



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



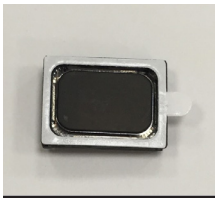
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**MODEL:** SP-1511-2  
**PRODUCT:** Dynamic Speaker  
**EDITION:** A/2016

**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)**

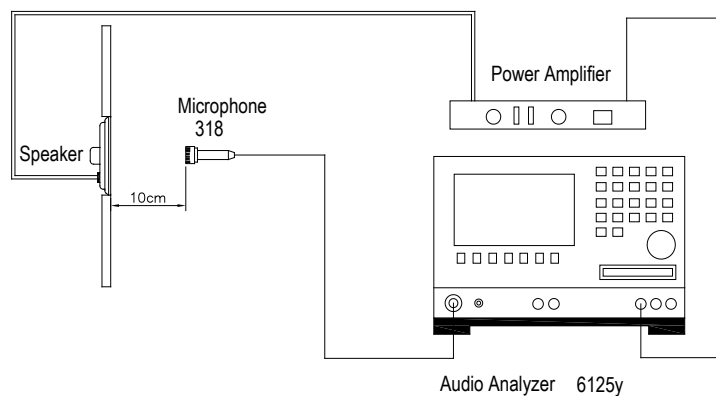
**STANDARD**

**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



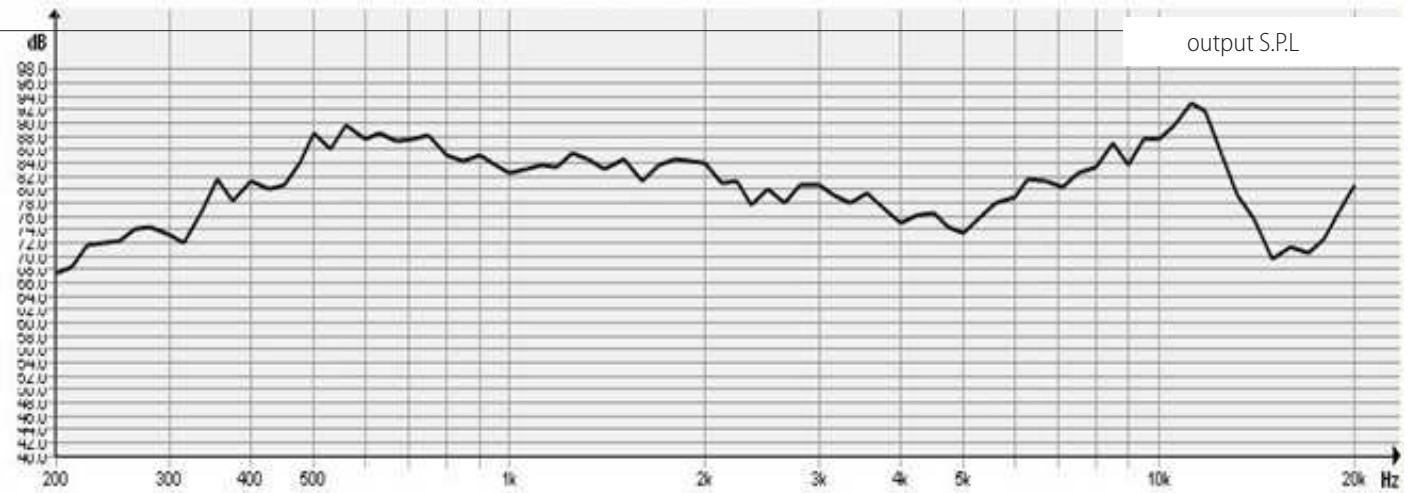




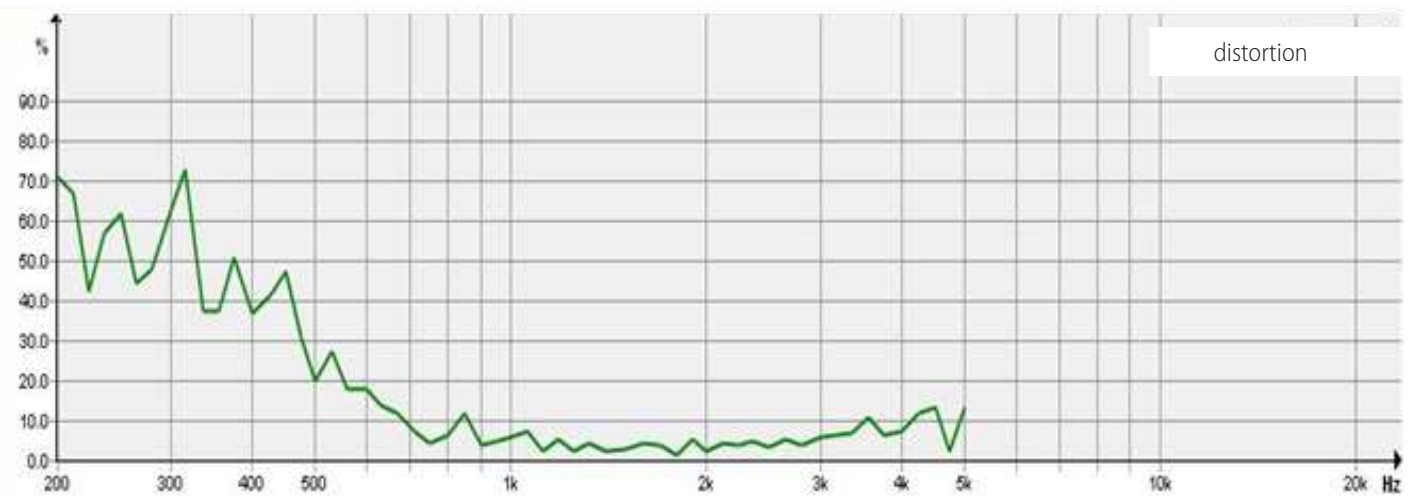
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### FREQUENCY RESPONSE CURVE (Fig. 2)

0.1W/10cm, in free air



32  $\Omega$  dynamic speaker test

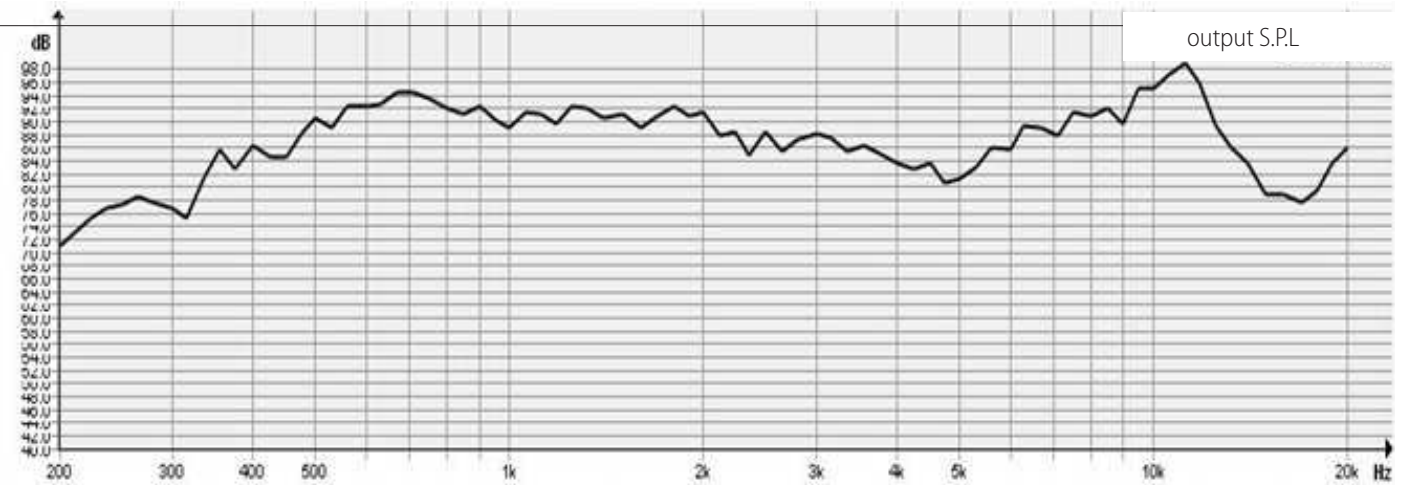




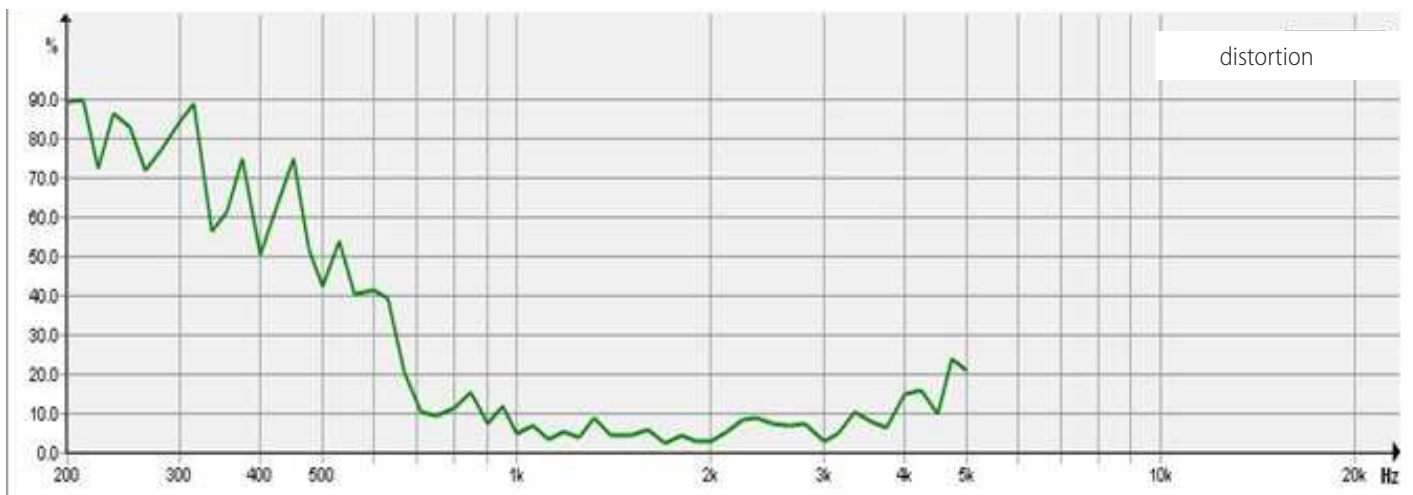
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### FREQUENCY RESPONSE CURVE (Fig. 3)

0.5W/10cm, in free air



32 Ω dynamic speaker test

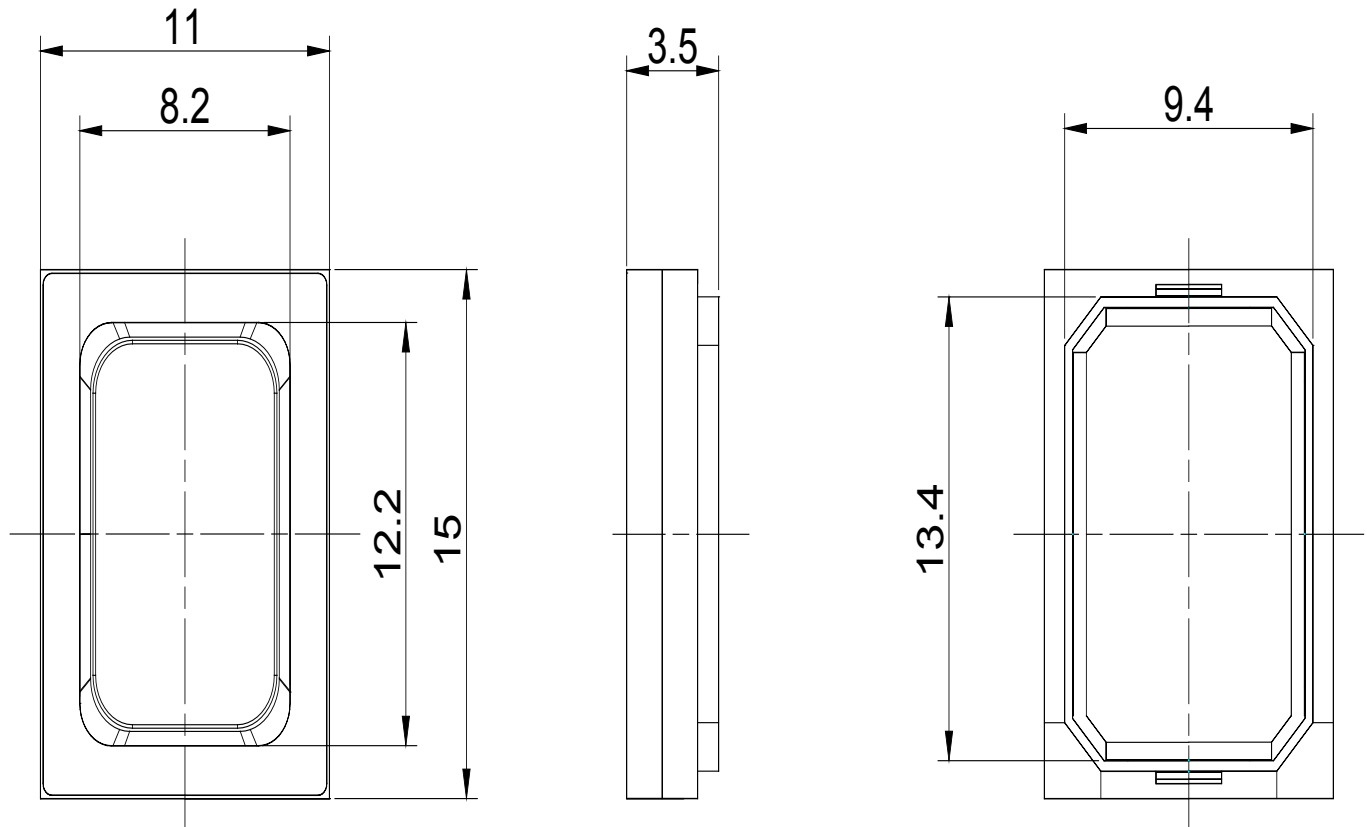




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## DIMENSIONS

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**

