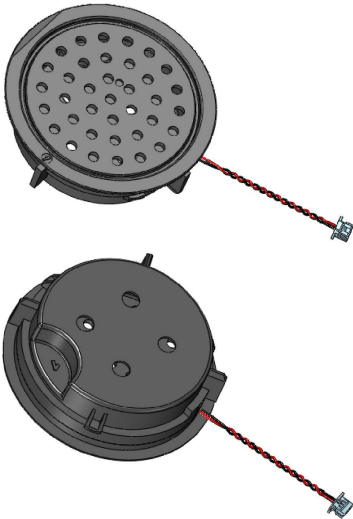


AUTOMOTIVE SPEAKER

Product No. 121441

BLS50-12-08H16.7W067M

Issue no. BS/TES01.2128



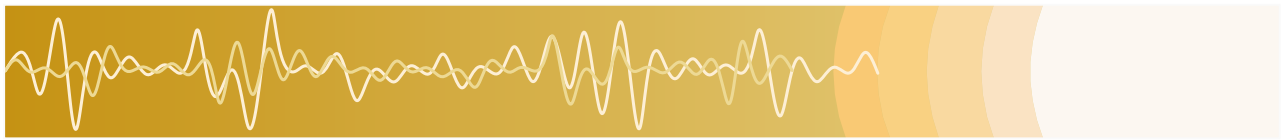
Features:

- Loud sound output
- RoHS

Drawn by	Checked by	Approved by	Customer approved
Raya.chen	Emma.Ren	Jason.Zhang	

BESTAR Holdings Co., Ltd.

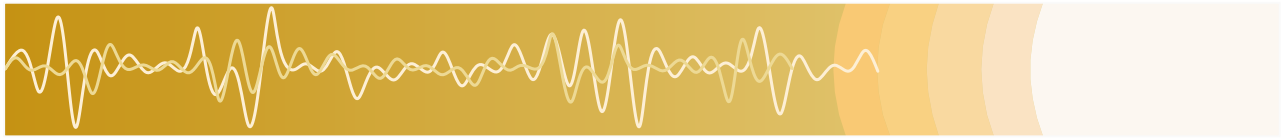
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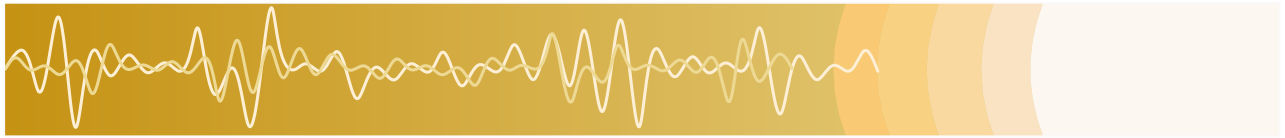


1.Characteristics

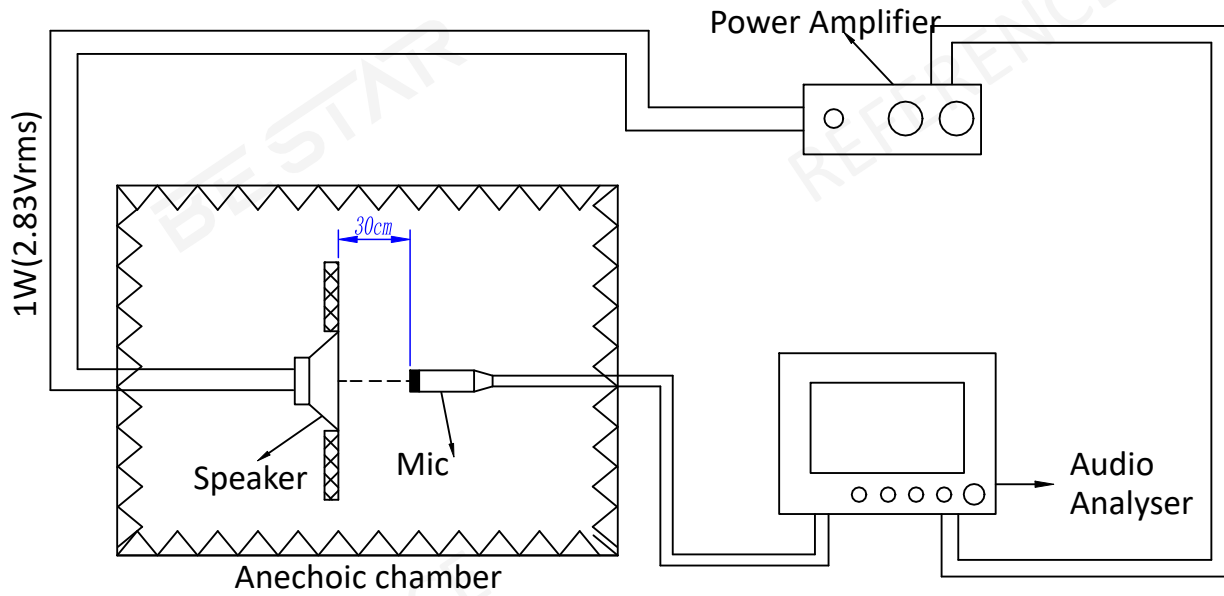
1.1Technical terms

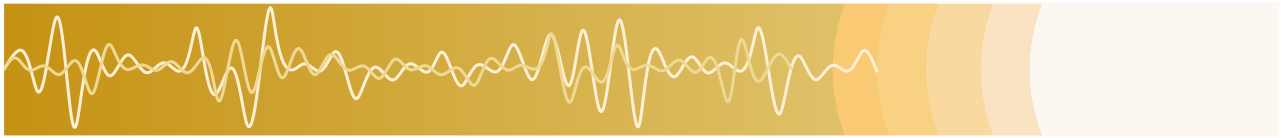
1.Dimension	Ø60X16.7(mm)
2.AC Impedance	8Ω±10%(at 1KHz)
3.DC Resistance	8Ω±10%(at 20℃)
4.Rated input power	2w(4Vrms)
5.Maximum input power	3w at 4.9Vrms for 1minute
6.Resonance frequency	300Hz ±15%
7.Frequency Response	F0~10kHz
8.SPL	89±3dB @ 1W / 1KHz / 0.3m
9.THD	≤10% (at 1KHz / 1W / 0.3m)
10.Buzz & Rattle(at sine wave 4V)	Must be normal between 300~3.5KHz
11.Operating temperature	-40~+ 85℃
12.Storage temperature	-40~+ 85℃
13.Weight	~33.0g





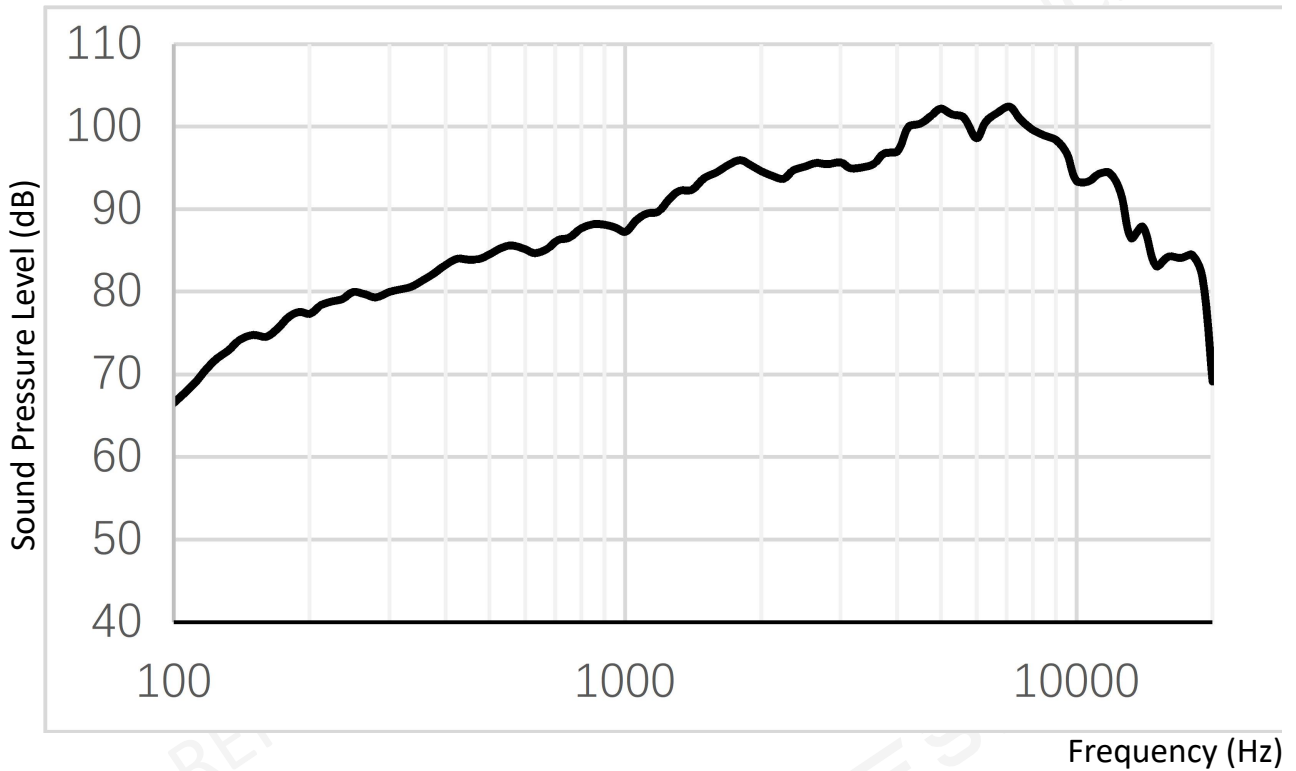
1.2 Test method:





1.3 Frequency Response Curve (only for reference)

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

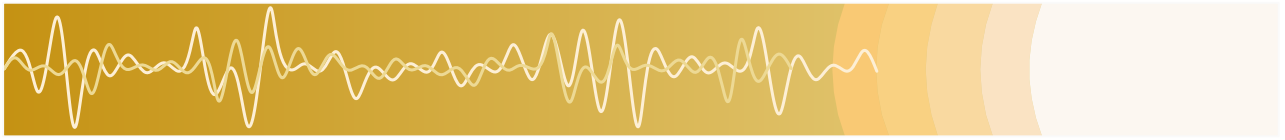


1.3.1 Sensitivity

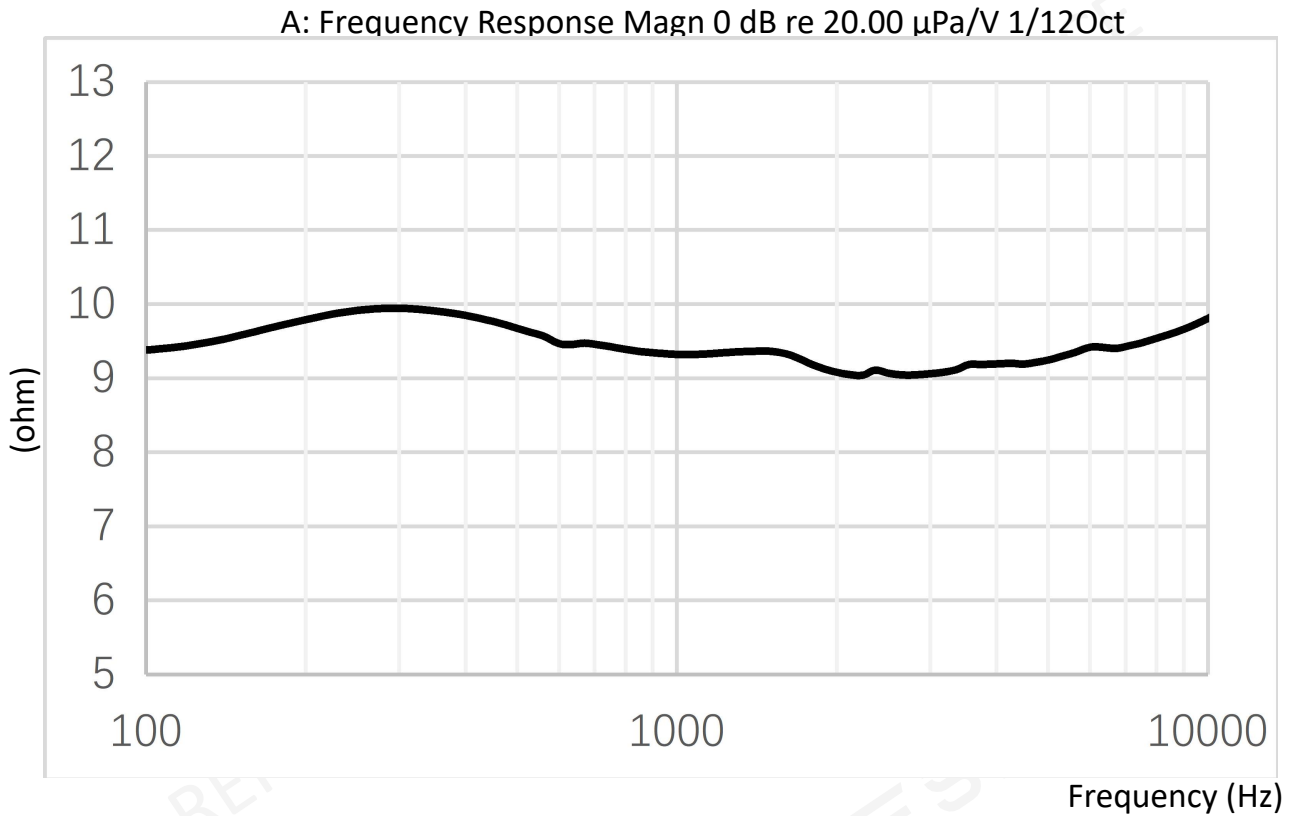
SPL is expressed in dB rel 20 μ Pa, computed according to IEC 268-5.

Measurement set up according chapter 1.2 and parameters according chapter 1.3.





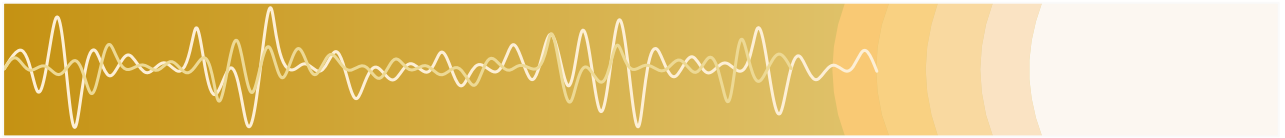
1.4 F0 Curve (only for reference)



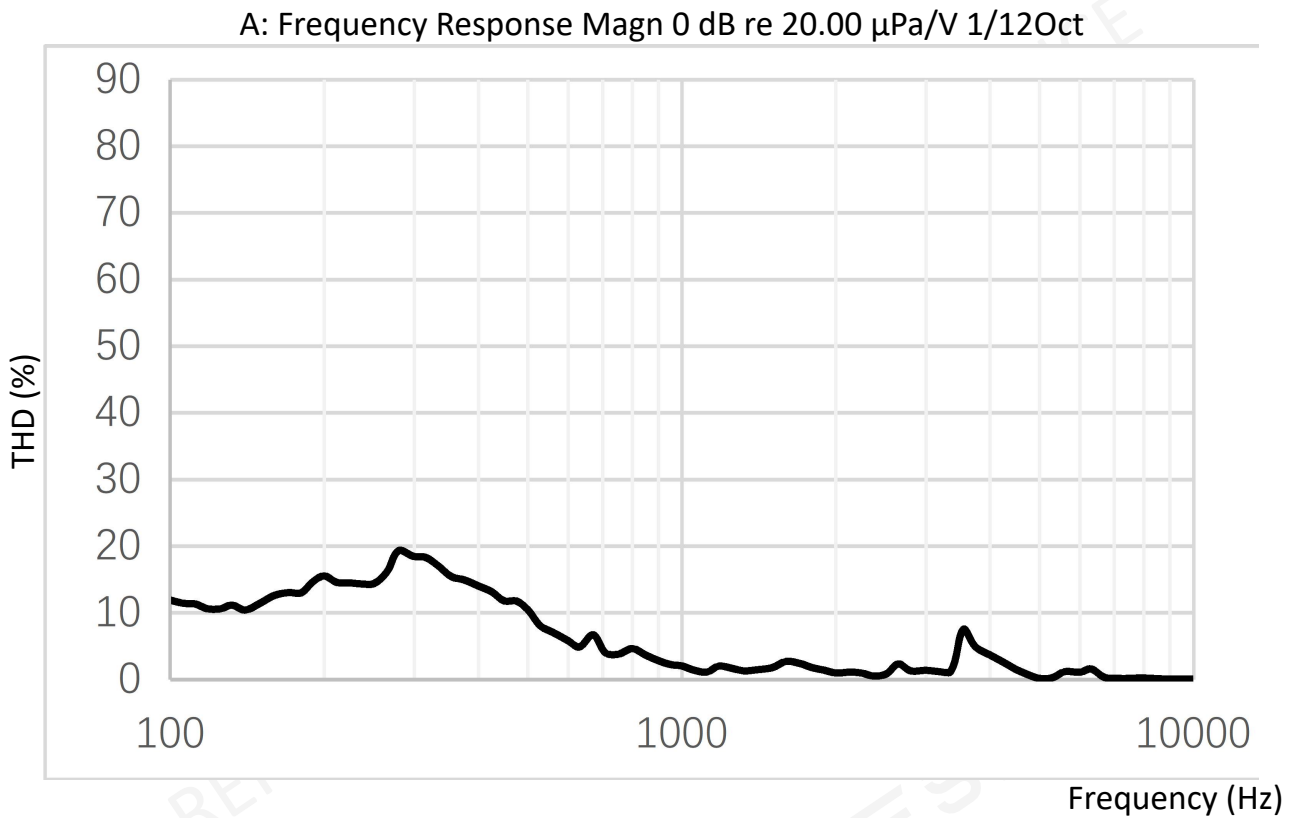
1.4.1 Resonance Frequency

Resonance frequency is measured according test set up in chapter 1.2 and parameters according chapter 1.4





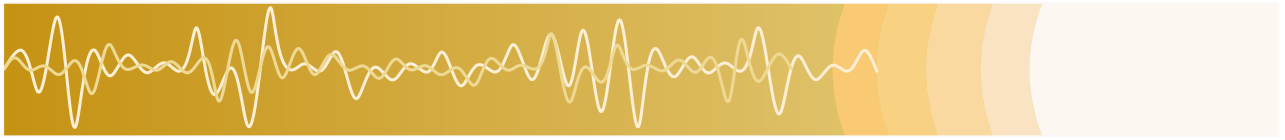
1.5 Total Harmonic Distortion (only for reference)



1.5.1 THD

THD is measured according test set up in chapter 1.2 and parameters according chapter 1.5





1.6 R&B Curve (only for reference)

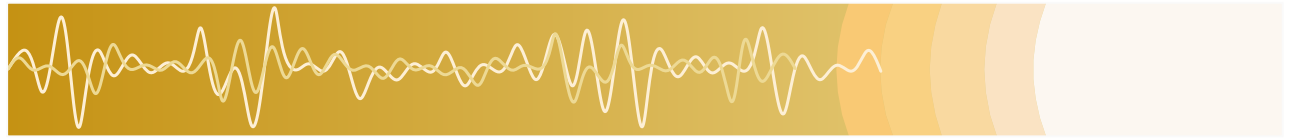
A: Frequency Response Magn 0 dB re 20.00 $\mu\text{Pa/V}$ 1/12Oct



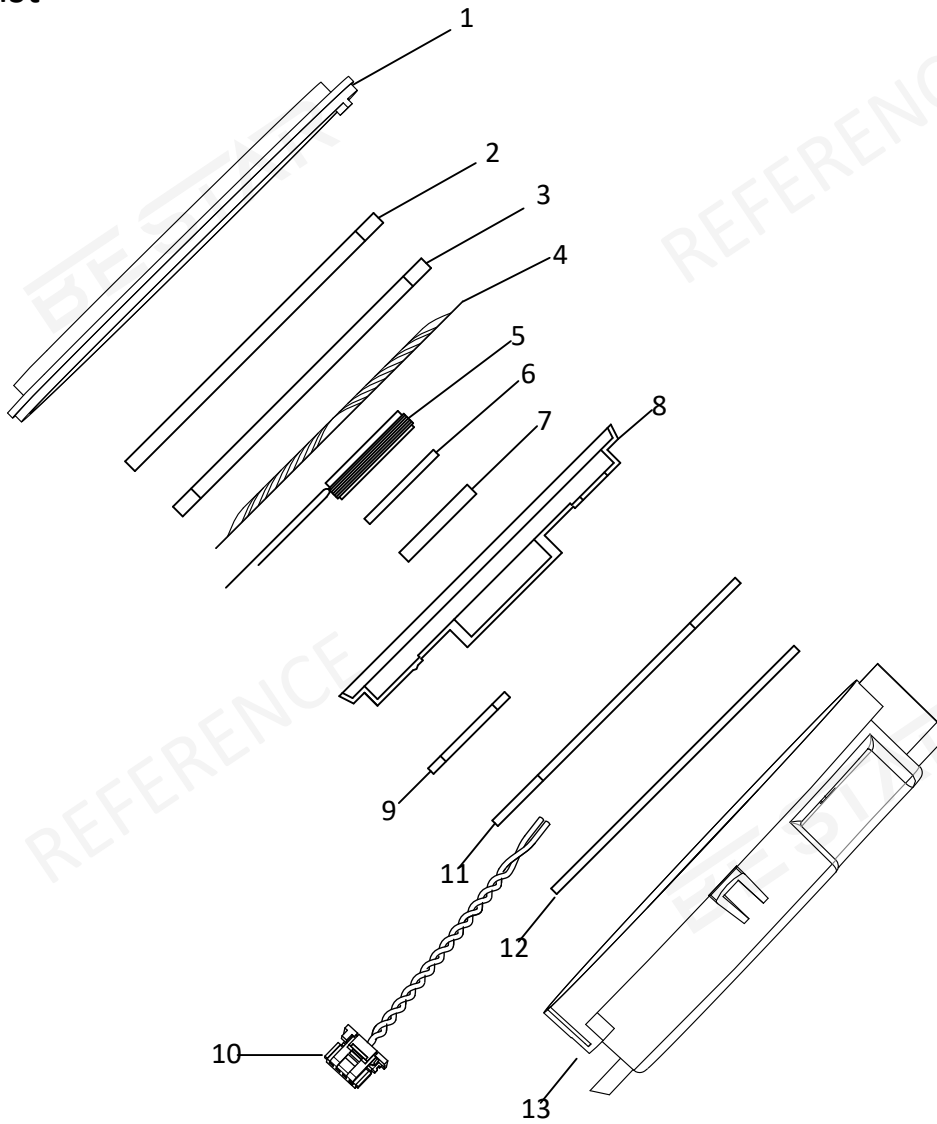
1.6.1 R&B

R&B is measured according test set up in chapter 1.2 and parameters according chapter 1.6



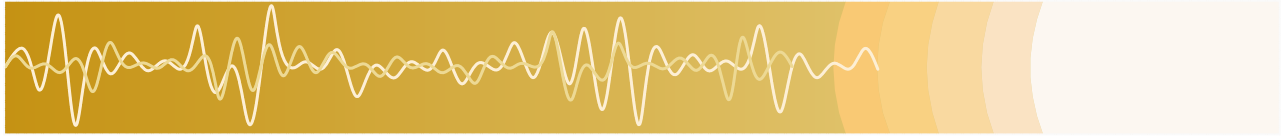


2.Part List



1.Cover	PBTGF30
2.Rubber pad	PRON
3.Gasket	PBTGF30
4.Membrane	PEN
5.Voice coil	Paper+Cu
6.Up Plate	SPCC
7.Magnet	Nd-Fe-B
8.Frame	SPCC
9.PCB	Ethoxyline+Cu
10.Connector wire	UL3302/AWG28#/MOLEX
11.Dustproof Sheet	Cloth
12.Damping Sheet	Cloth
13.Housing	PBTGF30



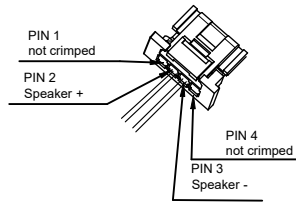


3. Dimension

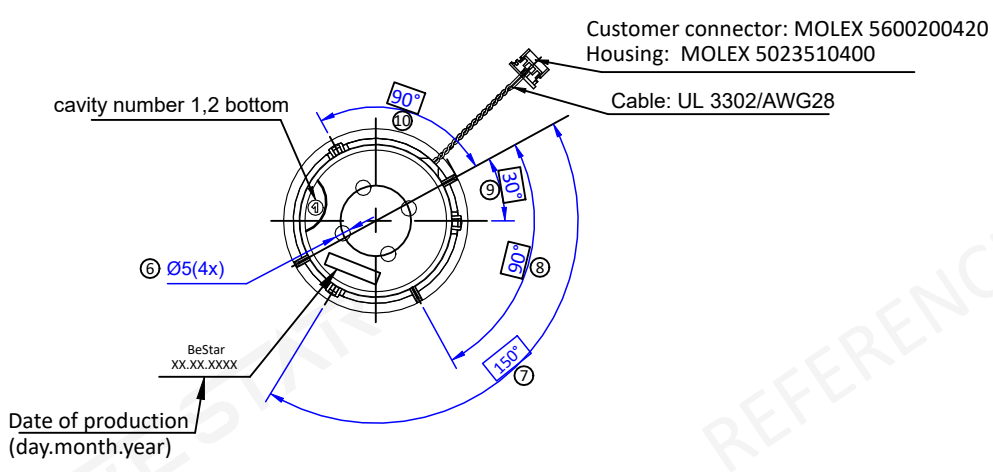
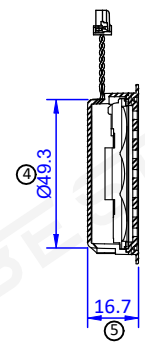
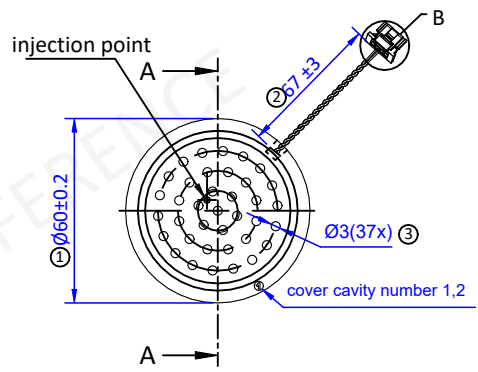
BESTAR REFERENCE

Detail B

Scale 5:1

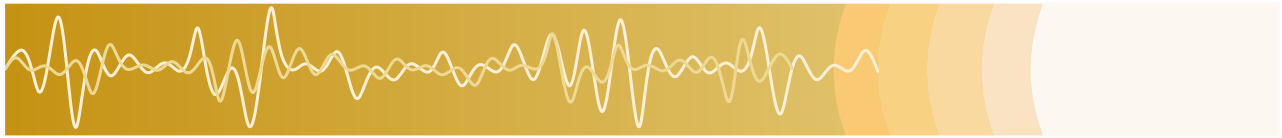


Section view A-A



Tolerance: ±0.3mm





4. Reliability Test

4.1 Load Test

Power	2 W
Duration	200hrs
Frequency band:	sine wave 300-3500Hz

4.2 High Temperature Test

Temperature	+90±2°C
Duration	200hrs

4.3 Low Temperature Test

Temperature	-40±2°C
Duration	200hrs

4.4 High Temperature Life Test

+90°C 300-3500Hz 2w (4Vrms)sine wave 1.5s input	200hrs
-------------------------------------------------	--------

4.5 Low Temperature Life Test

-40°C 300-3500Hz 2w (4Vrms)sine wave 1.5s input	200hrs
-------------------------------------------------	--------

4.6 Damp Heat

Temperature	40±2°C
Relative Humidity	90%-95%RH
Duration	96hrs

4.7 Drop Test

Height	100cm
Drop face	free falling on concrete floor
Times	10 times

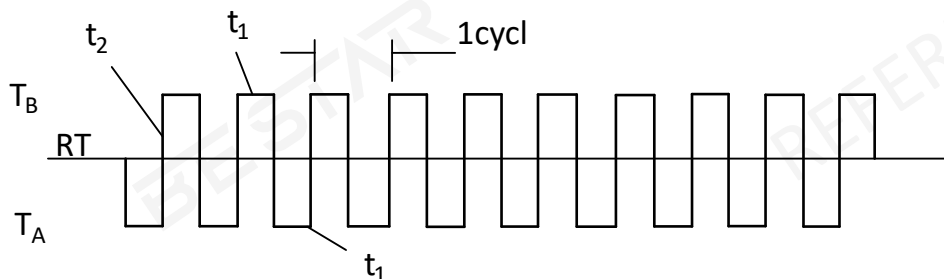
4.8 Vibration Test

Frequency	10-55Hz
Amplitude	1.5mm
Direction	2h each axis

4.9 Temperature shock Test

t₁=2h, t₂<10s, T_A=-40°C, T_B=+85°C,

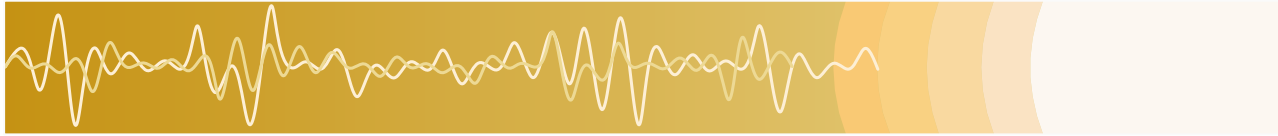
Cycle 100



Notice:

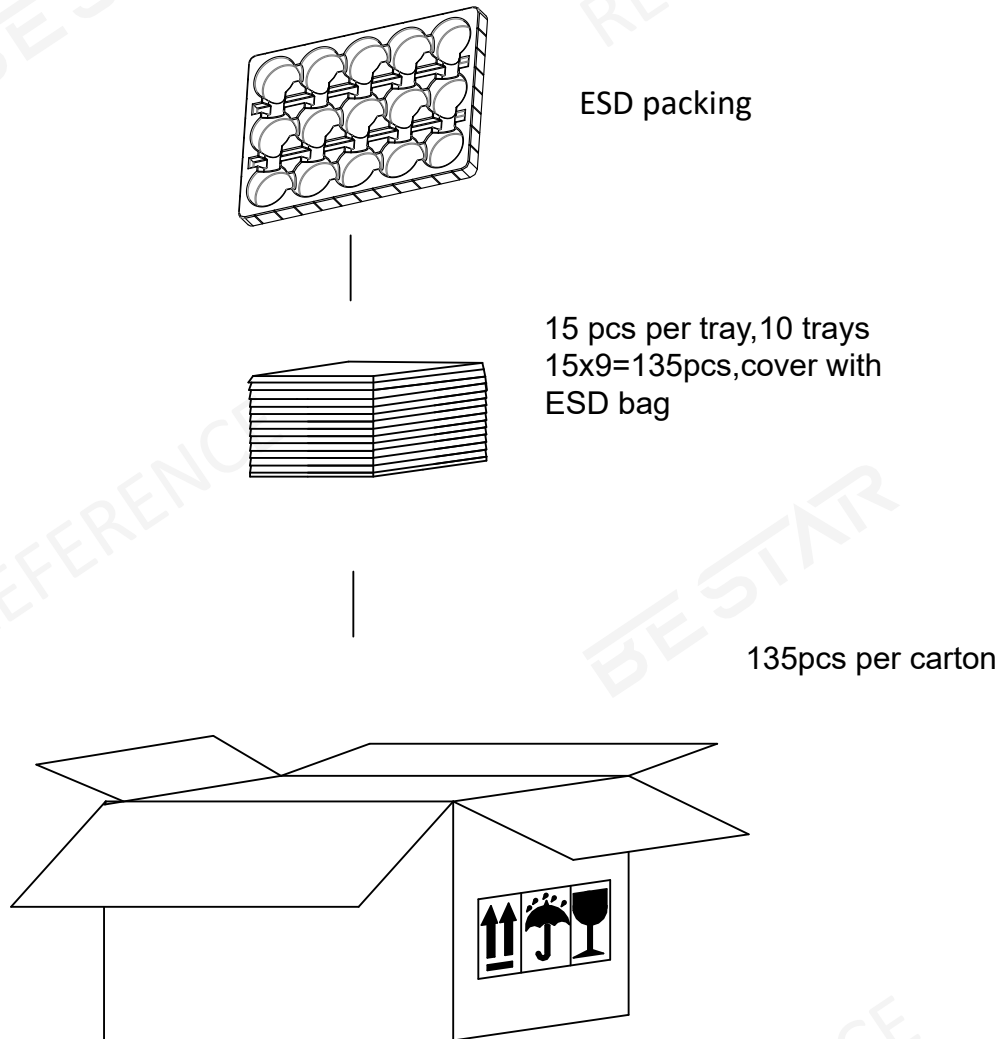
1. After test leave at room temperature for 1 hours, SPL shall not deviate by ±3dB from pre-test measurement





5. Packing

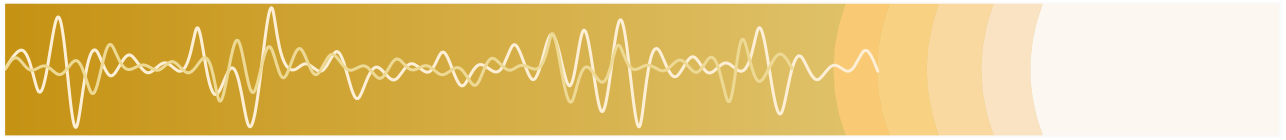
5.1 Packing drawing (unit:mm)



5.2 packing quantity

- 1) 15pcs per tray,
- 2) 135pcs tray per ESD bag
- 3) 135pcs per carton
- 4) carton size: 350X250X190mm





6. History change record

Version	Change Items	Date	Drawn	Checked	Approved
A0	First Edition	2022.04.18	Raya.Chen	Emma.Ren	Jason.Zhang

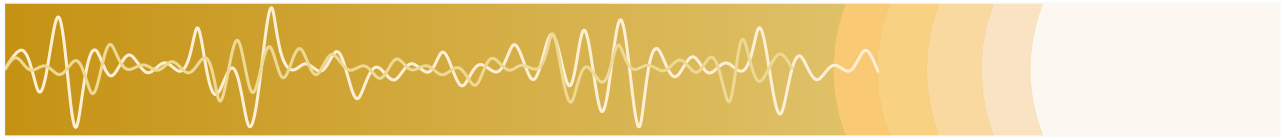
REFERENCE

BESTAR

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REFERENCE





7. Important Notice

7.1 The products mustn't be washed

7.2 Store Condition (packaging)

The products should be stored in the room, where the temperature/humidity is stable. And avoid such places where there are large temperature changes. Please store the products at the following conditions:

Temperature: -10 to + 40 °C Humidity: 15 to 85% R.H.

7.3 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.

7.4 Notice on Product Storage

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

7.5 Rated and Max input power

Rated input power

Rated input power is the maximum (limit) value which can be input to the component intentionally. If the actual input power to component keeps exceeding Rated Input power, it will damage the component acoustic performances and reliability. In the worst case, the component will get broken and no sound.

Max input power

Max input power is the maximum (limit) value for unexpected input power which is caused in the customer's circuit like surge voltage. If the actual input power to component keeps exceeding Maximum input power, it will break the component and cause no sound in a short time. Please note that component will have a risk to get broken if the unexpected input power continues.

The value of input power is set based on the sinusoidal power in the normal speaker use. If the special signal is input to component, the values of Rated and Max input power will be different. Please make a well-investigation at your laboratory in the case of the special signal input.

