| BeStar | SPECIFICATION FOR DYNAMIC SPEAKER | | | |
|---|---|---|---|---|
| | TOTAL PAGE | 09 | www.bestargroups.com | |

# Preliminary Specification For The Acoustic Characteristics of Dynamic Speaker

| | | | |
|---|---|---|---|
| Customer | | Model Name | SMS2020-08H4.5 LF |
| Customer P/N | | Product No. | 138707 |
| Date | 06 Jul. 2018 | Issue No. | BS/TES01.990C |
| Page | 01 of 09 | Issue Date | 2018/07/06 |

## Approval：

1.Description
2.Characteristics
3.Drawing
4.Reliability Test
5.Reflow Condition
6.Tape on Reel Packing
7.History Change Record

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

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# SMS2020-08H4.5 LF

## 1.Description

1.1 Upper sound port
1.2 Reflowable(Conforms to EIAJ ED-4702)
1.3 Flat frequency response with a greater sound volume
1.4 Excellent durability in severe environment(storage temperature: -40°C to +105°C)

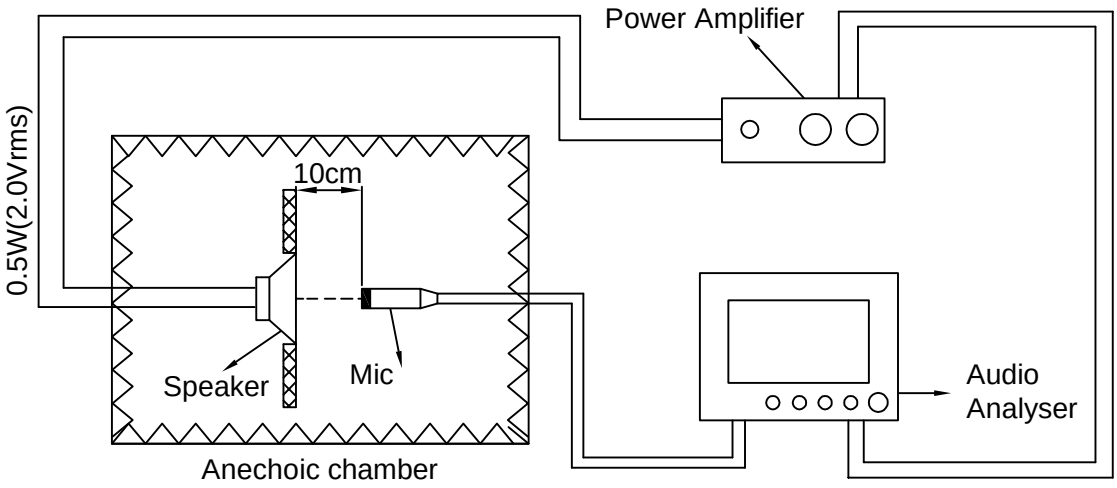


## 2.Characteristics

2.1 Electrical and Mechanical Characteristics

| No. | Item | Specification |
|---|---|---|
| 1. | Dimension | 20 x 20 x 4.5 (square) |
| 2. | AC Impedance | 8 Ω±20%( at 2KHz,0.5V) |
| 3. | Rated Input Power | 0. 5W(2.0Vrms) |
| 4. | Max Input Power | 1.0W(2.83Vrms) |
| 5. | Resonance Frequency | 850 ±100Hz |
| 6. | S.P.L | 93±3dB/0.5W/0.1m at 0.8~3.0KHz average |
| 7. | THD | 800Hz≤10%,800-1.5KHz slope from 10%, |
| | | 1.5K-8KHz≤10% |
| 8. | Buzzes & Rattles | Must be normal at sine wave 2. 0Vrms |
| 9. | Polarity | Positive voltage to (+),Diaphragm moves forward |
| 10. | Operating Temperature | -40~+ 85°C |
| 11. | Storage Temperature | -40~+ 105°C |
| 12. | Weight | ~3 .0g |

2.2 Test Method




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| A | 2012/02/01 | 王文邦 | | Checked by: | 张翔捷 | Speaker |
| | | | | Approved by: | 王 平 | |

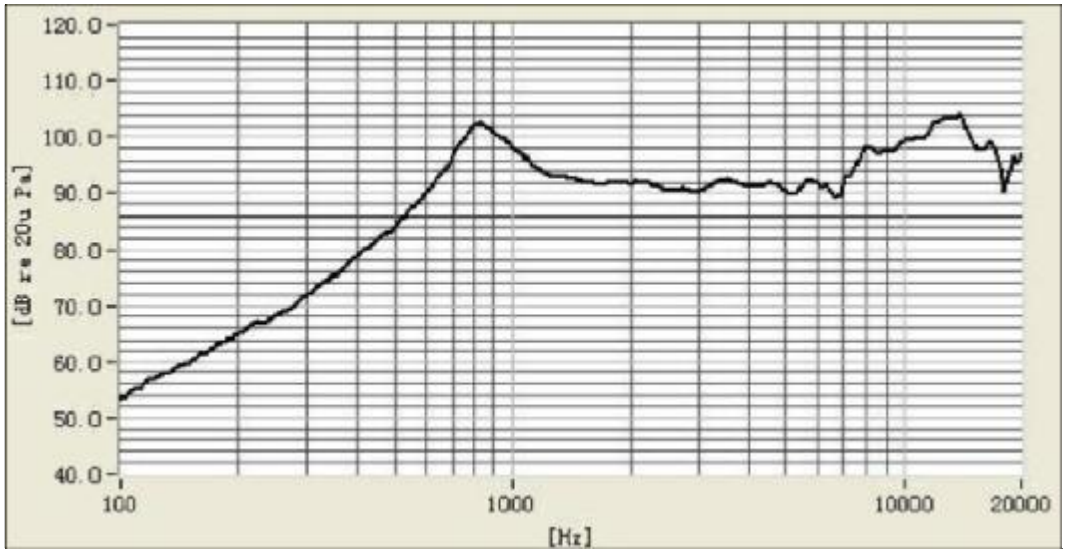
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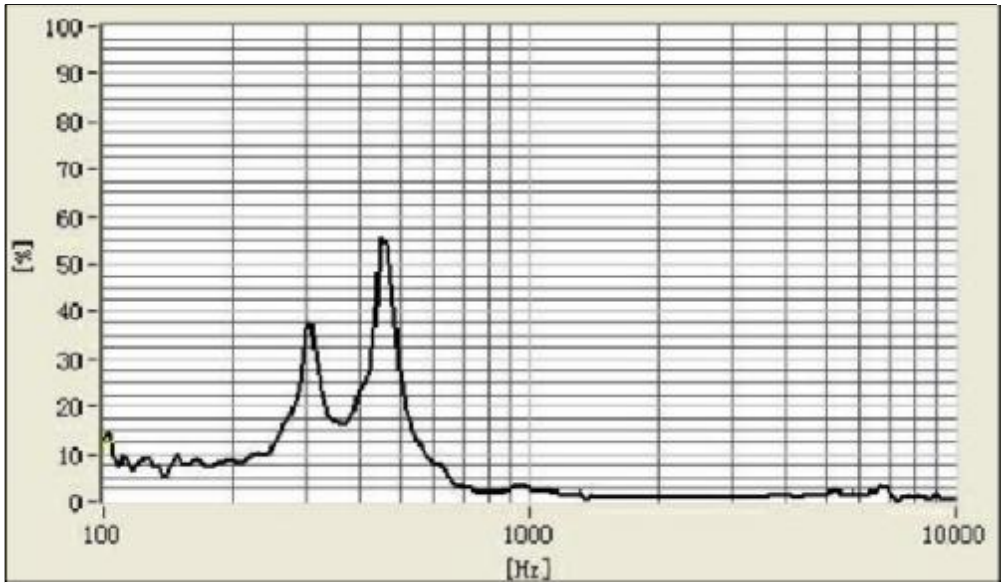
## 2.3 Frequency Response Curve (only for reference)

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




Frequency (Hz)

## 2.4 Total Harmonic Distortion  (only for reference)




Frequency (Hz)

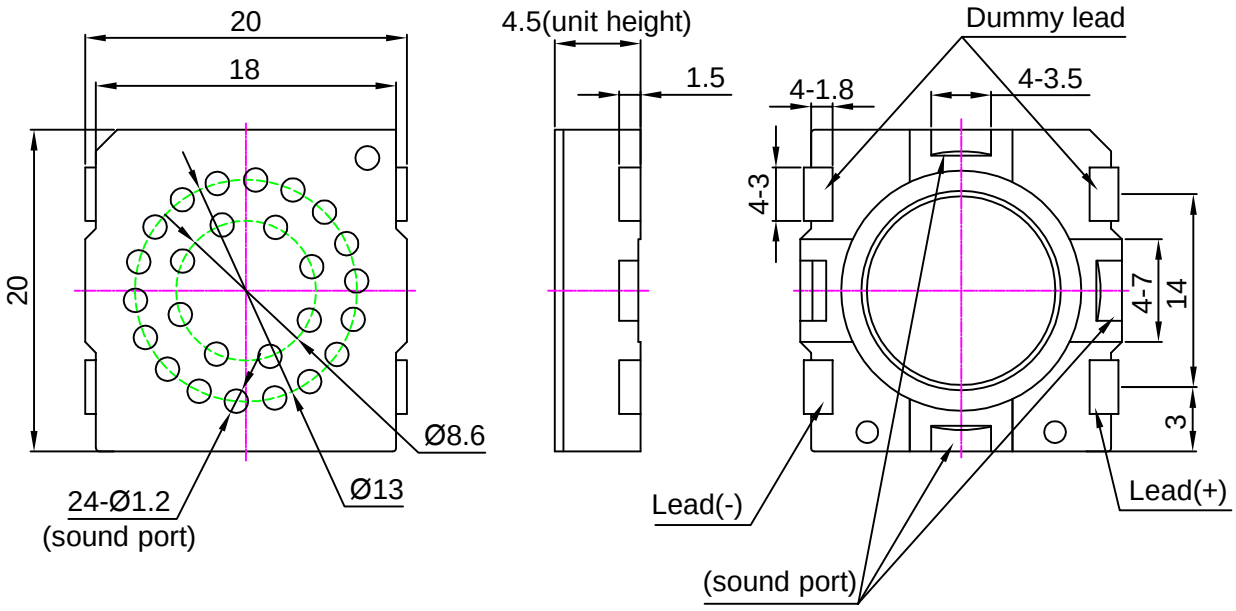
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| | | | | Approved by: | 王　平 | |
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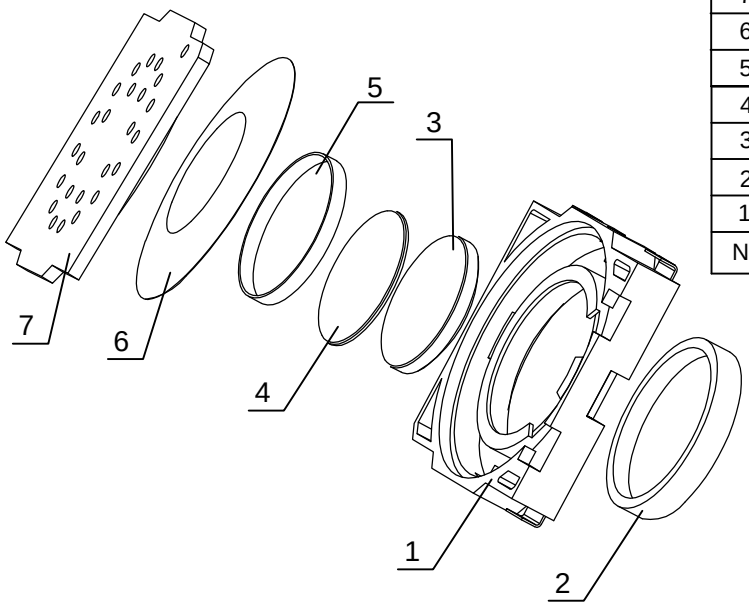
# SMS2020-08H4.5 LF

## 3. Drawing

Unit:mm
Tolerance:±0.2




## ☆ 3D drawing




| No | Part Name | Material | Num |
|---|---|---|---|
| 7 | Grill | LCP | 1 |
| 6 | Diaphragm | PI | 1 |
| 5 | Voice Coil | Copper | 1 |
| 4 | Plate | Spcc | 1 |
| 3 | Magnet | SmCo | 1 |
| 2 | Yoke | Spcc | 1 |
| 1 | Frame | LCP | 1 |

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## 4. Reliability Test

| | |
|---|---|
| 4.1 Load Test | |
| Power (Nom) | 0 .5W(sine wave) |
| Duration | 120hrs |
| 4.2 High Temperature Test | |
| Temperature | +105±3°C |
| Duration | 120hrs |
| 4.3 Low Temperature Test | |
| Temperature | -40±3°C |
| Duration | 120hrs |
| 4.4 Temperature Cycle Test | |
| Temperature | -40°C/+85°C |
| Temperature Change | 1±2/min |
| Duration at +85°C | 2h(each cycle) |
| Duration at -40°C | 2h(each cycle) |
| Duration for one cycle | 8h |
| Cycle | 10 |
| 4.5 Drop Test | |
| Height | 1.0m |
| Drop face | Free drop on concrete floor |
| Times | 3 (X,Y,Z direction 1 time each, total 3 times) |

Notice:

1.All these tests above should be measured after leaving normal temperature for 2hrs.

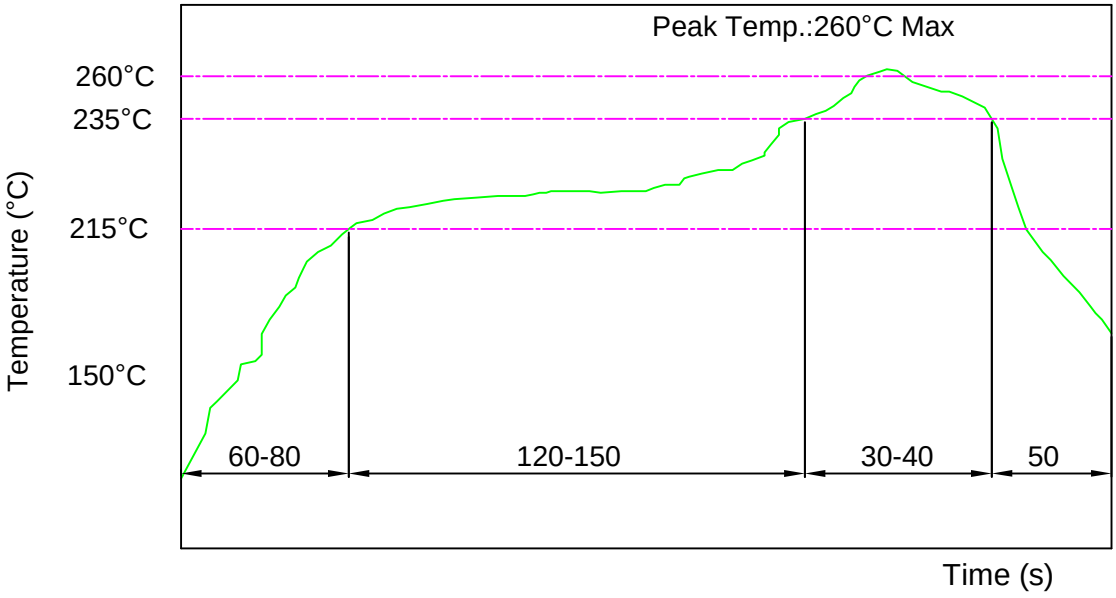
2.After the test the part shall meet specifications without any degradation in appearance and performance except SPL.SPL difference at 0.8- 3.0kHz shall be within ± 3dB from initial value after test.

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| | | | | Approved by: | 王 平 |

## 5.Reflow Condition

### 5.1 reflow solding




## 6.MSL rating and Notice

**Moisture Sensitivity Level and Floor Life**

| Level | Floor Life(out of bag) at Factory Ambient ≤30°C/85% RH or as Stated |
|---|---|
| 3 | 168 hours |

6.1 The products mustn't be washed

6.2 Storage Condition

(1) The products should be stored in the room ,where the temperature/humidity is stable. And avoid such places where there are large temperature changes.

(2) Please store the products at the following conditions:
Temperature: -10 to + 40°C Humidity: 15 to 85% R.H.

6.3 Expire Date on Storage

Expire date (Shelf life) of the products is six months after deliveried under the conditions of a sealed and an unopened package. Please use the products within six months after deliveried.

If you store the products for a long time (more than six months), use carefully because the products may be degraded in the solderability and/or rusty.Please confirm solderability and characteristics for the products regularly.

6.4 Notice on Product Storage

(1) Please do not store the products in a chemical atmosphere (Acids, Alkali, Bases, Organicgas, Sulfides and so on), because the characteristics may be reduced at quality, and/or be degraded in the solderability due to Ihe storage in a chemical atmosphere.

(2) Please use the products immediately after the package is opened, because the characteristics may be reduced at quality, and/or be degraded in the solderability due to storage under the poor condition.

(3) Please do not drop the products to avoid cracking of ceramic element.

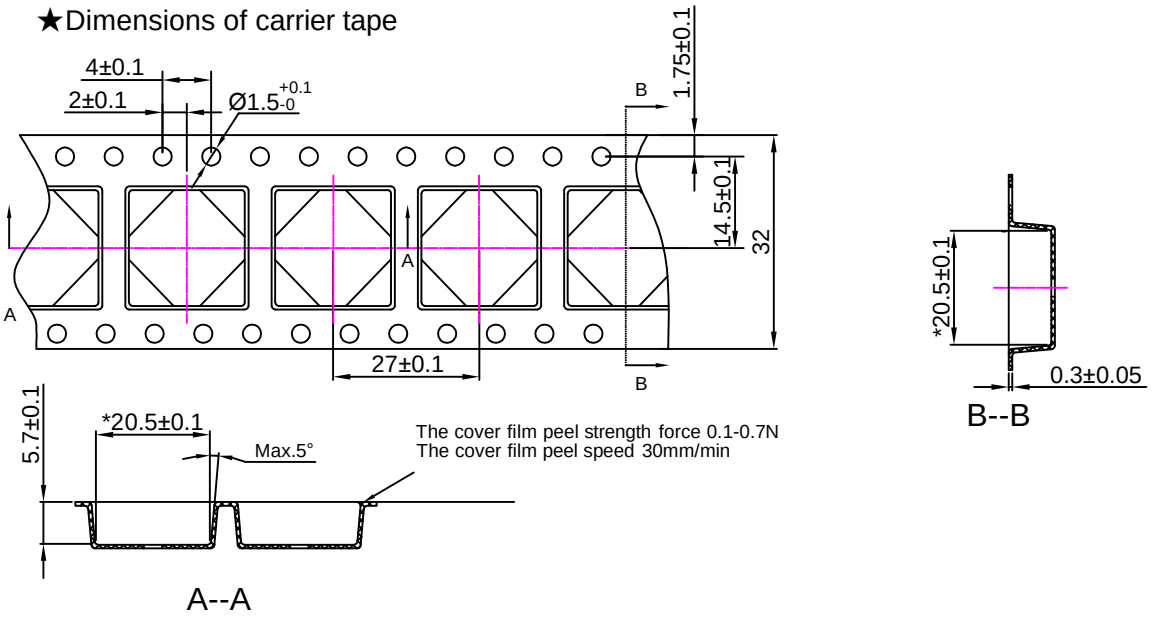
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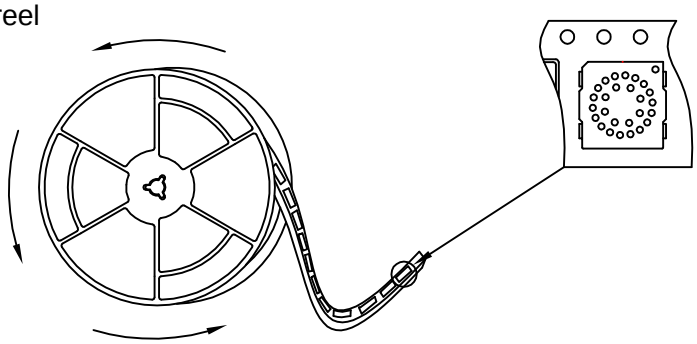
## 6. Tape on Reel Packing

### 6.1 packing drawing

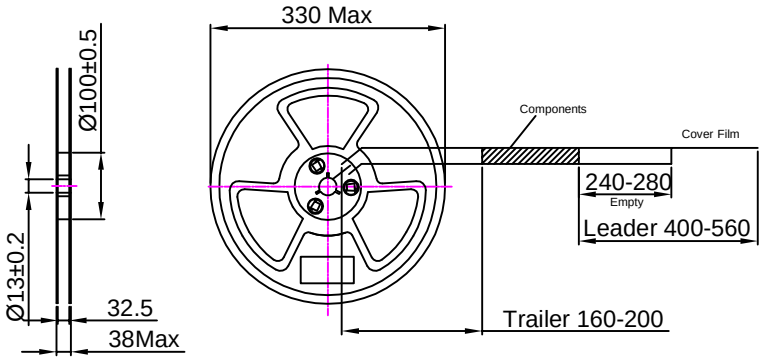
★Dimensions of carrier tape




★Direction of reel



★Dimensions of reel



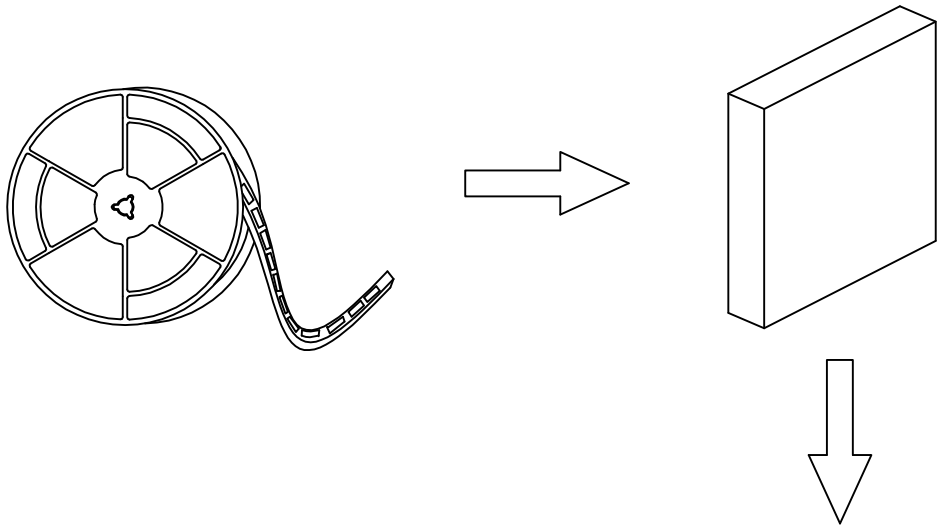

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| | | | | Approved by: | 王 平 | |

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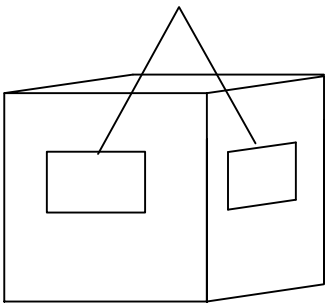
6.2 packing quantity



label about order info

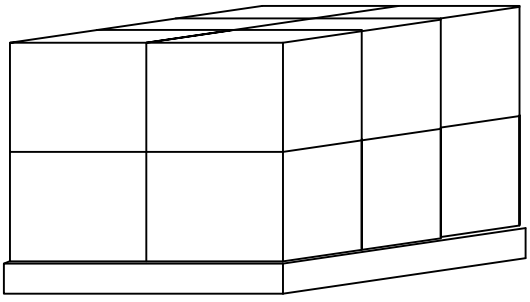
label

| BeStar | |
|---|---|
| Type: | |
| P/O: | |
| Qty: | |
| Date code: | |



6.3 packing quantity

6.3.1 300 pcs/reel
6.3.2 5 reel/carton
6.3.3 1500 pcs/carton in total
6.3.4 carton size 38x28x37cm
6.3.5 12 carton/tray
6.3.6 tray size 85x77x74cm



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## 7. History Change Record

| version No. | Change Items | | Date | Drawn | Approved |
|---|---|---|---|---|---|
| | Before | After | | | |
| A | | | 2012/02/01 | 王文邦 | 郭 敏 |
| B | 850Hz ±20%;8Ω±20% (at 2KHz) | 850±100Hz ;8Ω±20% (at 2KHz,0.5V) | 2012/11/20 | 袁凯旋 | 王 平 |
| C | Change thedirection of reel | | 2018/07/06 | 周嘉明 | 王 平 |
| | | | | | |
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