



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-3215  
**PRODUCT:** Dynamic Speaker  
**EDITION:** B/2017

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## THIS SPECIFICATION COVERS OUR PRODUCT OF DYNAMIC SPEAKER

### SPEAKER ELECTROACOUSTIC CHARACTERISTICS

sound pressure level	83dB at 10cm at AVE 0.8KHz, 1.0KHz, 1.2KHz, 1.5KHz
frequency response curve	As shown in Fig.3
resonance frequency (F0)	1200 ±20%Hz
rated noise power	0.2W
short-term max. power	0.3W
frequency range	F0~20KHz.
test setup	Measuring conditions and procedures shown in Fig 1 & Fig 2
AC impedance	8Ω ±15%
magnet	Rare earth permanent (Ferrite) magnet φ16x7x5mm
distortion	Less than 5% @ 1KHz, Input Rated Power
buzz, rattle, etc.	Not audible from F0 to 20KHz with 1.26V Sine Wave Input
polarity	When positive voltage is applied to the terminal marked (+), diaphragm should be moved to the front.
dimensions	ø31.7x15.0mm

### GENERAL REQUIREMENTS

operating temperature range	-20°C ~ +60°C
storage temperature range	-30°C ~ +70°C
standard test conditions	
temperature	5°C ~ 35°C
relative humidity	45% ~ 85%(RH)
air pressure	860 mbar ~ 1060 mbar



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## RELIABILITY TESTS

After these tests , the change of S.P.L will be within  $\pm 3\text{dB}$

### HIGH TEMPERATURE TEST

high temperature	$+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$
duration	96 hours (leave 3 hours in normal temperature and then check)

### LOW TEMPERATURE TEST

low temperature	$-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$
duration	96 hours (leave 3 hours in normal temperature and then check)

### HUMIDITY TEST

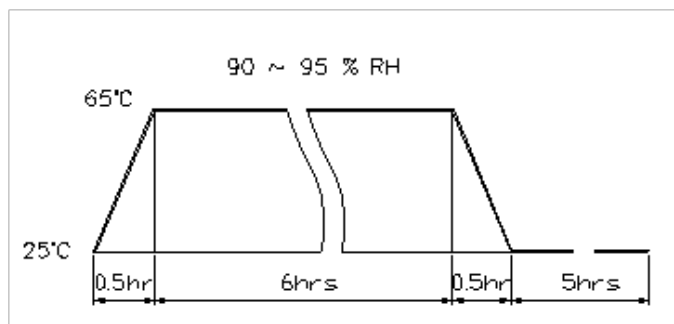
temperature	$+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$
relative humidity	92%~95%
duration	96 hours (leave 3 hours in normal temperature and then check)

### VIBRATION

10Hz ~55Hz ~10Hz sine-wave sweep 15 minutes 5G(constant)	
X, Y, Z	3 directions, 2 hours each, total 6 hours

### TEMP./HUMIDITY CYCLE

The part will be subjected to 5 cycles. One cycle shall be 12 hours and consist of:



### THERMAL CYCLE TEST

low temperature : $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$
high temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$
cycle: one hour/cycle each, the keep 5 cycles in a room temperature

### DROP TEST

Free drop from 100cm height to the concrete floor	
X, Y, Z	6 directions, 1 time each, total 6 times

### LOAD TEST

Rated Power White noise is applied for 96 hours at room temp.

### MAX POWER TEST

Max power 1 minute on - 2 minutes off, 10 cycles

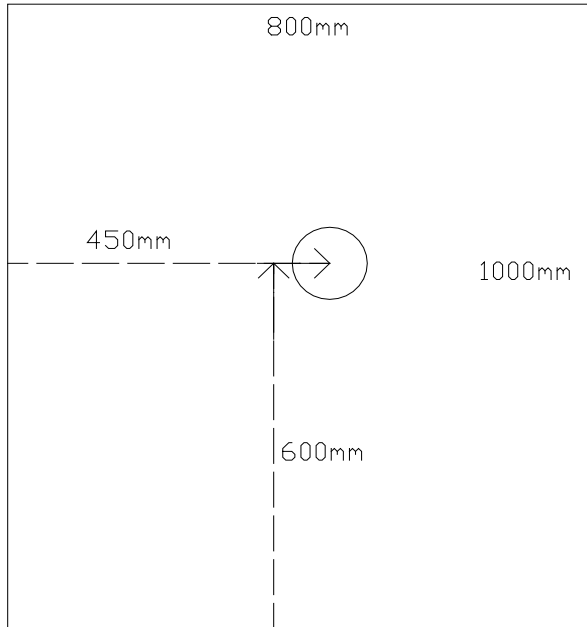
### TERMINAL STRENGTH TEST

Capable of withstanding 1kg load for 30 seconds without resulting in any damage or rejection

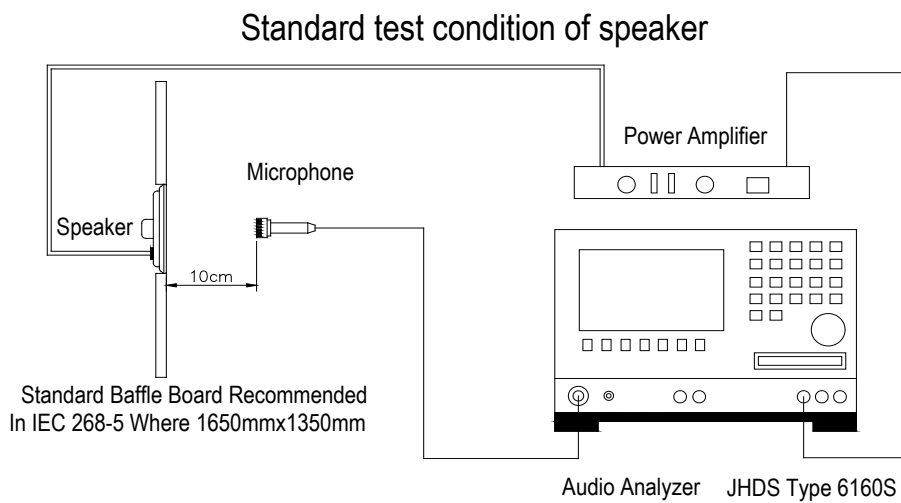


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**MEASURING METHOD (SPEAKER MODE)** (Fig. 1)



**BLOCK DIAGRAM FOR MEASUREMENT METHOD** (Fig. 2)

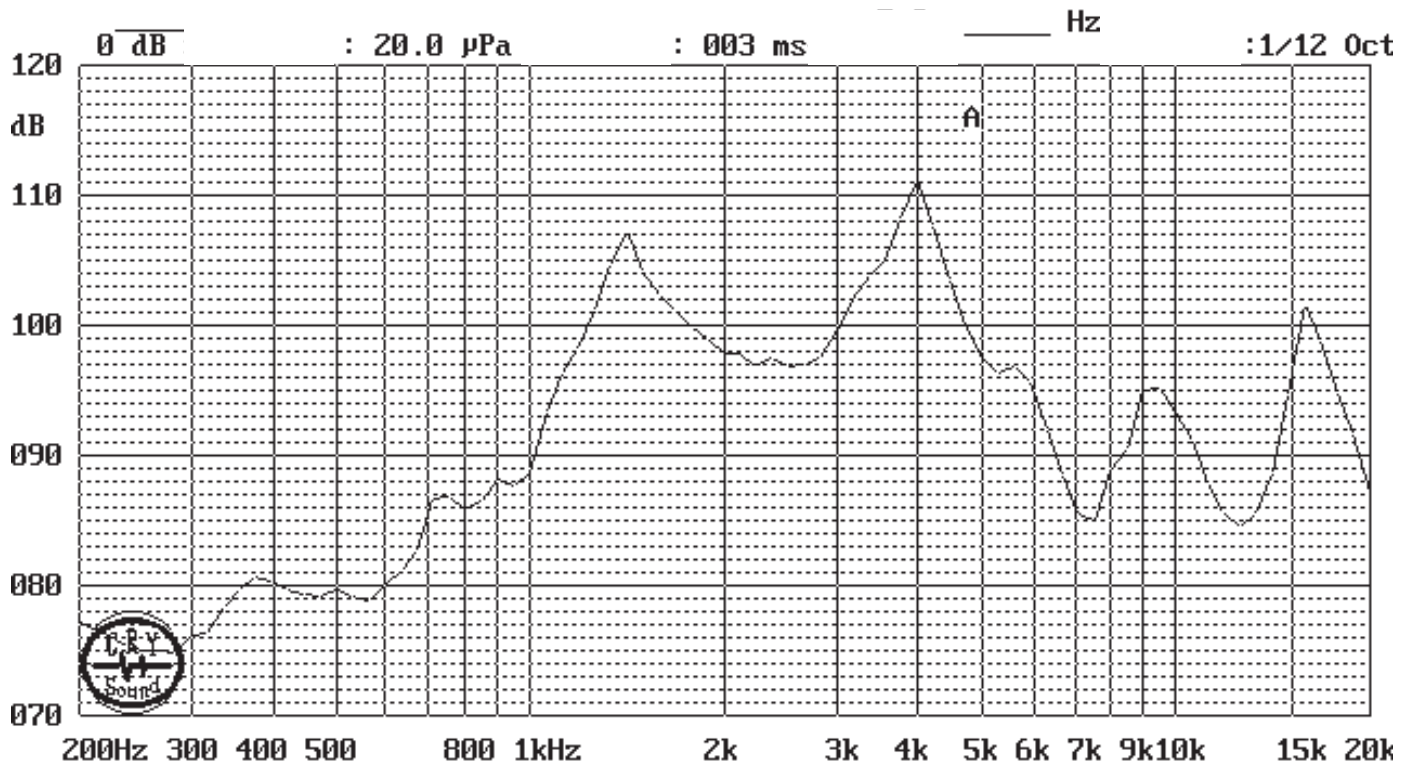




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**FREQUENCY RESPONSE CURVE** (Fig. 3)

The swept sine-wave frequency response of a loudspeaker should ideally not deviate more than indicated.

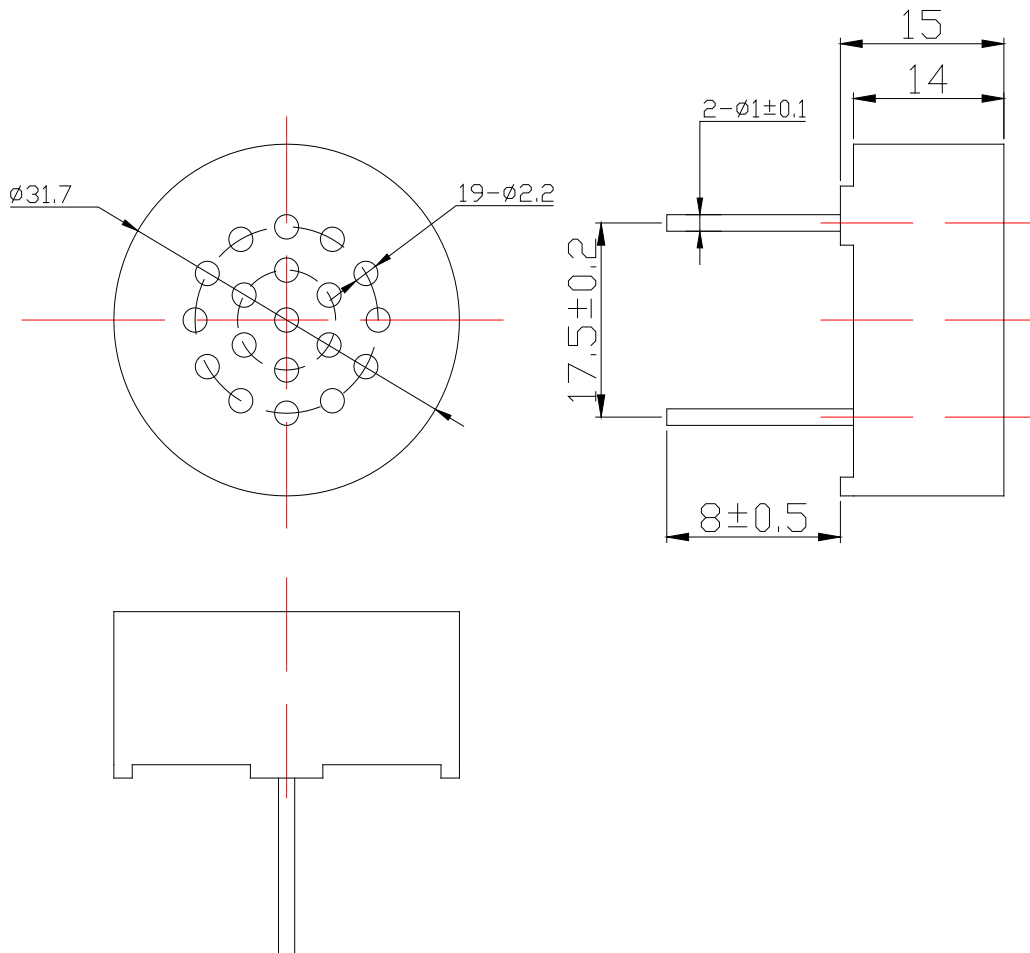




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**DIMENSIONS**

Tolerance:  $\pm 0.5$  unit: mm

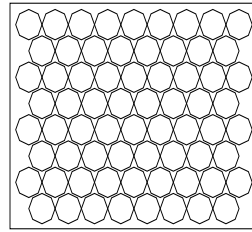


no	item	material	quantity
1	Frame	1	PPO
2	PCB Terminal	1	FR4
3	Magnet	1	Ferrite
4	Plate	1	SPCC
5	Voice Coil	1	Cu
6	Diaphragm	1	PET
7	Case	1	PPO



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**PACKING**



$9 \times 8 - 4 = 68 \text{PCS}$

