# APPROVAL SHEET
# FOR SMARTPHONE SPEAKER

| TOTAL PAGE | 12 | www.be-star.com | RoHS |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Customer | | Model Name | BMS1511F-11C-08H03P LF |
| Customer P/N | | Product No. | 139706 |
| Date | 8 Sep.2011 | Issue No. | BS/TES01.1170A |
| Page | 01 of 12 | Issue Date | 08/09/2011 |

## Table of Contents:



| Drawn by | Checked by | Approved by | Customer approved |
|---|---|---|---|
| | | | |


*BESTAR ELECTRONICS INDUSTRY CO.,LTD*
No.199 HuangHe West Road.New district,ChangZhou,JiangSu Province,P.R.China
***Tel:*** +86 519 88222567 ***Fax:*** +86 519 88222551
***E-mail:***wu@be-star.com ***http://www.be-star.com***

# BMS1511F-11C-08H03P 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

## 2.Description

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

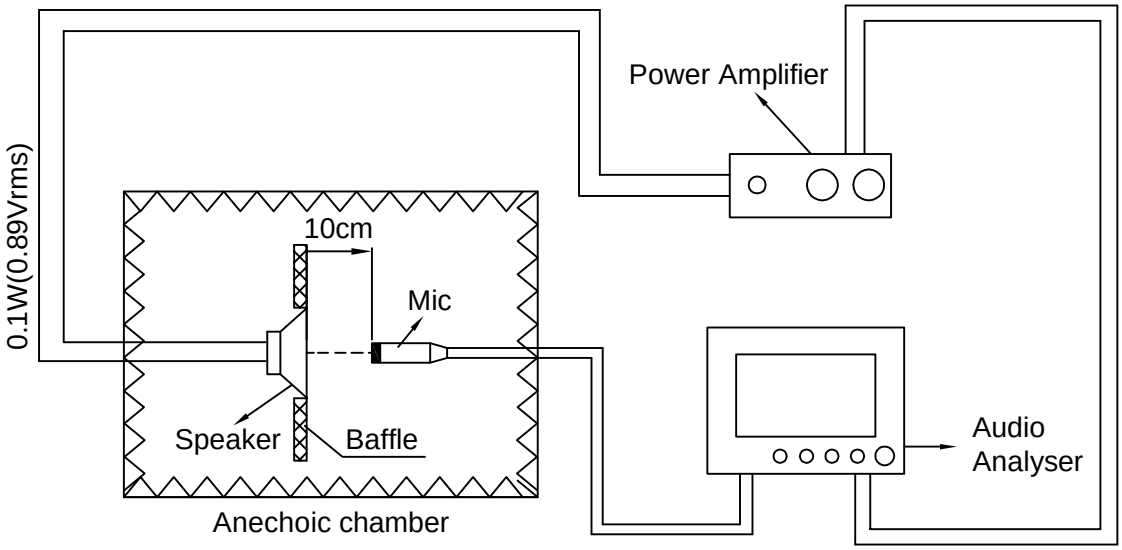
## 3.Characteristics

3.1 Electrical and Mechanical Characteristics

| No. | Item | Specification |
|---|---|---|
| 1. | Dimension | 15 x11 x 3.0(mm) |
| 2. | AC Impedance | 8 Ω ±15%(at 2KHz/1Vrms) |
| 3. | Rated Input Power | 0.5W(2.0Vrms/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 | 82±3dB/0.1m/0.1W at 2~5KHz average |
| 9. | THD | ≤5% (at 1.0~10KHz/0.1W) |
| 10. | Buzzes & Rattles | Must be normal at sine wave 0.89Vrms (in free air) |
| | | /2.0Vrms(in 1.0cc box) from 300~10KHz |
| 11. | Polarity | Positive voltage to (+),Diaphragm moves forward |
| 12. | Operating Temperature | -20~+ 70°C |
| 13. | Storage Temperature | -40~+ 85°C |
| 14. | Weight | ~1.5g±0.3g |

# 4. Test Setup

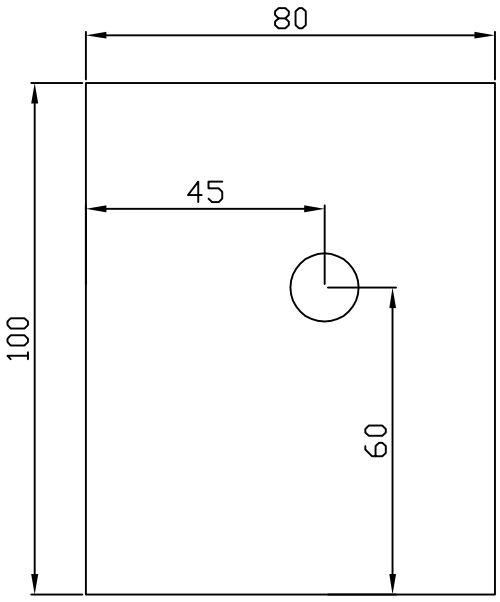
## 4.1 Speaker Measurement Circuit




## 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,

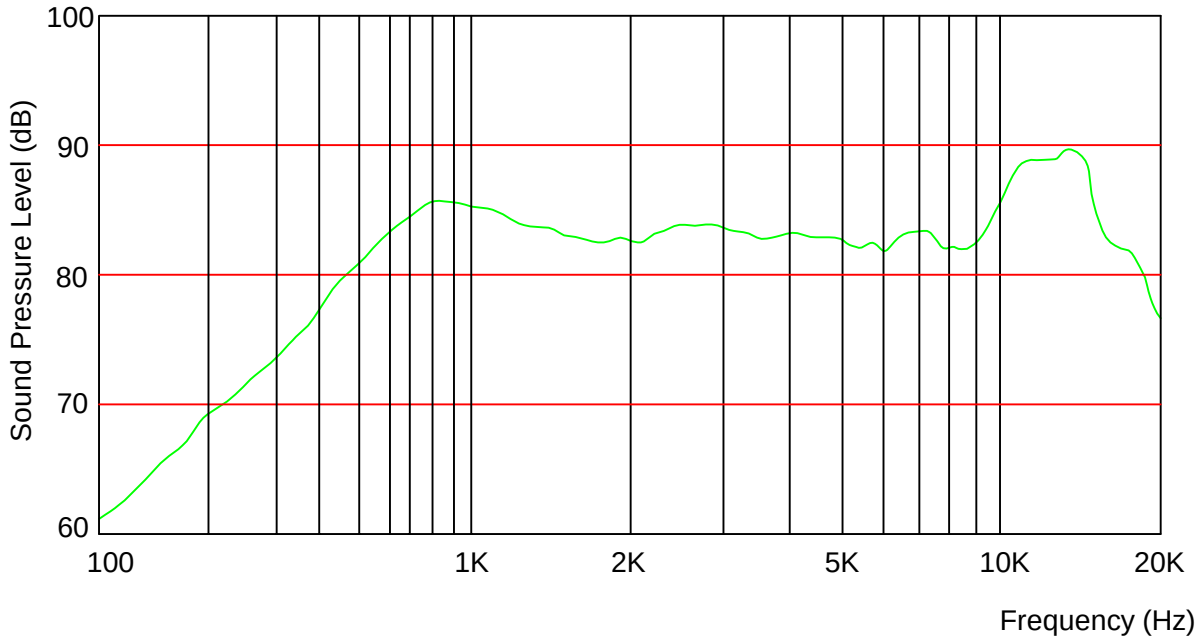
The measuring free-field microphone shall be placed 10cm from DUT,on axis.

The test voltage is 0.1W and swept sine-wave range is 200Hz~20KHz with a R80 of test sequence

# BMS1511F-11C-08H03P LF

4.4 Frequency Response Curve (only for reference)

A: Frequency Response  Magn 0 dB  re  20.00 µ Pa/V  1/12Oct




4.4.1 Sensitivity

SPL is expressed in dB rel 20 µPa,computed according to IEC 268-5.
Measurement set up according chapter 4.1 and parameters according chapter 4.4.
This test is performed for 100% of products in the production line.

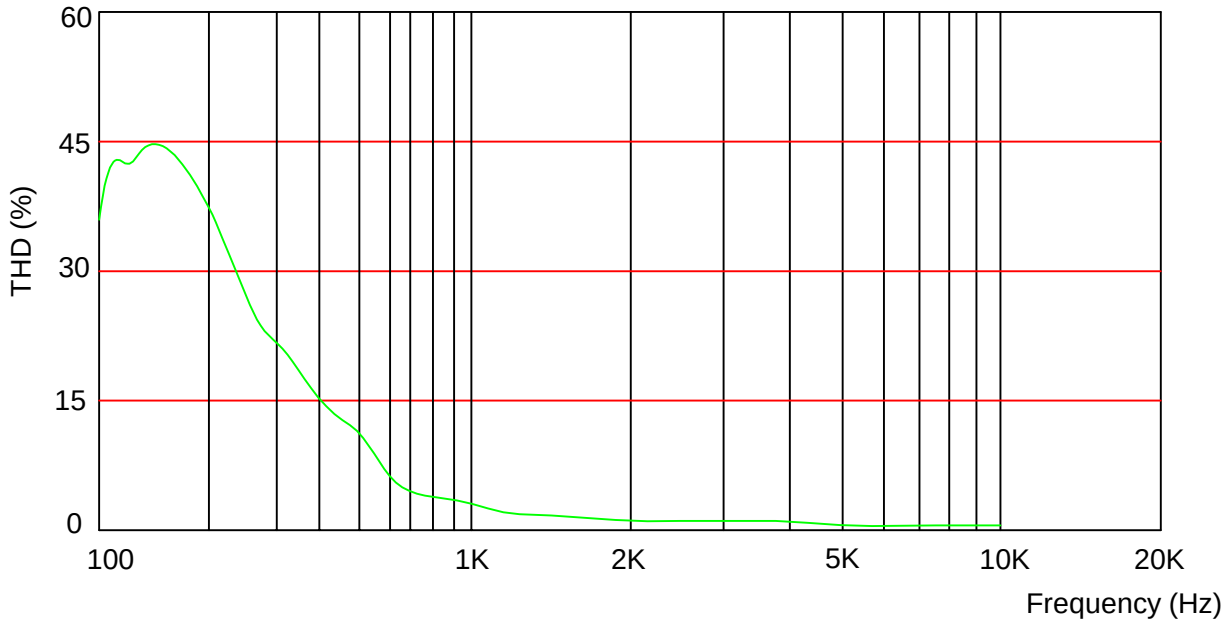


| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 | |
| | | | | Drawn by: | 任江凤 | |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 | Speaker |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 | |
| BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com | | | | | DRG NO: BS/TES01.1170A | Page:04 of 12 |

# BMS1511F-11C-08H03P LF

4.5 Total Harmonic Distortion (only for reference)

A: Frequency Response Magn 0 dB re 20.00 µPa/V 1/12Oct




4.5.1 THD

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

This test is performed for 100% of products in production line



| | | | | | |
|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 |
| | | | | Drawn by: | 任江凤 |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 |

Speaker

BESTAR ELECTRONICS INDUSTRY CO.,LTD

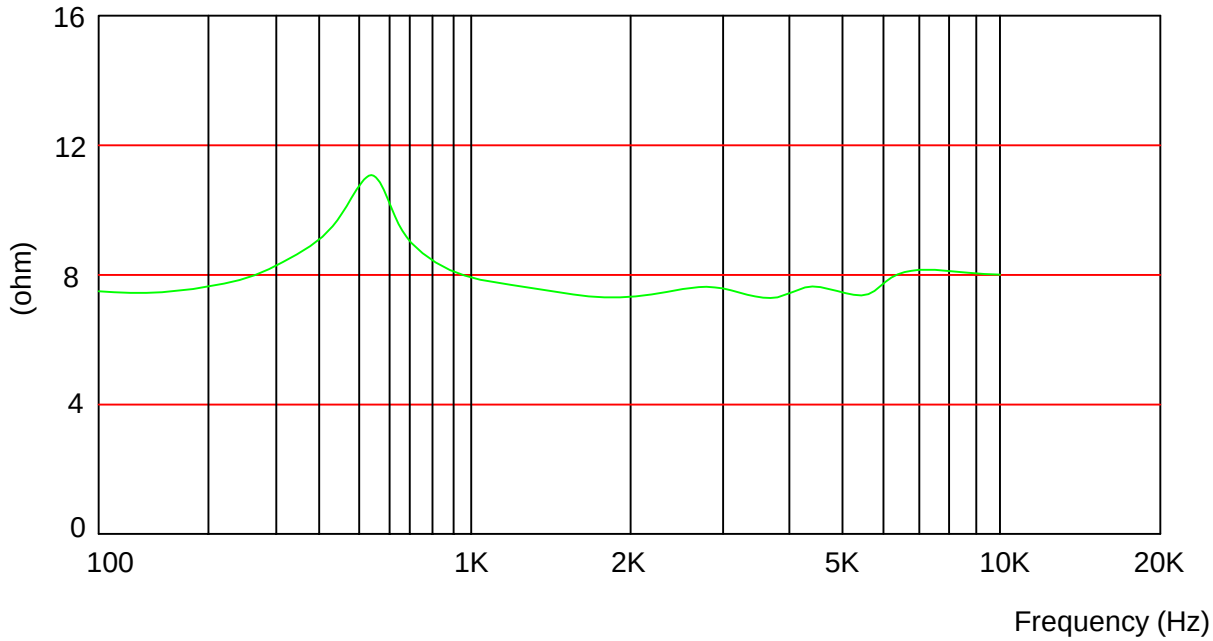
www.be-star.com wu@be-star.com

DRG NO: BS/TES01.1170A

# BMS1511F-11C-08H03P LF

4.6 F0 Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00µPa/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

This test is performed for 100% of products in the production line

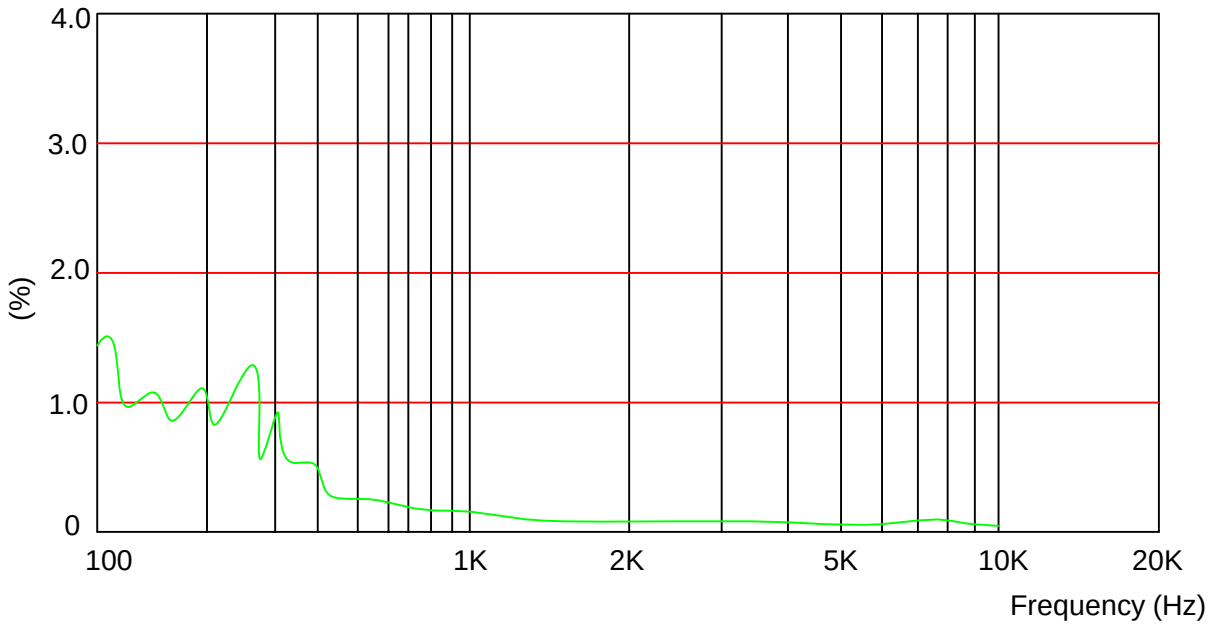


| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 | |
| | | | | Drawn by: | 任江凤 | |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 | Speaker |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 | |
| BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com | | | | | DRG NO: BS/TES01.1170A | Page:06 of 12 |

# BMS1511F-11C-08H03P LF

4.7 R&B Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00μPa/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

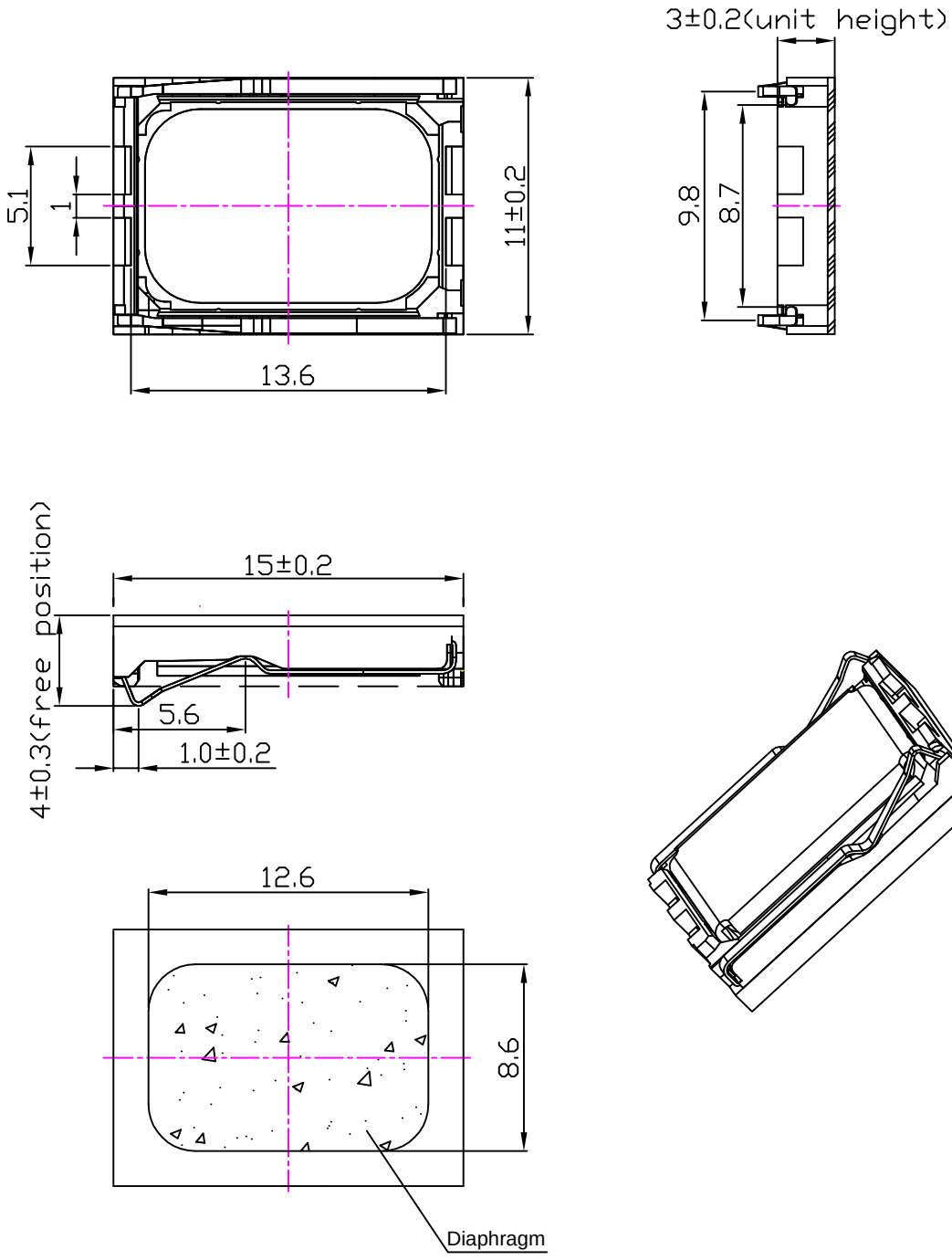
This test is performed for 100% of products in production line



| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 | |
| | | | | Drawn by: | 任江凤 | |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 | Speaker |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 | |
| BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com | | | | | DRG NO: BS/TES01.1170A | Page:07 of 12 |

# BMS1511F-11C-08H03P LF

## 5. Drawing




unit:mm
tolerance:±0.2



| | | | | | |
|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 |
| | | | | Drawn by: | 任江凤 |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 |

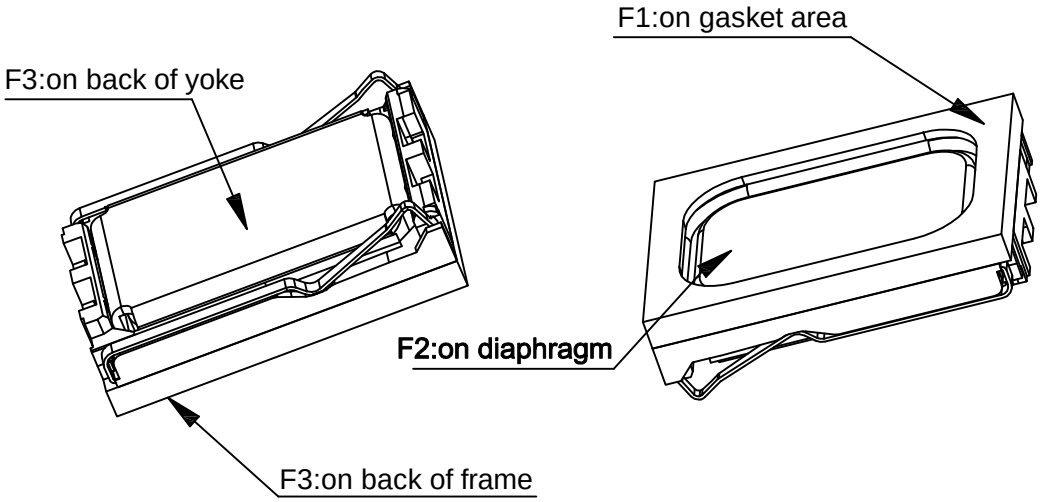
Speaker

BESTAR ELECTRONICS INDUSTRY CO.,LTD
www.be-star.com wu@be-star.com

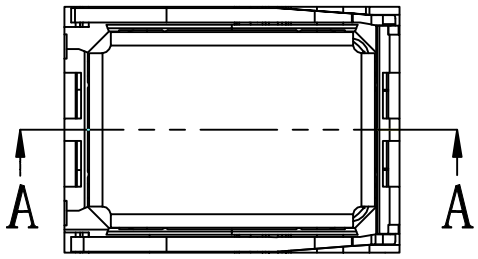
DRG NO: BS/TES01.1170A

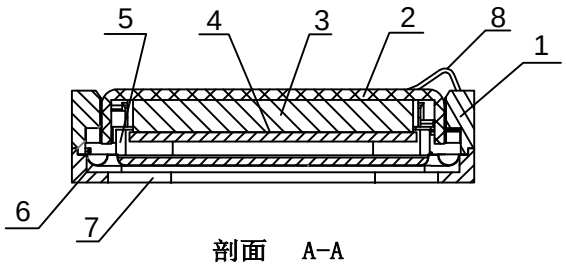
# BMS1511F-11C-08H03P LF

★Permited Force to Speaker




| Max Permited Comperssion Force | | | |
|---|---|---|---|
| No | From | To | Max Force |
| 1 | F1 | F3 | 10N |
| 2 | F2 | | 0 |
| 3 | F3 | F1 | 10N |




剖面 A-A

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

| | | | | | |
|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 |
| | 2011/09/08 | 任江凤 | | Drawn by: | 任江凤 |
| A | | | | Checked by: | 李正杰 |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 |

Speaker

BESTAR ELECTRONICS INDUSTRY CO.,LTD

www.be-star.com wu@be-star.com

DRG NO: BS/TES01.1170A

Page:09 of 12

# BMS1511F-11C-08H03P LF

## 6. Reliability Test

6.1 Load Test

| | |
|---|---|
| Power (Nom) | 0.5W( Pink noise in 1cc box) |
| Duration | 96hrs |

6.2 High Temperature Test

| | |
|---|---|
| Temperature | +70±3°C |
| Duration | 96hrs |

6.3 Low Temperature Test

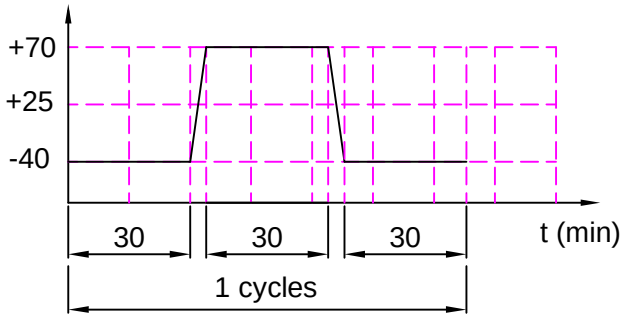
| | |
|---|---|
| Temperature | 20±3°C |
| Duration | 96hrs |

6.4 Damp Heat

| | |
|---|---|
| Temperature | 40±3°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 direction ) |

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

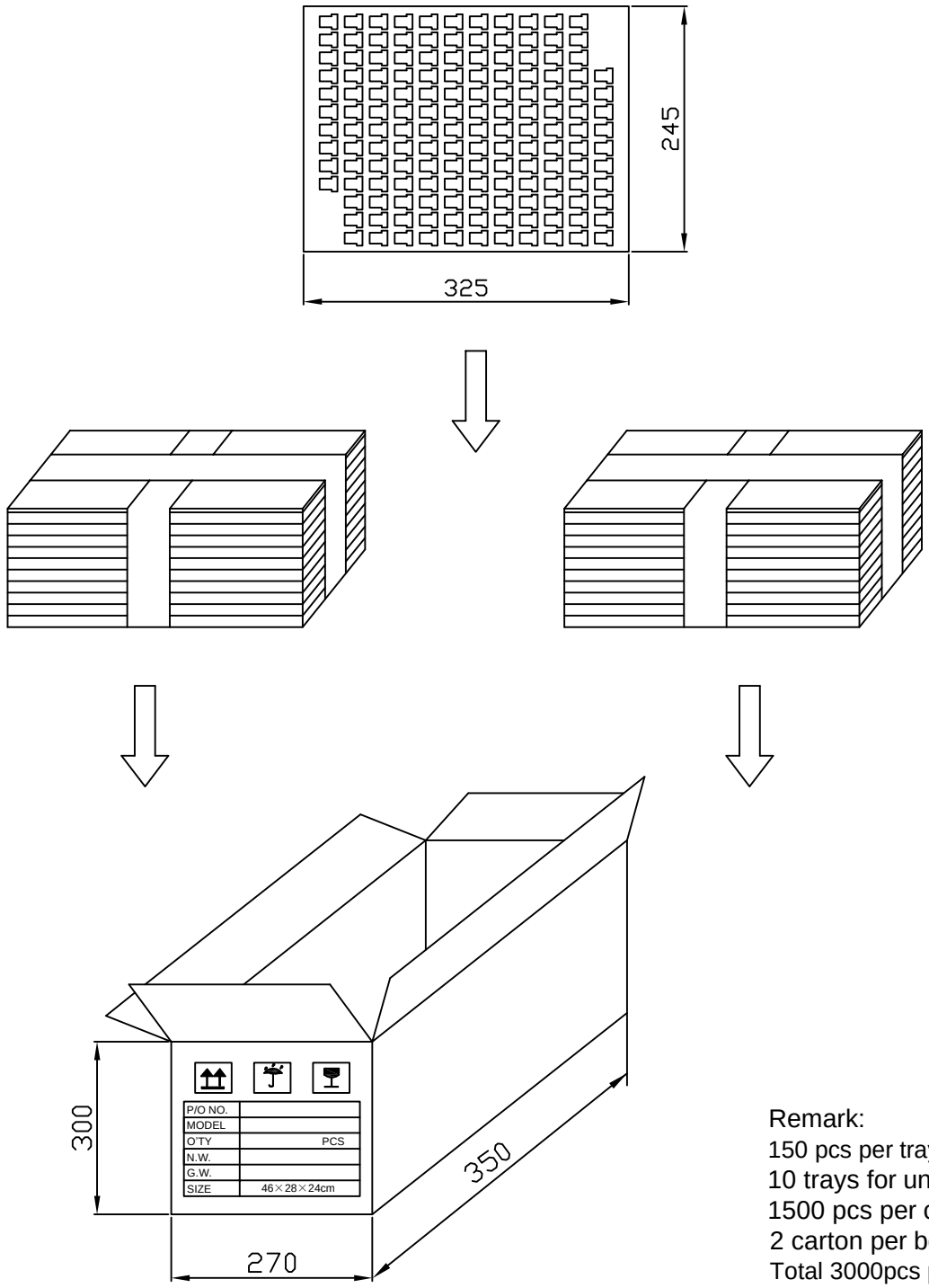
3.Sensitivity difference at 2~5KHz shall be within ±3dB from initial value after test.



| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 | |
| | | | | Drawn by: | 任江凤 | |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 | Speaker |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 | |
| BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com | | | | | DRG NO: BS/TES01.1170A | Page:10 of 12 |

# BMS1511F-11C-08H03P LF

## 7. Packing




Remark:
150 pcs per tray
10 trays for unit
1500 pcs per carton
2 carton per box
Total 3000pcs per box
Size: 35×27×30(cm)



| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 | |
| | | | | Drawn by: | 任江凤 | |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 | Speaker |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 | |
| BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com | | | | | DRG NO: BS/TES01.1170A | Page:11 of 12 |

# BMS1511F-11C-08H03P LF

## 8. History Change Record

| version No. | Change Items | | Date | Drawn | Approved |
|---|---|---|---|---|---|
| | Before | After | | | |
| A | | | 2011/09/08 | 任江凤 | 王文邦 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |



| | | | | | |
|---|---|---|---|---|---|
| | | | | Date: | 2011/09/08 |
| | | | | Drawn by: | 任江凤 |
| A | 2011/09/08 | 任江凤 | | Checked by: | 李正杰 |
| Rev. | Date | Drawn | Note | Approved by: | 王文邦 |

BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com

Speaker

DRG NO: BS/TES01.1170A