

**MODEL:** SP-1511-2  
**PRODUCT:** Dynamic Speaker  
**EDITION:** A/2016

Soberton Inc.

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

### SPEAKER ELECTROACOUSTIC CHARACTERISTICS

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 baffler 90±3dB SPL @0.7,0.8 ,1.0,1.5 and 2.0KHz in average (0dB SPL=20µPa) Measuring condition: 0.6W (Sine wave) 10cm measured with baffler
resonance frequency (FO)	650±20%Hz @ 1V in free air (as show in Fig. 2) 900±20%Hz @ 1V in 1cc box (as shown in Fig. 3)
rated noise power	0.5W
short term max power	0.8W (in 1cc box)
operation test	Must be free 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)

### GENERAL SPECIFICATIONS

operating temperature range	-20°C ~+60°C
standard test conditions	
temperature	17°C ~25°C
relative humidity	45%~80%(RH)
ac impedance	8±15%Ω(@2KHz 1V) without baffler
dimension	15 x 11 x 3.5mm

### 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)**

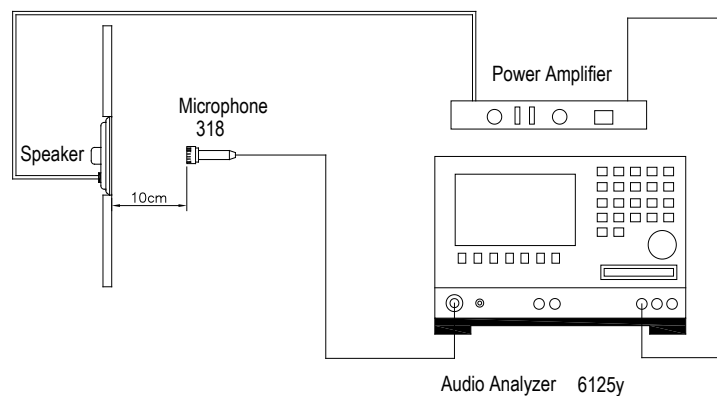
**STANDARD**

**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

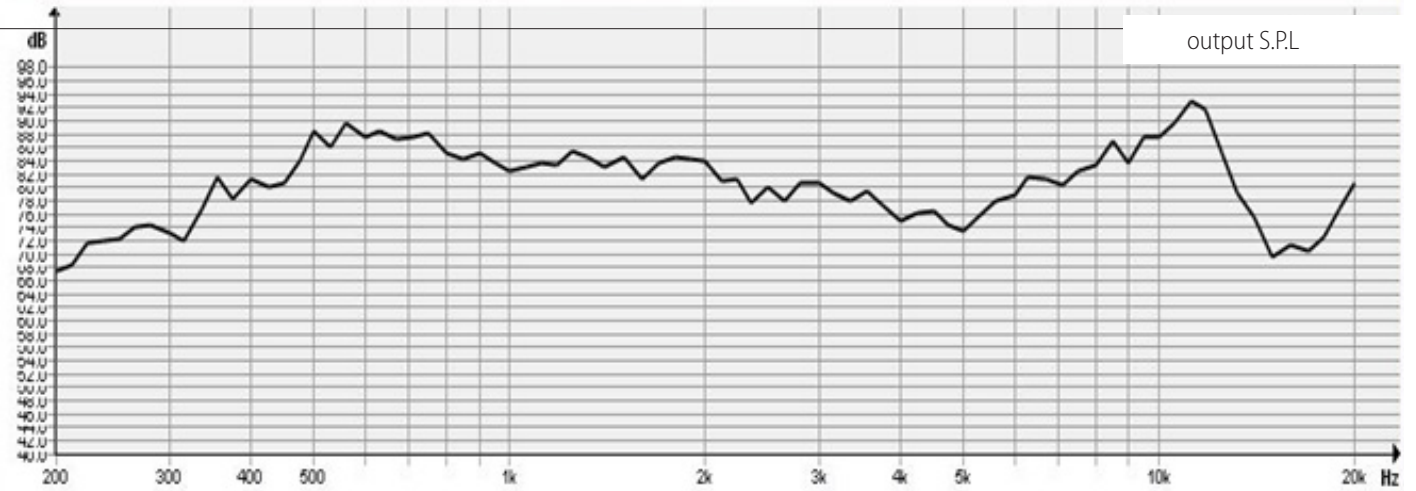




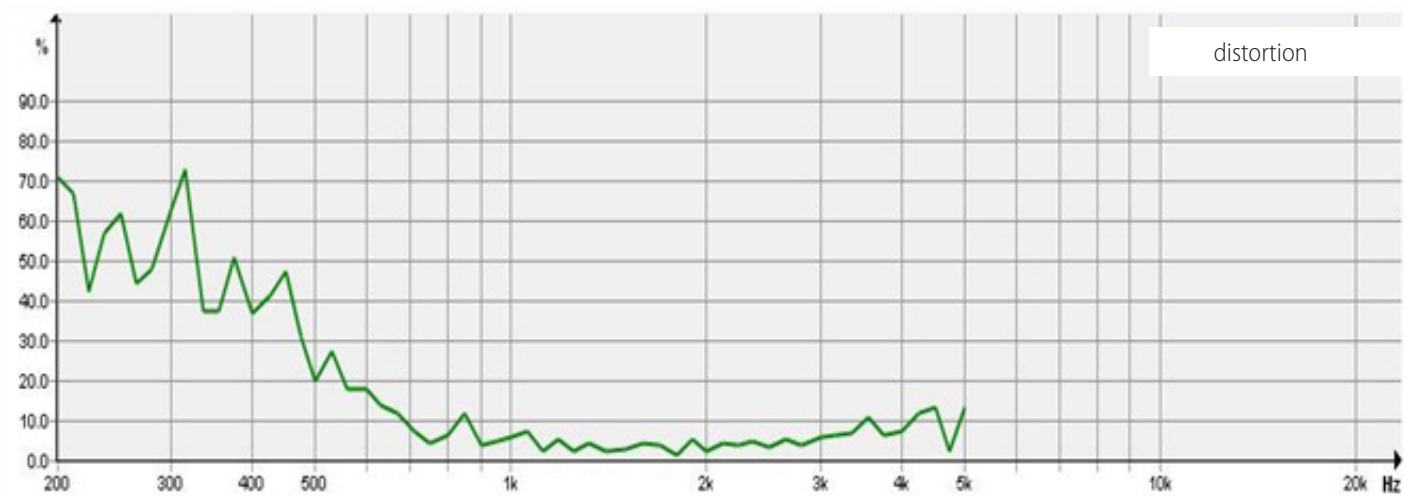
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### FREQUENCY RESPONSE CURVE (Fig. 2)

0.1W/10cm, in free air



32  $\Omega$  dynamic speaker test

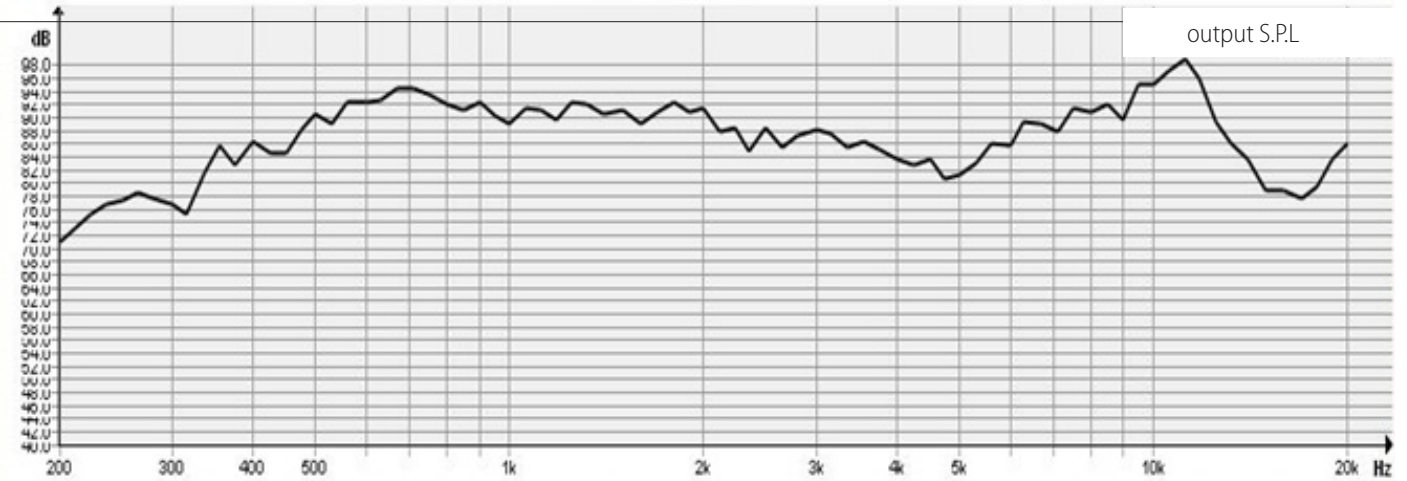




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### FREQUENCY RESPONSE CURVE (Fig. 3)

0.5W/10cm, in free air



32  $\Omega$  dynamic speaker test



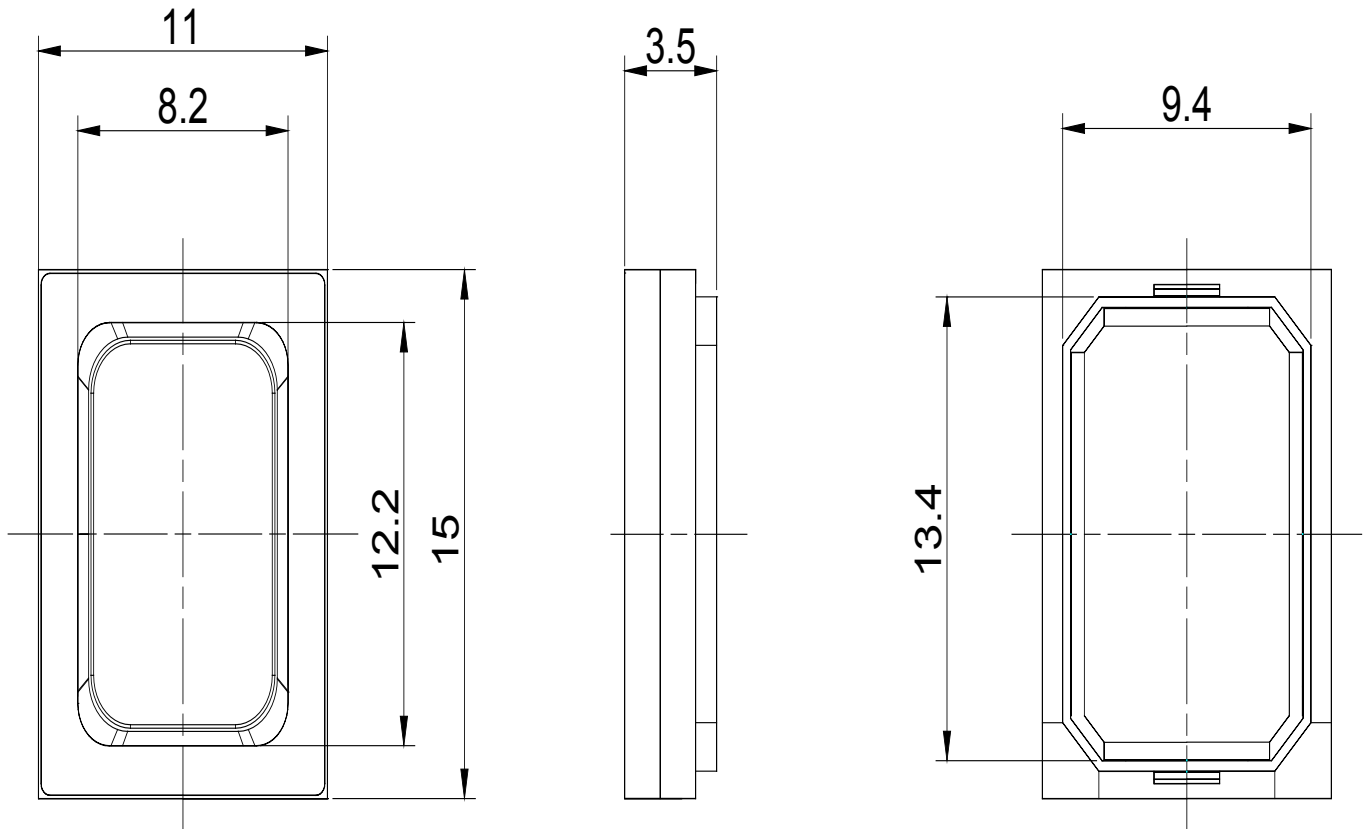


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## DIMENSIONS

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	SPCC10.65*6.65*0.3	1
5	Voice Coil	POLYURETHANEENAMELLED WIRE 10.95*6.95*1.05	1
6	Frame	BLACK PBT	1



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**PACKING**

