaker Electroacoustic Characteristics

General Specifications

Page 2
Reliability Tests

Page 3
Measuring Method (Speaker Mode)

Standard Test Condition of Speakers

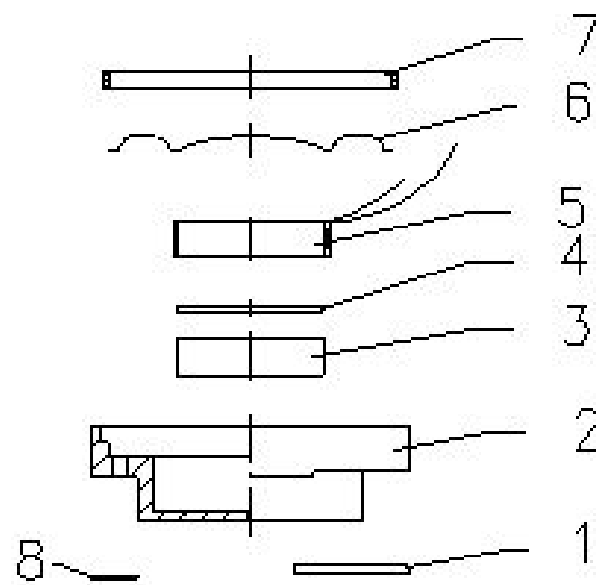
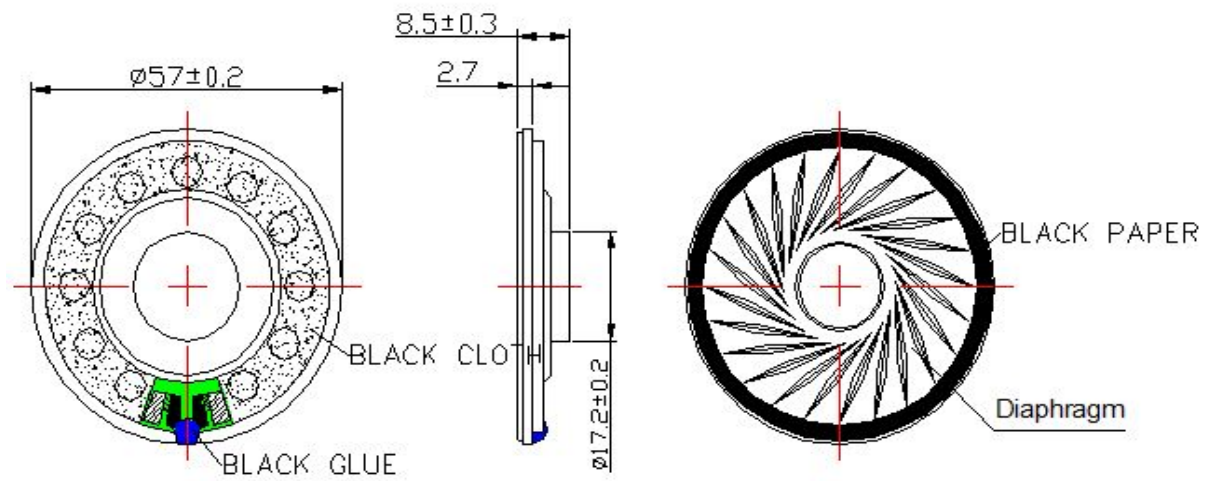
Page 4
Frequency Response Curve

Page 5
Dimensions

Page 6
Packing

Dimensions

Tolerance: ± 0.2 (unit: mm)



No.	Part Name	Material	Quantity
1	Diaphragm	PET	1
2	Magnet	Nd Fe B	1
3	Plate	SPCC	1
4	Voice Coil	Polyurethane Enamelled Wire	1
5	Frame	SPCC	1
6	PCB	FR-4	1
7	Gasket	Paper	1
8	Silk Screen	Adhesive	1



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Reliability Tests

Page 3
Measuring Method (Speaker Mode)

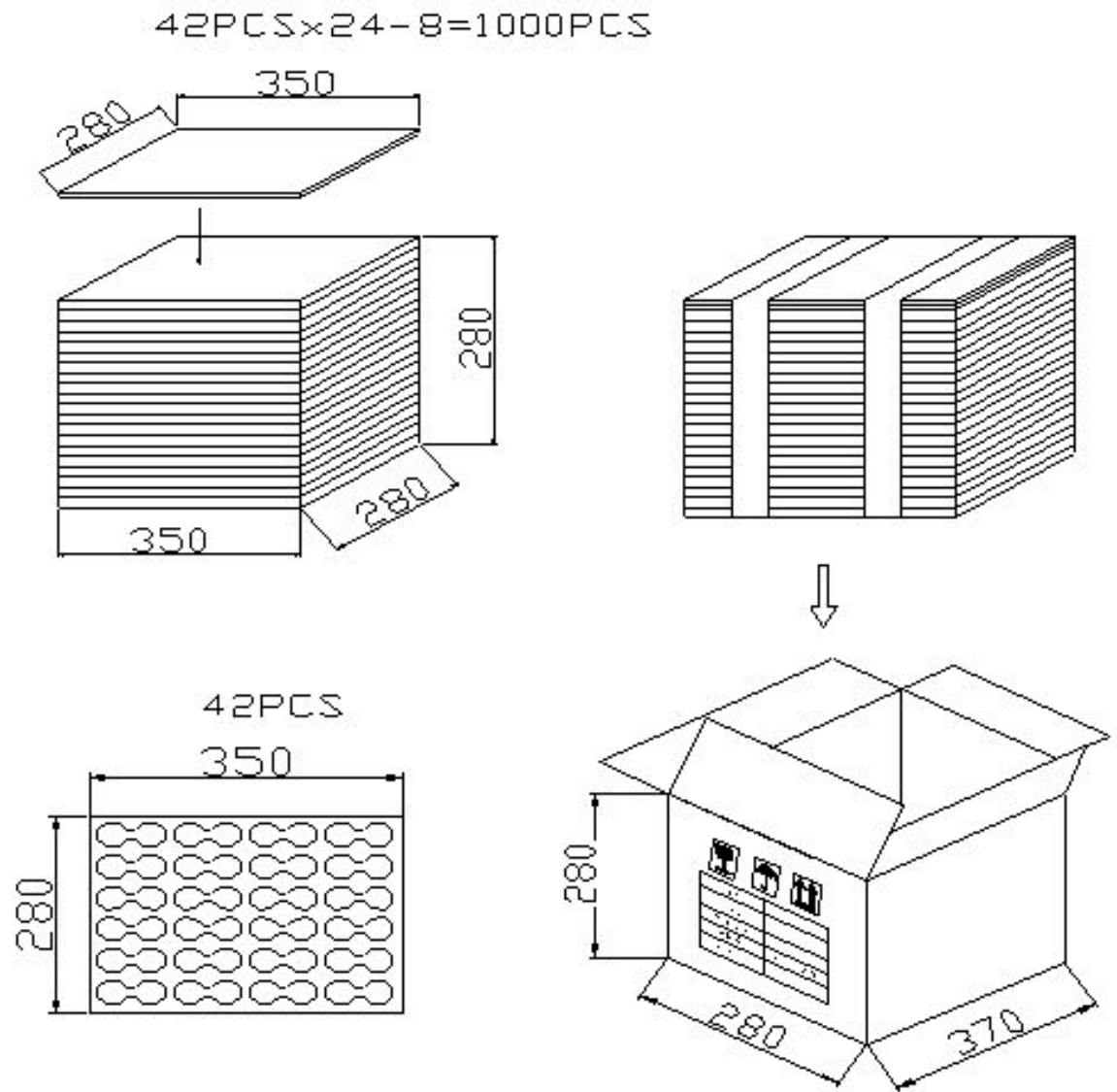
Standard Test Condition of Speakers

Page 4
Frequency Response Curve

Page 5
Dimensions

Page 6
Packing

Packing



Details

42 pcs per box

24 units per box

Total

Amount
1000 pcs per
box(42x24=1000)

Size
37×28×28cm