



# SPECIFICATION FOR DYNAMIC SPEAKER

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## 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)

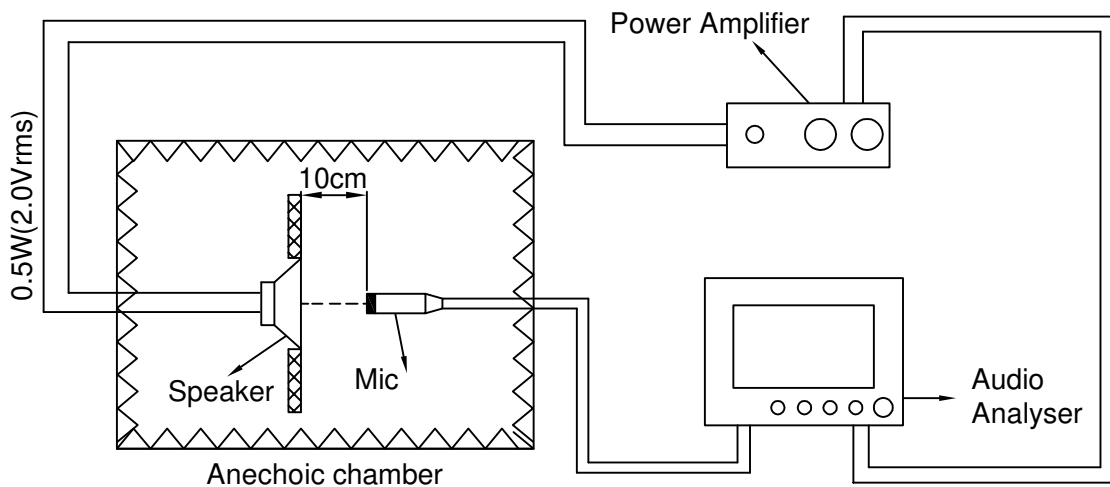


## 2. Characteristics

### 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



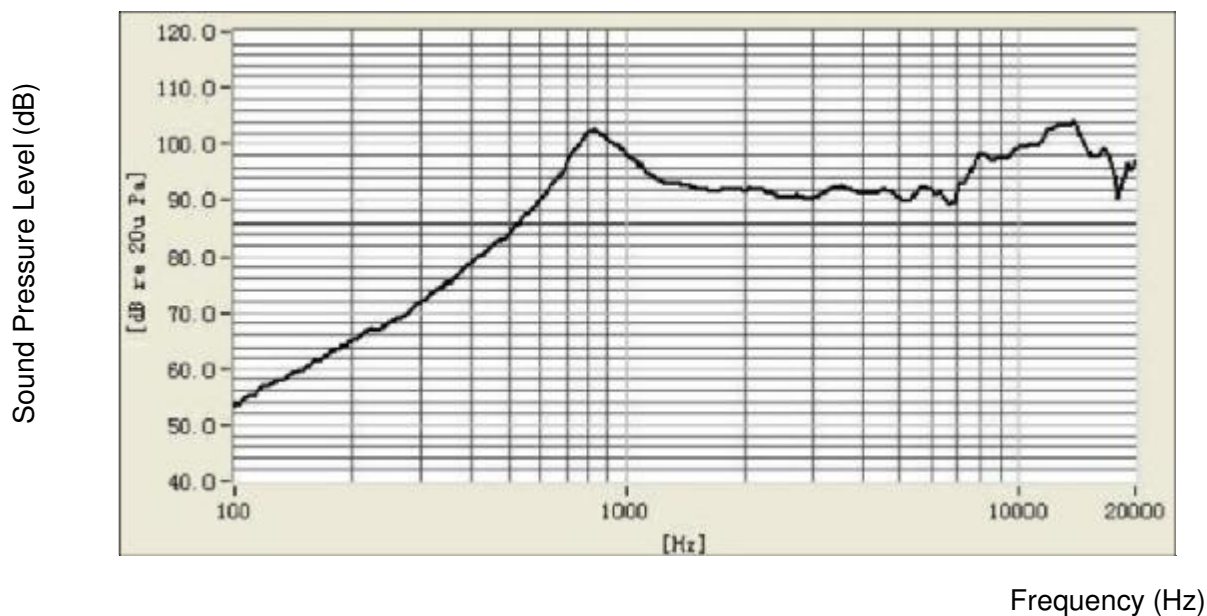
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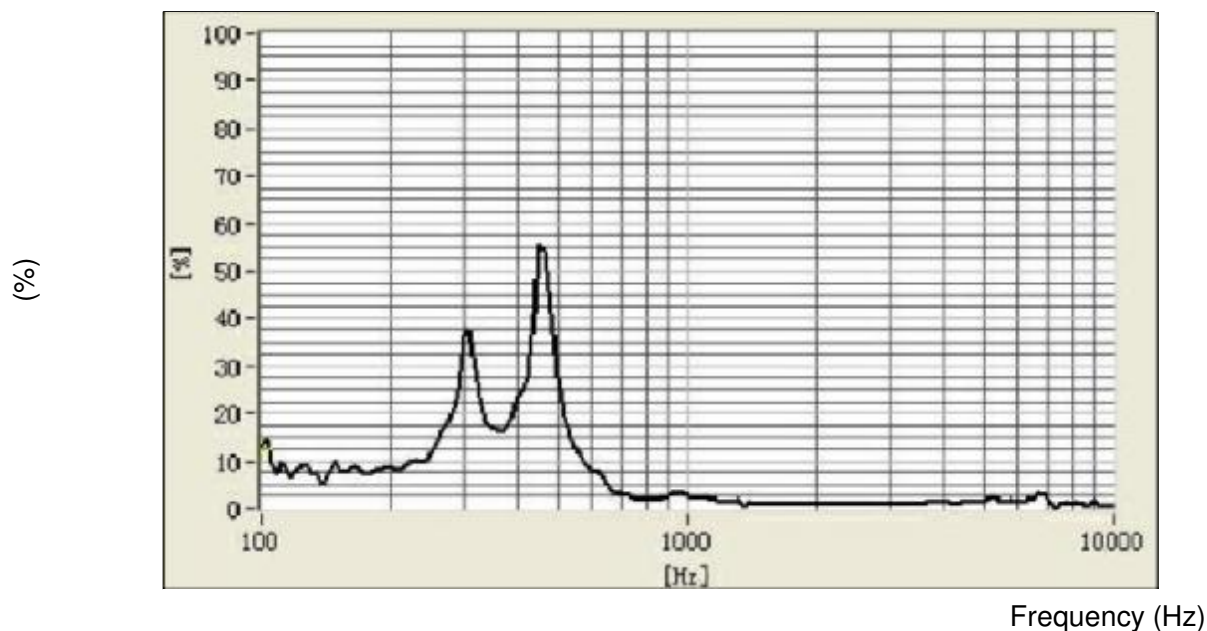
# SMS2020-08H4.5 LF

## 2.3 Frequency Response Curve (only for reference)

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



## 2.4 Total Harmonic Distortion (only for reference)



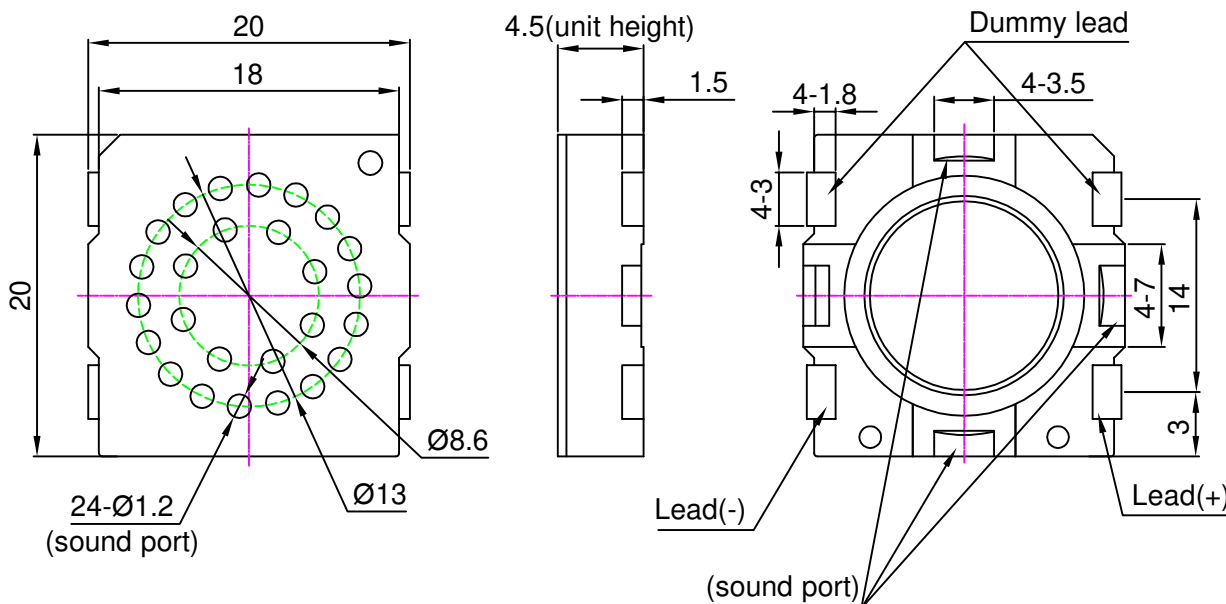
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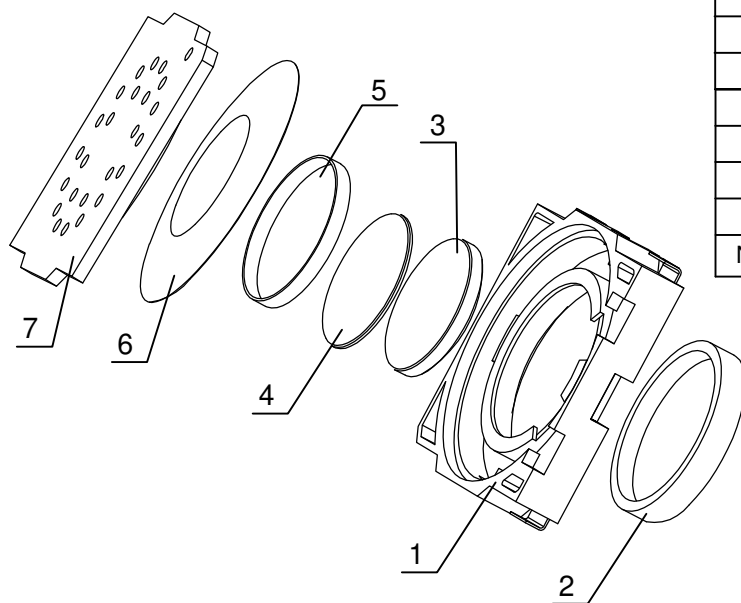
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## 3. Drawing

Unit:mm  
Tolerance:±0.2



## ☆ 3D drawing



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
No	Part Name	Material	Num

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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.

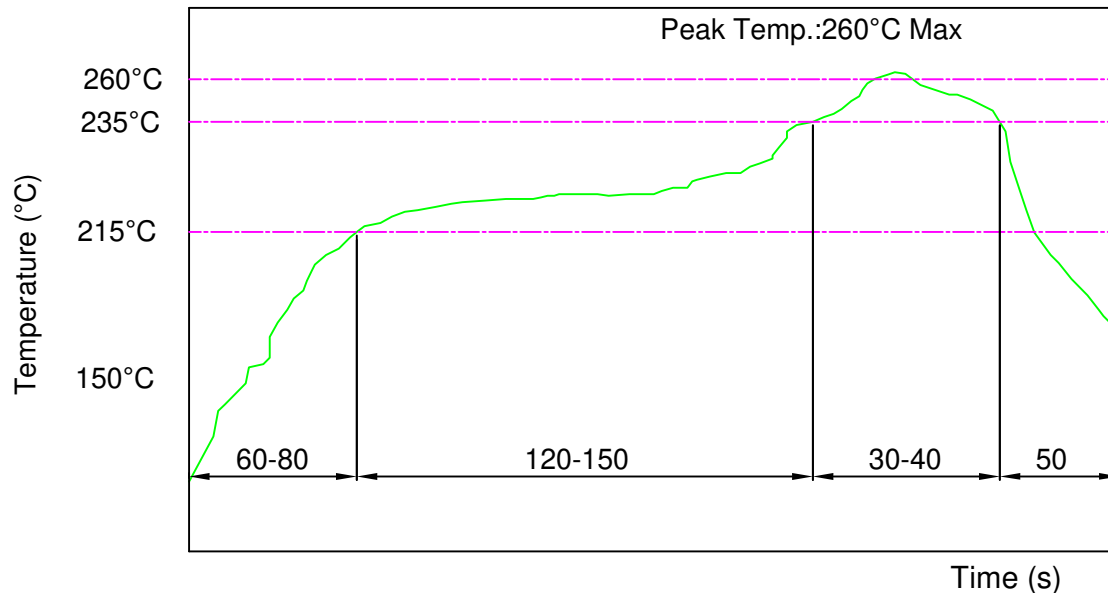
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## 5.Reflow Condition

### 5.1 reflow soldering



## 6.MSL rating and Notice

### Moisture Sensitivity Level and Floor Life

Level	Floor Life(out of bag) at Factory Ambient $\leq 30^{\circ}\text{C}/85\% \text{ RH}$ 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 delivered under the conditions of a sealed and an unopened package. Please use the products within six months after delivered. 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 lthe 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.

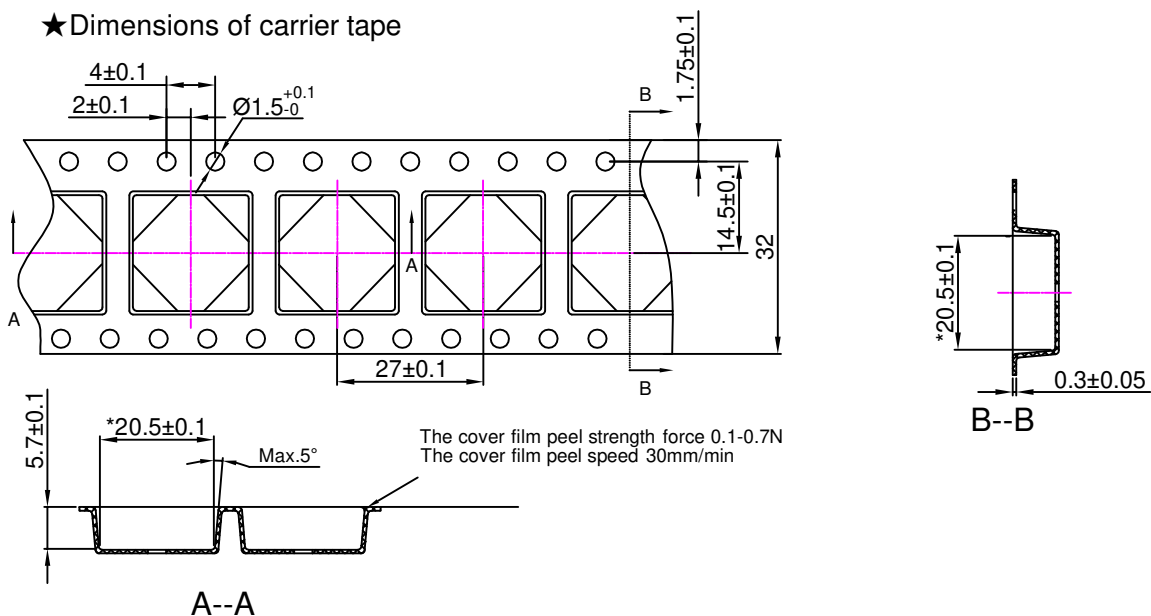
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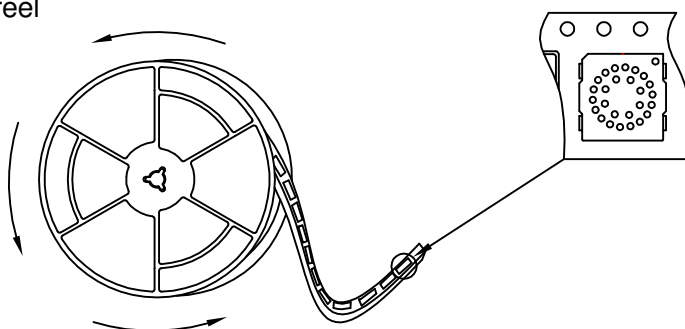
## 6. Tape on Reel Packing

### 6.1 packing drawing

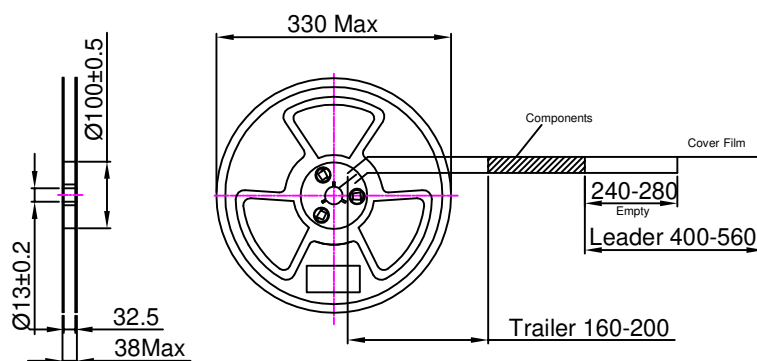
★Dimensions of carrier tape



★Direction of reel



★Dimensions of reel

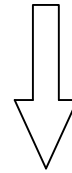
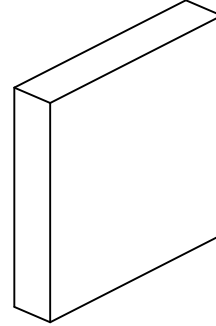
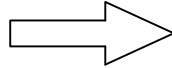
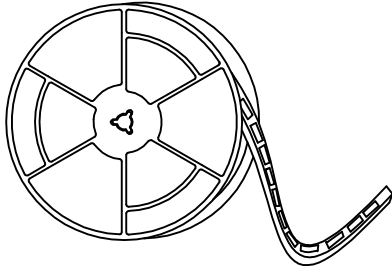


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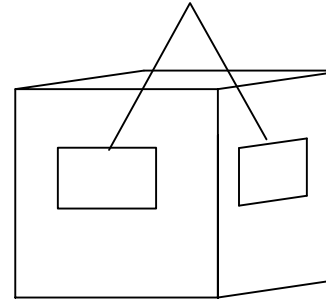
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# SMS2020-08H4.5 LF

6.2 packing quantity



label about order info

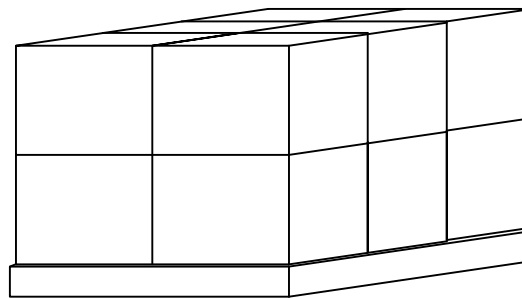


label

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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