



**MODEL:** SP-1511S-5  
**PRODUCT:** Dynamic Speaker  
**EDITION:** A/2016

**THIS SPECIFICATION COVERS OUR PRODUCT OF DYNAMIC SPEAKER UNIT FOR MOBILE TELEPHONE USE**

**SPEAKER ELECTROACOUSTIC CHARACTERISTICS**

ac impedance	8±15%Ω(@2KHz 1V) without baffle
sound pressure level	82±3dB SPL @0.7,0.8 ,1.0,1.5and2.0KHz in average (0dB SPL=20μPa)
measuring condition	0.1W (Sine wave) 10cm measured with baffle shown in Fig.2.1
	90±3dB SPL @0.7,0.8 ,1.0,1.5and2.0KHz in average (0dB SPL=20μPa)
measuring condition	0.6W (Sine wave) 10cm measured with baffle shown in Fig. 2.2
frequency response curve	As shown in Fig. 2.1 and 2.2
response frequency	650±20%Hz @ 1V in free air 900±20%Hz @ 1V in 1cc box
rated noise power	0.5W
short term max power	0.8W (in 1cc box)
operation test	Must be free of audible noise (buzzes and rattles) (300~5KHz frequency range, input level up to 2.0Vrms in 1cc box)
distortion	Less than 10% @1KHz,0.1M,0.1W frequency range ,input level up to 0.1W)
dimension	15 x 11 x 4.8 mm

**GENERAL SPECIFICATIONS**

operating temperature range	-20°C ~+60°C
standard test conditions	
temperature	17°C ~25°C
relative humidity	45%~80%(RH)

**RELIABILITY TESTS**

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

**HIGH TEMPERATURE TEST**

high temperature	+60±2°C
duration	96 hours

**LOW TEMPERATURE TEST**

low temperature	-20±2°C
duration	96 hours

**HEAT SHOCK TEST**

high temperature	+60±2°C
low temperature	-20±2°C
changeover time	<30 seconds
duration	1 hour
cycle	100



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**RELIABILITY TESTS** (Continued)

**HUMIDITY TEST**

temperature	+ 40±2°C
relative humidity	90%~95%
duration	96 hours

**TEMPERATURE CYCLE TEST**

temperature	-20°C +60°C
duration	45minutes 45minutes
temperature gradient	1~3°C/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 1 hour@0.5W(in 1CC box) input power
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**MEASURING METHOD (SPEAKER MODE)**

**STANDARD**

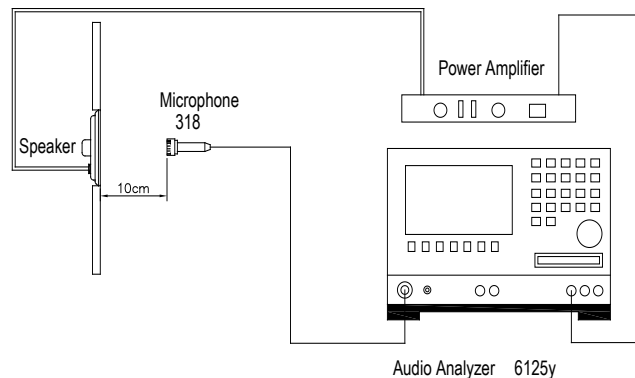
**TEST CONDITION**

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

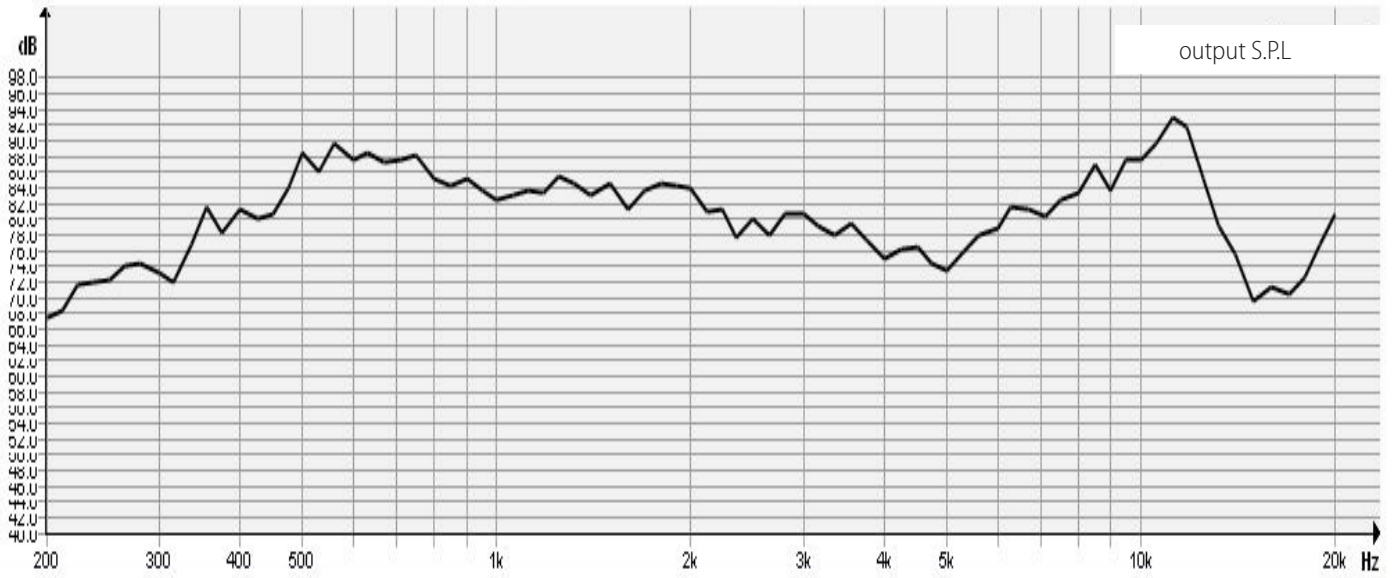




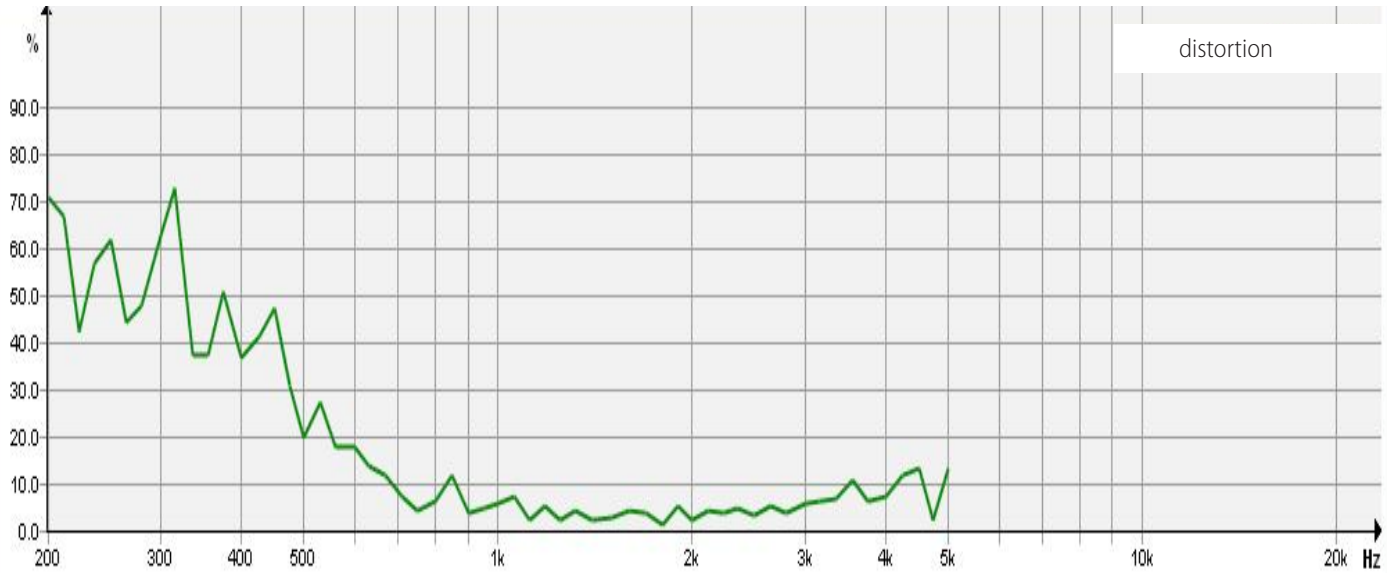
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### FREQUENCY RESPONSE CURVE (Fig. 2.1)

0.1W/10cm, in free air



32  $\Omega$  dynamic speaker test

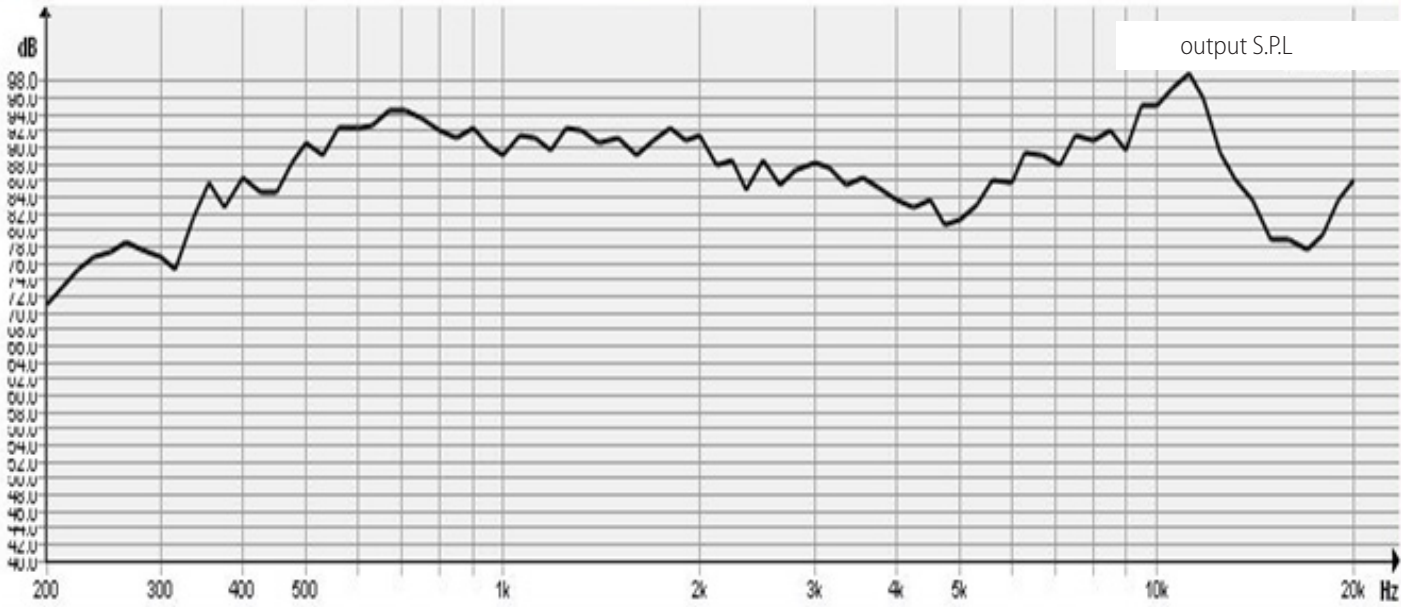




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**FREQUENCY RESPONSE CURVE** (Fig. 2.2)

0.5W/10cm, in free air



32  $\Omega$  dynamic speaker test

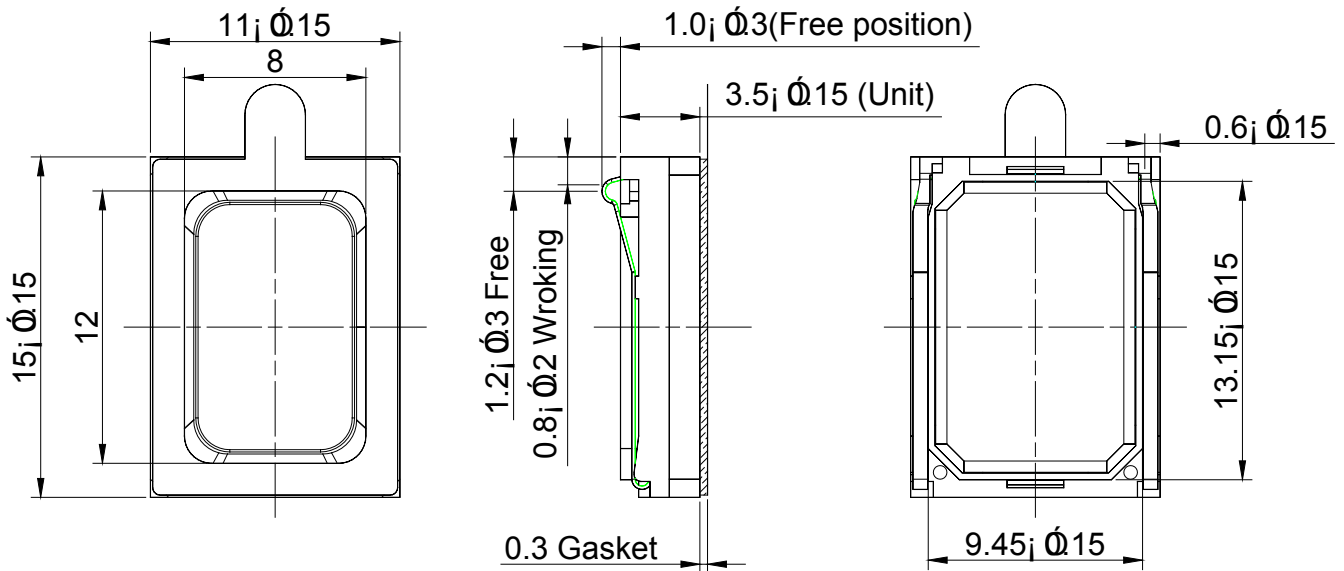
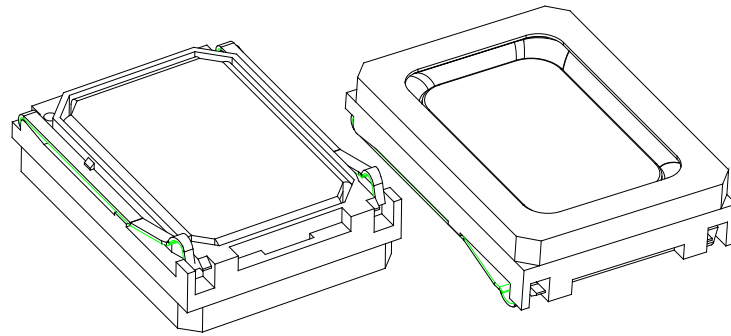




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**DIMENSIONS**

Tolerance:  $\pm 0.5$  (unit: mm)



no.	part name	material	quantity
1	Cap	Scotch ABS	1
2	Diaphragm	PEEK	1
3	Magnet	Nd Fe B10.6*6.6*1.1	1
4	Plate3	SPCC 10.65*6.65*0.3	1
5	Voice Coil	Polyurethane enamel wire 10.95*6.95*1.05	1
6	Frame	BLACK PBT	1
7	Gasket	Adhesive 0.3	1



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Soberton Inc.

## PACKING

