BeStar	SPECIFICATION FOR DYNAMIC SPEAKER			
	TOTAL PAGE	09	www.be-star.com	RoHS

Preliminary Specification For The Acoustic Characteristics of Dynamic Speaker

Customer		Model Name	SMS2020-08H4.5 LF
Customer P/N		Product No.	138707
Date	20Nov. 2012	Issue No.	BS/TES01.990B
Page	01 of 09	Issue Date	2012/11/20

Approval：

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

Drawn by	Checked by	Approved by	Customer approved

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SMS2020-08H4.5 LF

1.Description

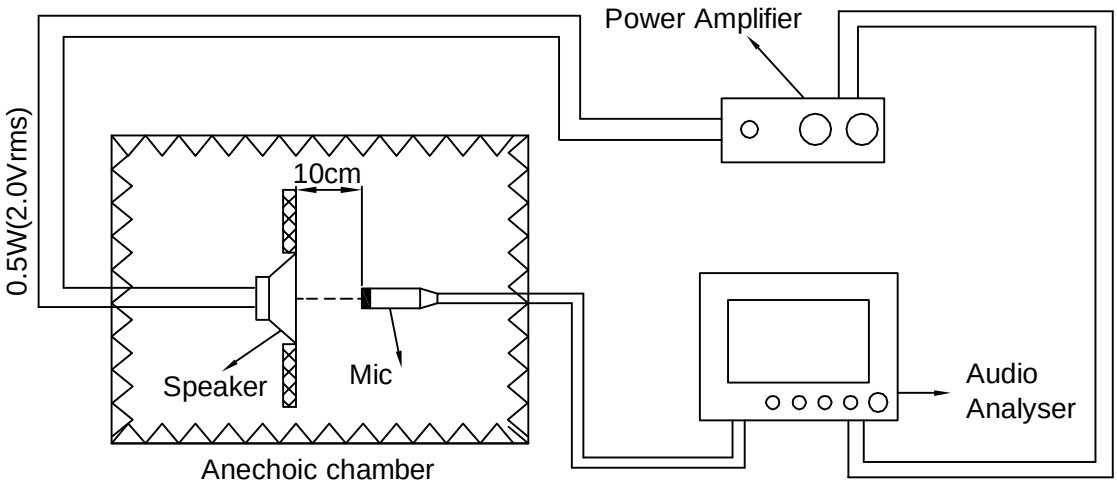
1.1 Upper sound port
1.2 Reflowable(Conforms to EIAJ ED-4702)
1.3 Flat frequency response with a greater sound volume
1.4 Excellent durability in severe environment(storage temperature: -40°C to +105°C)

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



Rev.	Date	Drawn	Note		
				Date:	2012/11/20
B	2012/11/20	袁凯旋		Drawn by:	袁凯旋
A	2012/02/01	王文邦		Checked by:	汪凤声
				Approved by:	王 平

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Speaker

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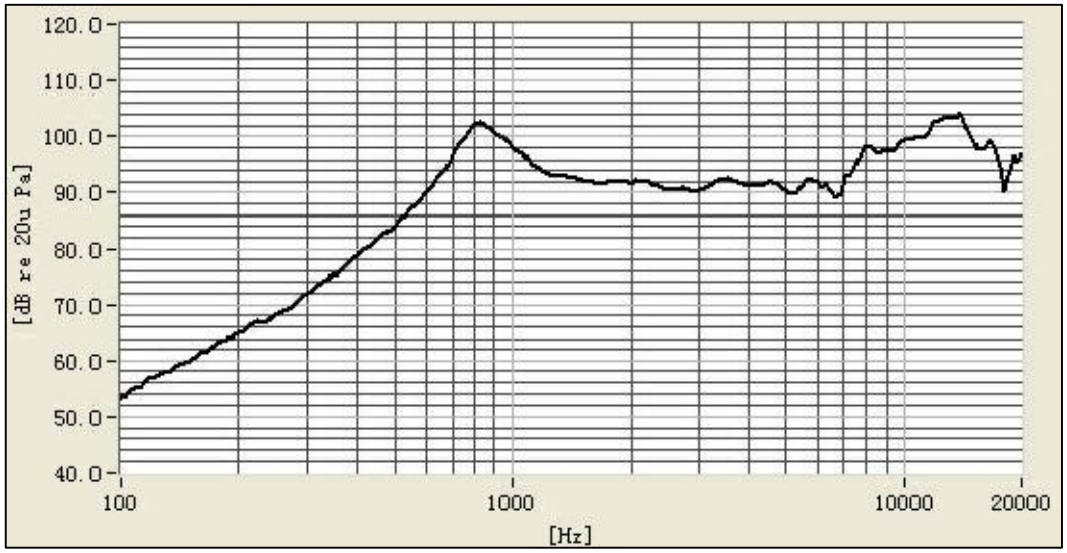
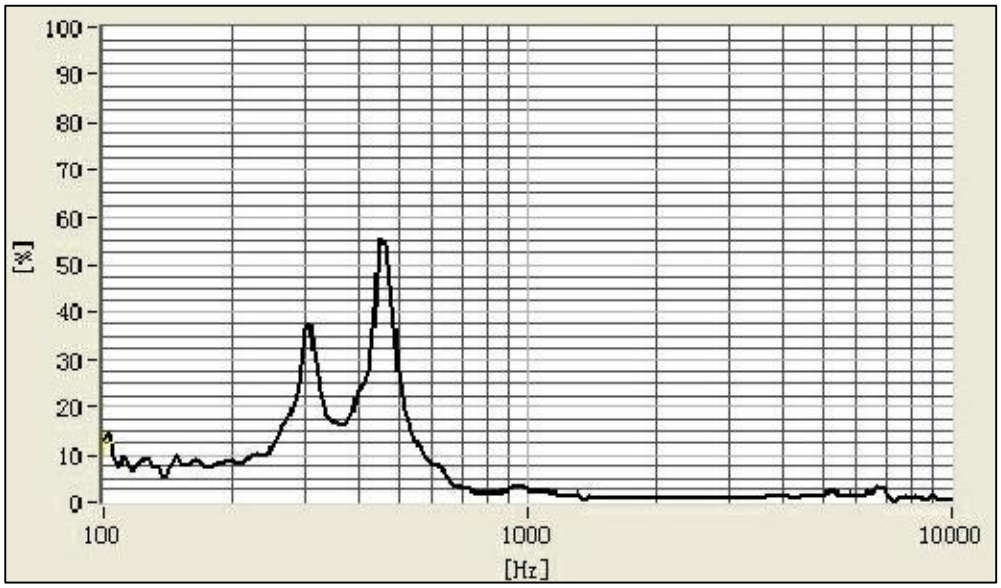
2.3 Frequency Response Curve (only for reference)

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



Frequency (Hz)

2.4 Total Harmonic Distortion (only for reference)



Frequency (Hz)

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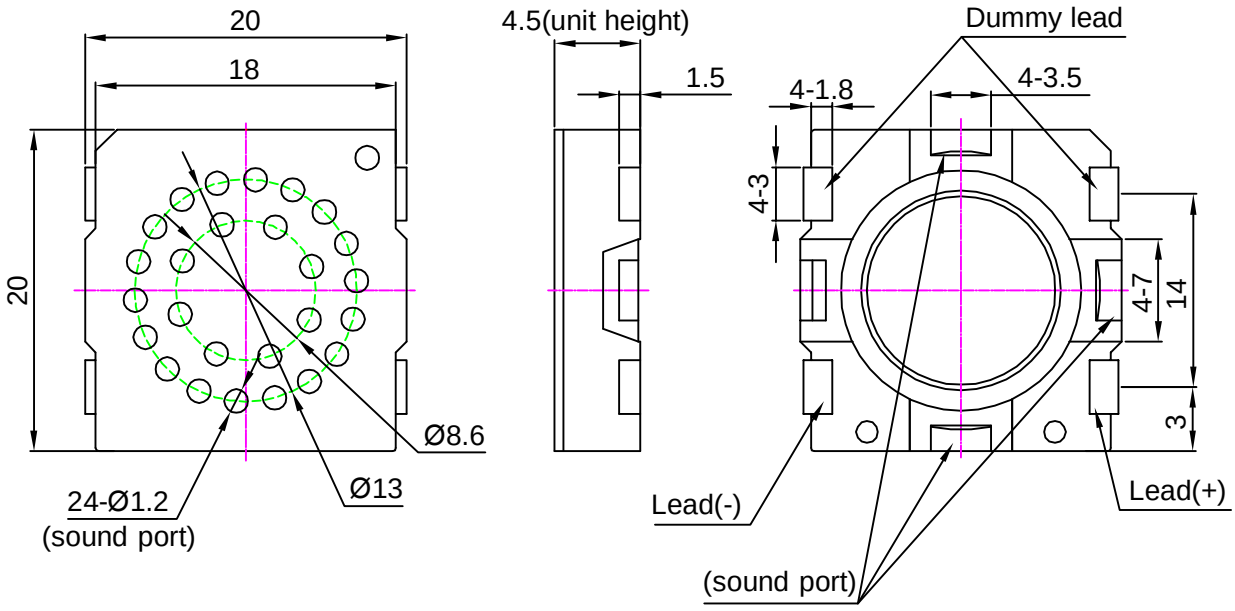
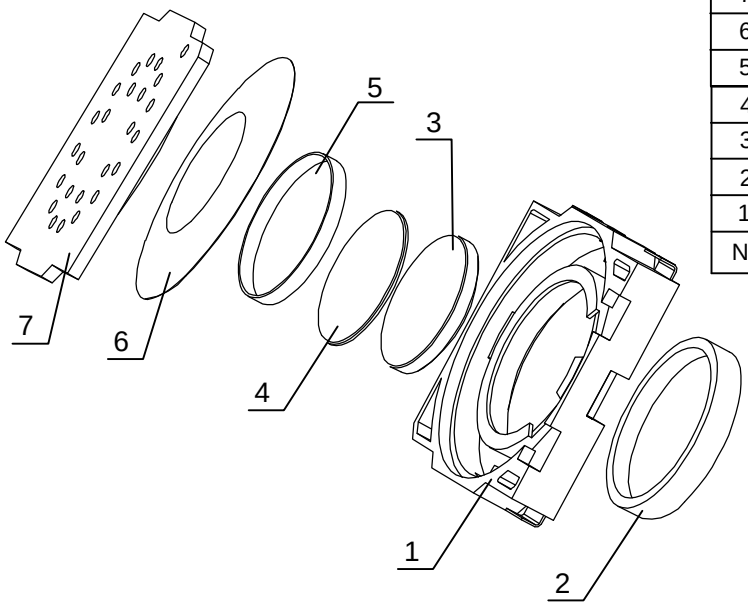
3. Drawing

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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DRG NO: BS/TES01.990B

Page:04 of 09

文件号：BS/QDTE045B

SMS2020-08H4.5 LF

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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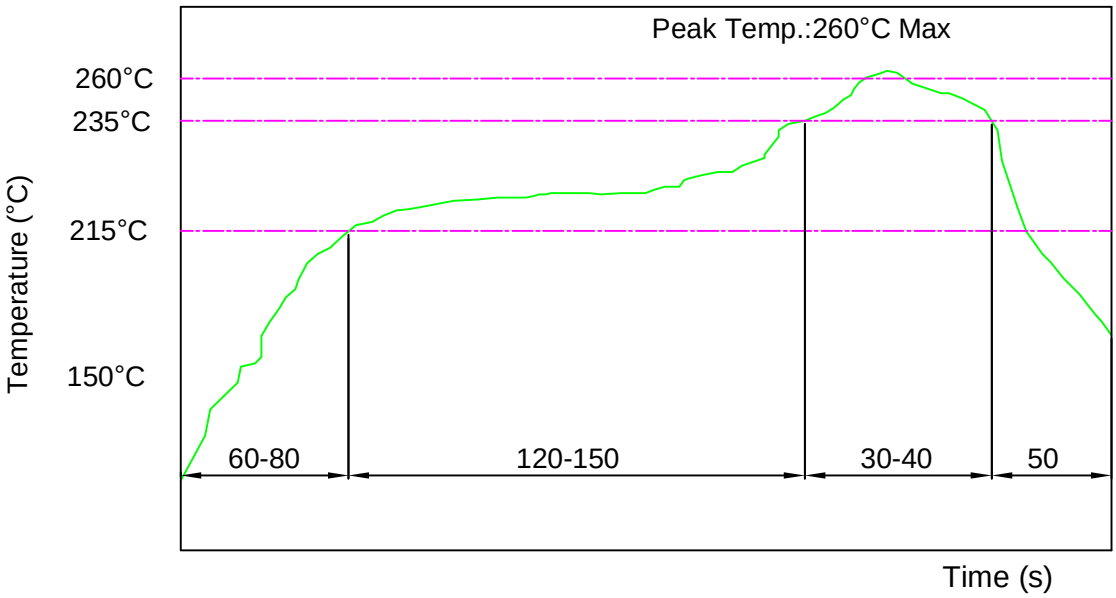
5.Reflow Condition

Preheating: 215°C for 60-150 seconds
Soldering Temperature: 235°C for 20-40 seconds
Peak Soldering Temperature: 260°C max for 10 seconds

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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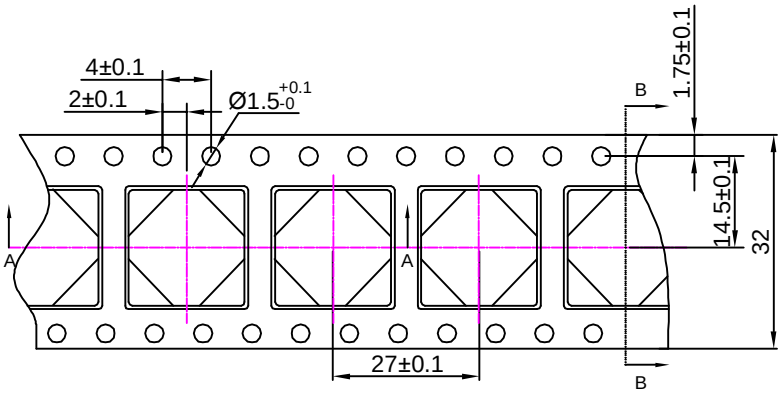
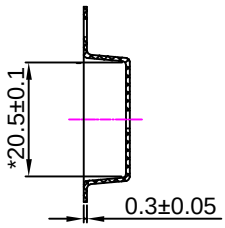
7. Tape on Reel Packing

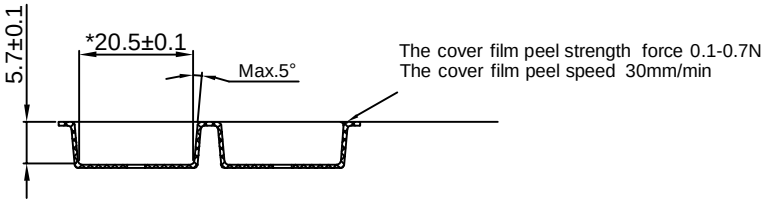
7.1 packing drawing

★Dimensions of carrier tape



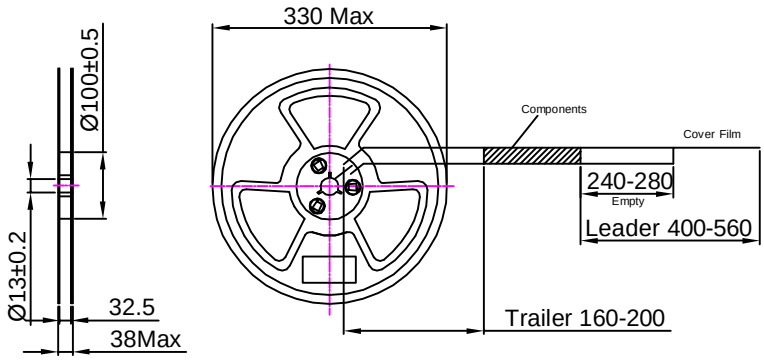


B--B



A--A

★Dimensions of reel



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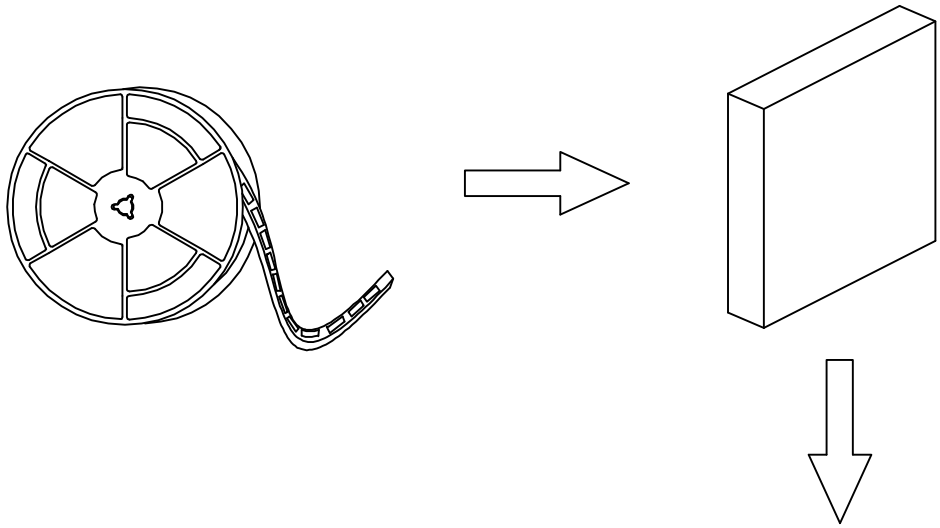
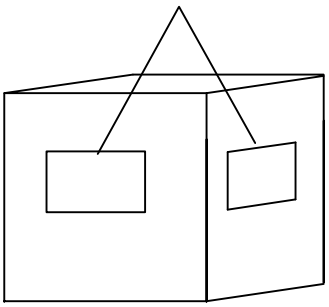
7.2 packing quantity



label about order info

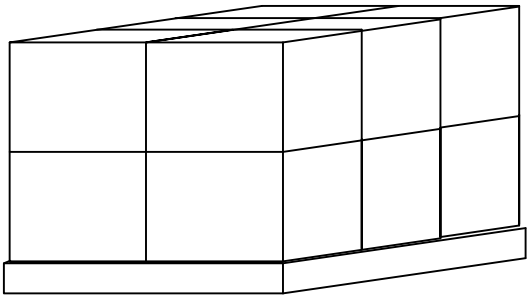
label

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



7.3 packing quantity

7.3.1 300 pcs/reel
7.3.2 5 reel/carton
7.3.3 1500 pcs/carton in total
7.3.4 carton size 38x28x37cm
7.3.5 12 carton/tray
7.3.6 tray size 85x77x74cm



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8. 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);Drawing	2012/11/20	袁凯旋	王 平