



# APPROVAL SHEET FOR SMARTPHONE SPEAKER

TOTAL PAGE 12

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RoHS

Customer		Model Name	BMS1511F-11C-08H3.5RP LF
Customer P/N		Product No.	139817
Date	13 Sep.2016	Issue No.	BS/TES01.1410B0
Page	01 of 12	Issue Date	2016/09/13

## Table of Contents:

- 1.Test Climatic Condition
- 2.Description
- 3.Characteristics
- 4.Test Setup
- 5.Drawing
- 6.Reliability Test
- 7.Packing
- 8.History Change Record

Drawn by	Checked by	Approved by	Customer approved
杨紫群	姬后哲	徐金国	

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# BMS1511F-11C-08H3.5RP LF

## 1. Test Climatic Condition

- 1.1 Ambient Temperature :15°C~35°C, Preferably at 20°C
- 1.2 Relative Humidity:25% to 75%
- 1.3 Air Pressure:86kPa~106kPa

No.	Item	Specification
1.	Dimension	15 x11 x 3.5(mm)
2.	AC Impedance	8 Ω ±15%(at 2KHz/1Vrms)
3.	Rated Input Power	0.7W(2.37Vrms/in 1cc box)
4.	Maximum Input Power	1.0W(2.83Vrms/in 1cc box)
5.	Resonance Frequency	550Hz ±20% (in free air)
6.	Resonance Frequency	850Hz ±20% (in 1.0cc box)
7.	Frequency Response	F0~20KHz
8.	S.P.L	89±3dB/0.1m/0.7W at 2KHz
9.	THD	≤10% (at 1.0~10KHz/0.7W)
10.	Buzzes & Rattles	Must be normal at sine wave 0.89Vrms (in free air) /2.37Vrms(in 1.0cc box) from 300-3400KHz
11.	Polarity	Positive voltage to (+),Diaphragm moves forward
12.	Operating Temperature	-20~+ 70°C
13.	Storage Temperature	- 20~+ 70°C
14.	Weight	~1.5g±0.3g

## 2. Description

- 2.1 Acoustic component Performance Specification
- 2.2 The present document specifies performance requirements for the acoustic characteristics of speaker

## 3. Characteristics

- 3.1 Electrical and Mechanical Characteristics

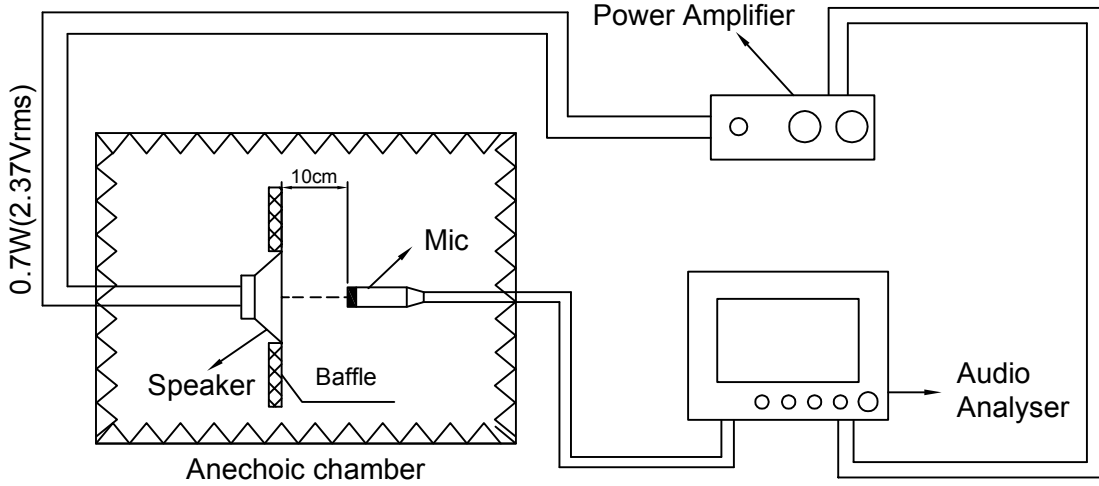
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**BMS1511F-11C-08H3.5RP LF**

**4. Test Setup**

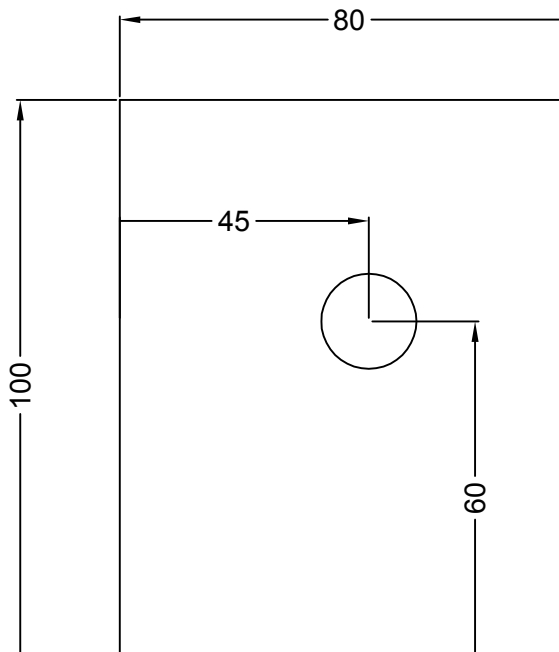
**4.1 Speaker Measurement Circuit**



**4.2 Baffle Drawing**

unit:cm

tolerance:±2



**4.3 Test Method**

The speaker shall be mounted in a baffle of the dimensions 80X100cm show figure 4.2,

The measuring free-field microphone shall be placed 10cm from DUT, on axis.

The test voltage is 0.7W and swept sine-wave range is 100Hz~20KHz with a R80 of test sequence

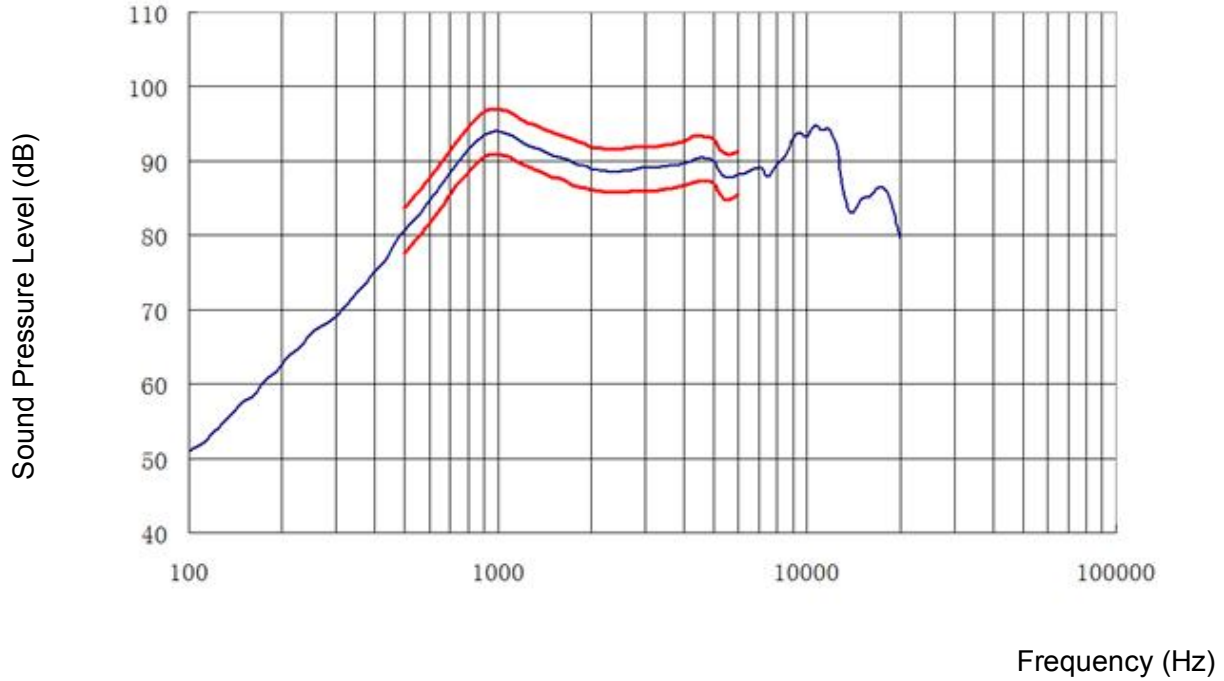
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## 4.4 Frequency Response Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00  $\mu$ Pa/V 1/12Oct



### 4.4.1 Sensitivity

SPL is expressed in dB rel 20  $\mu$ Pa, computed according to IEC 268-5.  
 Measurement set up according chapter 4.1 and parameters according chapter 4.4.

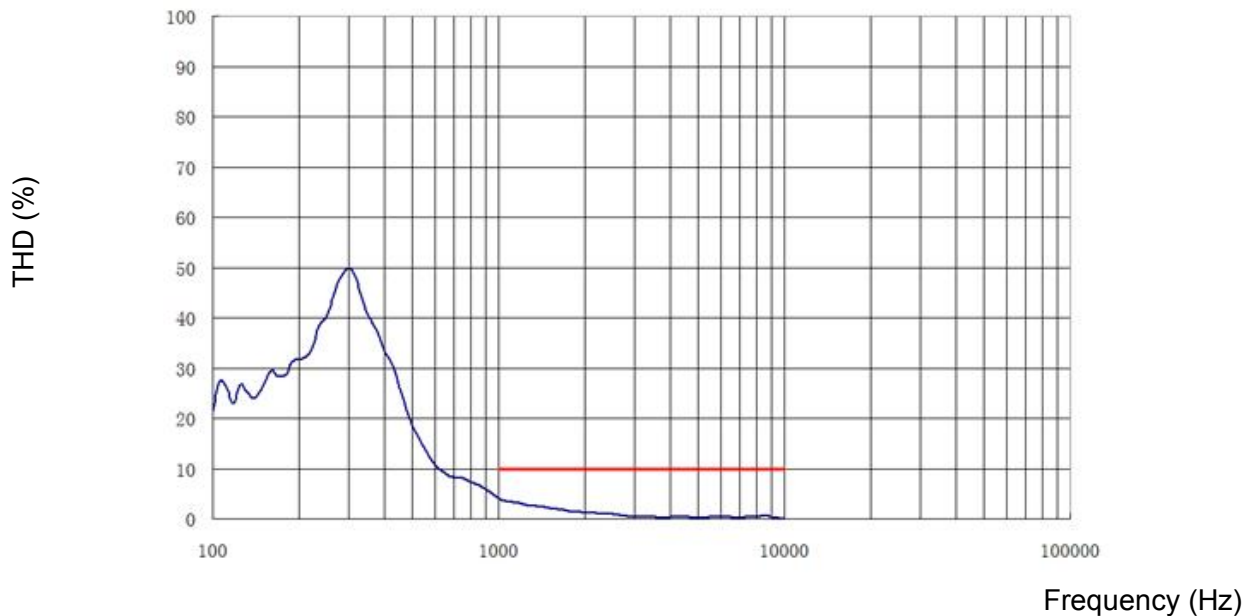
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# BMS1511F-11C-08H3.5RP LF

## 4.5 Total Harmonic Distortion (only for reference)

A: Frequency Response Magn 0 dB re 20.00  $\mu$ Pa/V 1/12Oct



### 4.5.1 THD

THD is measured according test set up in chapter 4.1 and parameters according chapter 4.5

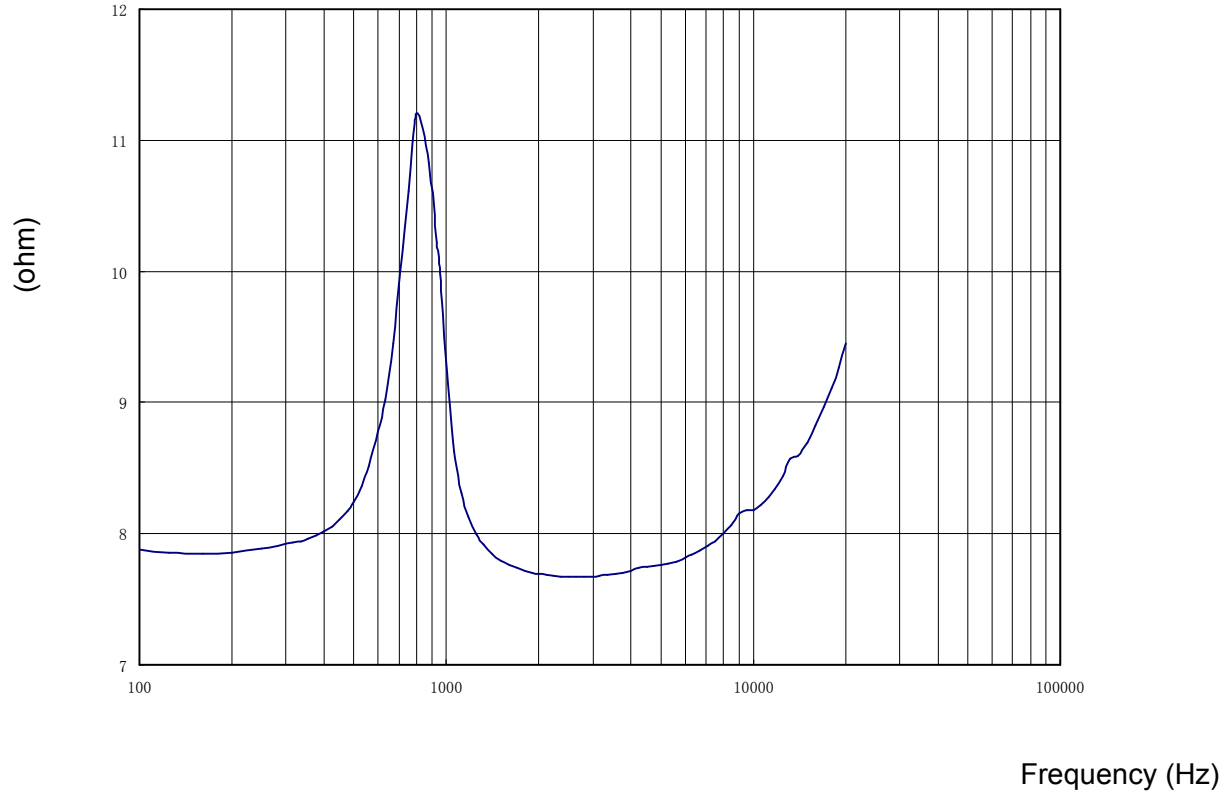
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# BMS1511F-11C-08H3.5RP LF

4.6 F0 Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00  $\mu$ Pa/V 1/12Oct



## 4.6.1 Resonance Frequency

Resonance frequency is measured according test set up in chapter 4.1 and parameters according chapter 4.6

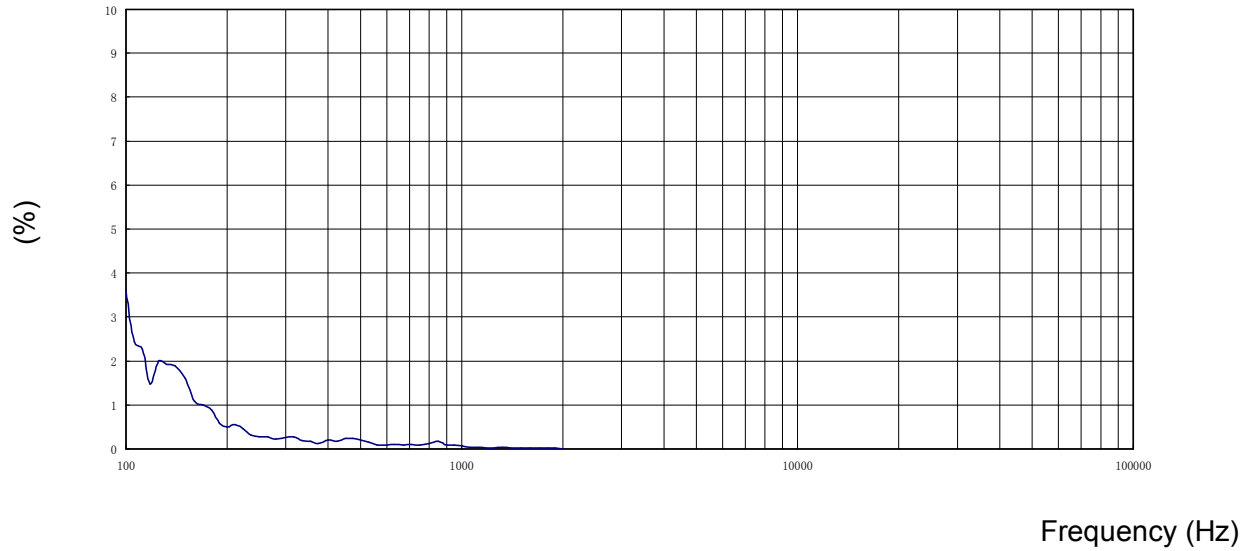
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4.7 R&B Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00  $\mu$ Pa/V 1/12Oct



### 4.7.1 R&B

R&B is measured according test set up in chapter 4.1 and parameters according chapter 4.7

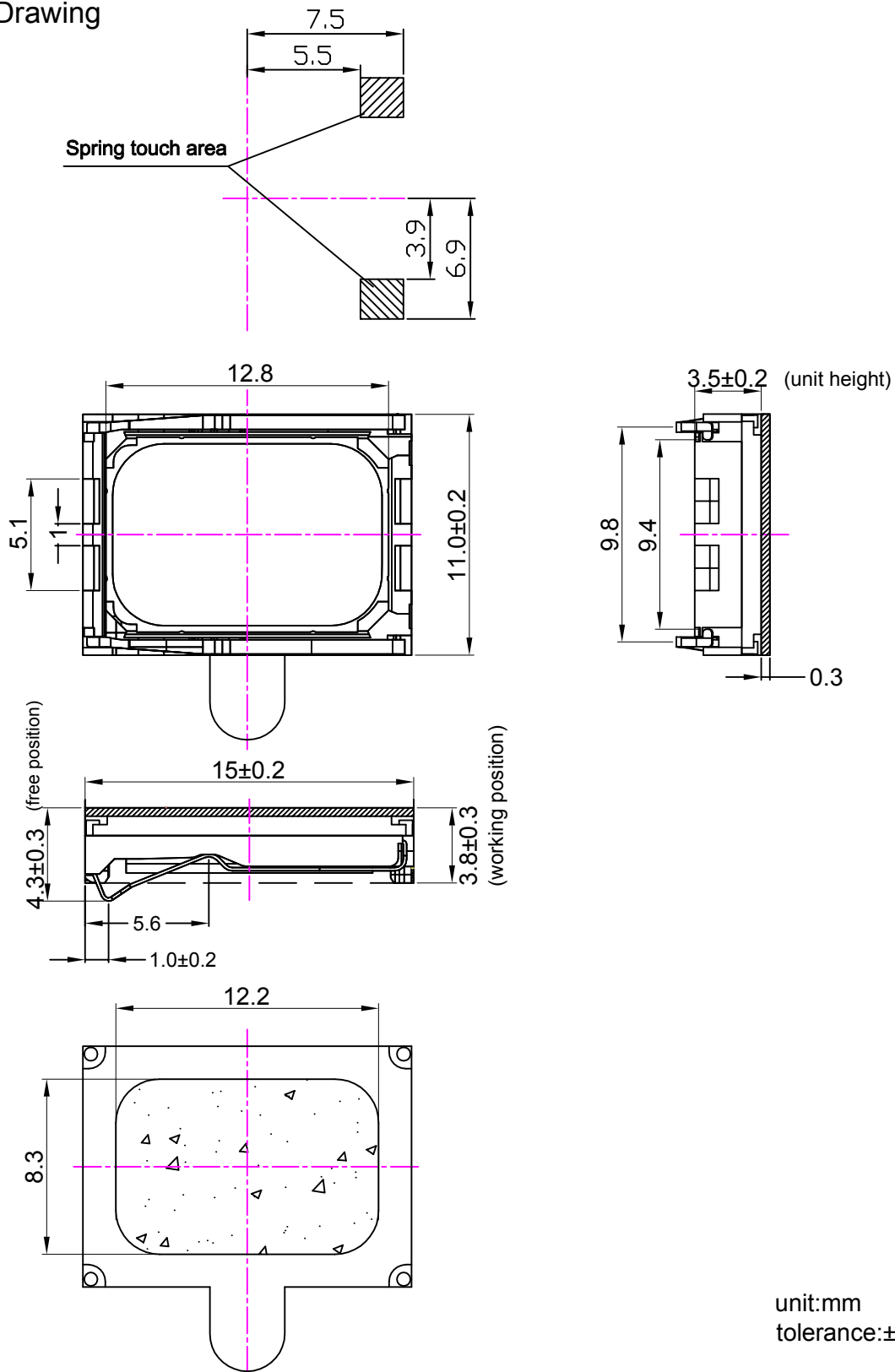
TS Parameter			
Fs(Hz)	555.5	Rms(Kg/s)	0.120
Re(Ohm)	7.76	BL(T/m)	0.664
Le(mH)	0.042	Mms(g)	0.075
Cms(mm/N)	1.088	Vas	0.0018L
Sd(mm <sup>2</sup> )	108	Qms	2.187
Qts	1.486	Qes	4.633
Lces(mH)	0.48	Cmes( $\mu$ F)	170.96
Res(Ohm)	3.67	Kms(N/mm)	0.92

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5. Drawing



unit:mm  
tolerance:±0.2

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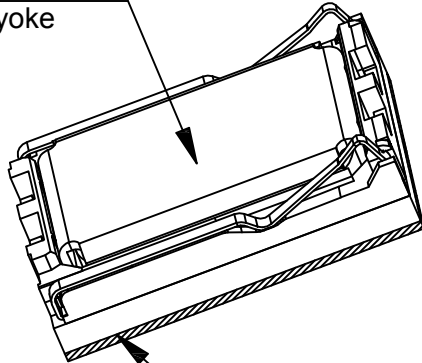
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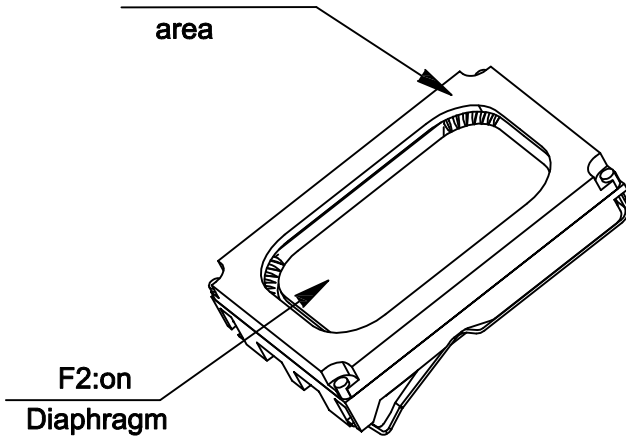
★Permitted Force to Speaker

F3:on back  
of yoke



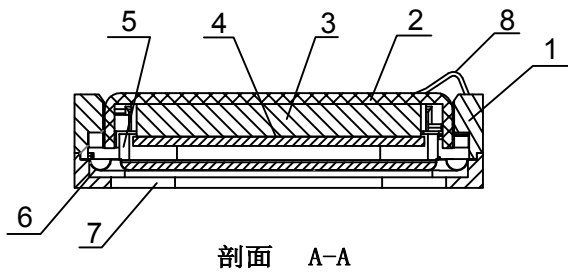
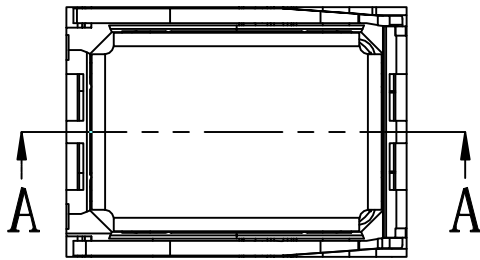
F3:on back  
of frame

F1:on gasket  
area



F2:on  
Diaphragm

Max Permitted Comperssion Force			
No	From	To	Max Force
1	F1	F3	10N
2	F2		0
3	F3	F1	10N



No	Description of the part
1	Frame
2	Yoke
3	Magnet
4	Plate
5	Coil
6	Diaphragm
7	Grill
8	Terminal

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## 6. Reliability Test

### 6.1 Load Test

Power (Nom) 0.7W(in White noise in 1cc box)  
 Duration 96hrs

### 6.2 High Temperature Test

Temperature  $+70\pm 3^{\circ}\text{C}$   
 Duration 96hrs

### 6.3 Low Temperature Test

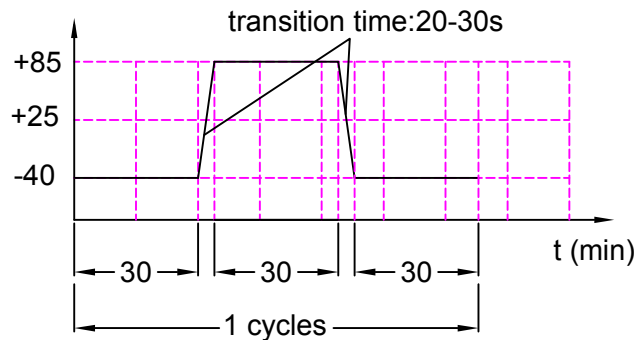
Temperature  $-20\pm 3^{\circ}\text{C}$   
 Duration 96hrs

### 6.4 Damp Heat

Temperature  $40\pm 3^{\circ}\text{C}$   
 Relative Humidity 90%-95%RH  
 Duration 96hrs

### 6.5 Temperature Cycle Test

Cycles 10



### 6.6 Drop Test

Height 1.0m  
 Drop face thick board (20mm)  
 Times 10 (three times in each durement )

### Notice:

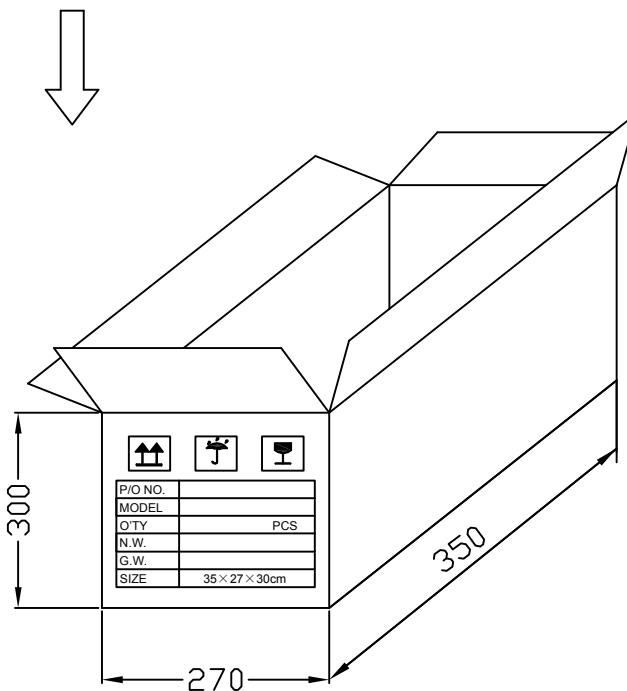
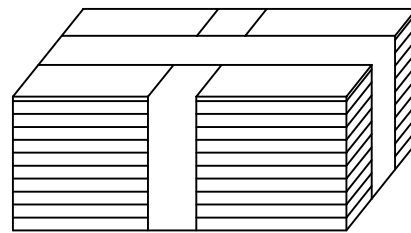
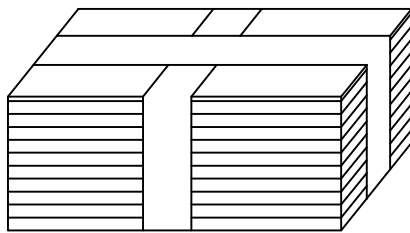
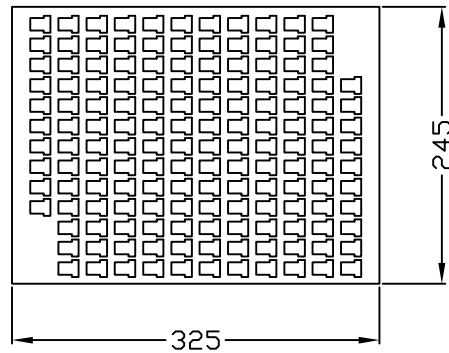
- 1.Immediately after reliability test,the samples shall be stored under climatic conditions such as normally exist in ordinary rooms or laboratories.Unless otherwise noted,the recovery period shall be 4hrs at least before performance testing.
2. After reliability test ,all samples must be meet the requirements specified
- 3.Sensitivity difference at 2~5KHz shall be within  $\pm 3\text{dB}$  from initial value after test.

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**7. Packing**



**Remark:**  
 150 pcs per carton  
 24 carton per box  
 Total 3600pcs per box  
 Size: 35×27×30(cm)

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