



# SPECIFICATION FOR AUTOMOTIVE SPEAKER

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Customer		Model Name	BDT3032H12.8-02 LF
Customer P/N		Product No.	060313
Date	07 Aug. 09	Issue No.	BS/TES01.563A
Page	01 of 08	Issue Date	07/08/09

### Approval:

- 1.Characteristics
- 2.Notice
- 3.Dimension
- 4.Bill of Material
- 5.Reliability Test
- 6.Packing
- 7.History change record

Drawn by	Checked by	Approved by	Customer approved
莫丽丽	王文邦	张秀琴	

## **BESTAR ELECTRONICS INDUSTRY CO.,LTD**

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# BDT3032H12.8-02 LF

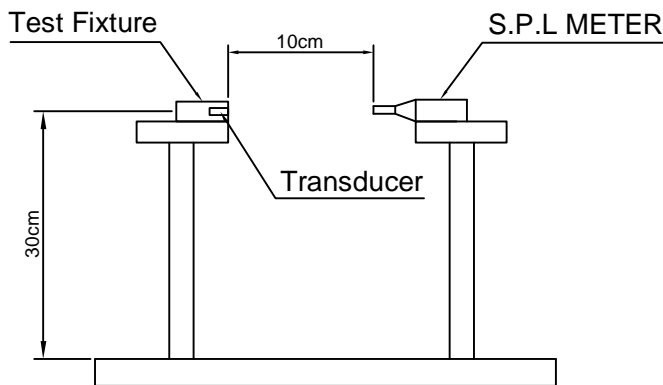


## 1. Characteristics

### 1.1 Electrical and Mechanical Characteristics

No.	Item	Specifications
1.	Impedance (2kHz)	32ohm± 10%
2.	Rated Input Power	1.3W
3.	Max. Input Power	1.5W
4.	Operating Voltage	
	Impulse voltage, square wave, duty cycle 50%, symmetric	6-12.8Vp-p
	Impulse voltage, square wave, duty cycle 50%, symmetric	4-9Vop
5.	Output SPL Values are shown in table1,	
	The sound pressure level is measured according to the test assembly shown in picture1.	
6.	Frequency range	1000Hz to 4000Hz
7.	Operating Temperature	-40...+105°C
8.	Storage Temperature	-40...+105°C
9.	Weight	9g
10.	Voice coil	∅ 0.045 Cu (golden color)

picture 1



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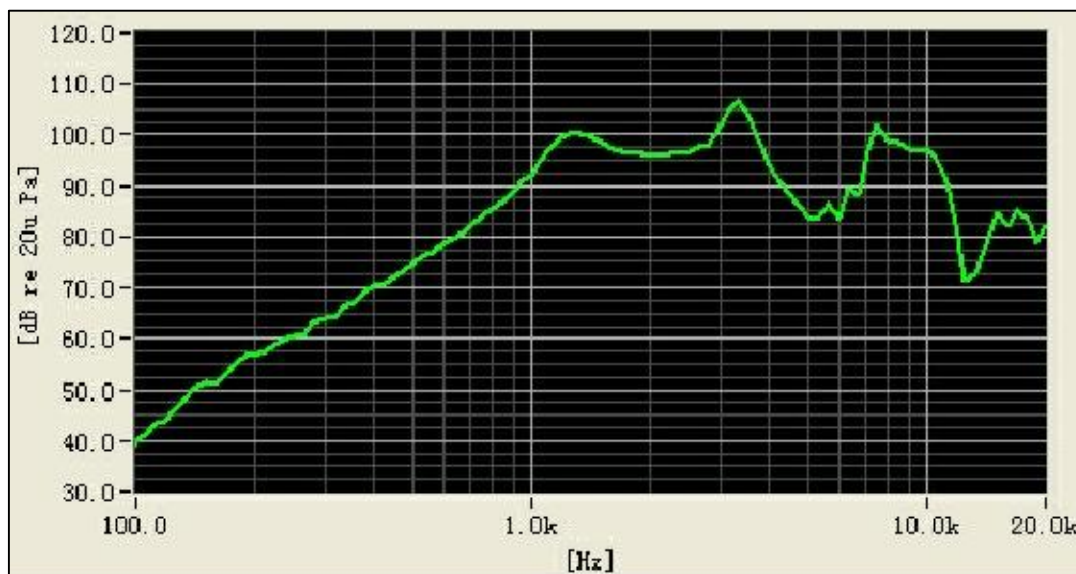
table 1

Frequency /Hz	Min SPL /dBA	Max SPL /dBA
720	88	98
750	88	98
900	88	98
1000	90	100
1600	98	108
1900	95	105
2000	95	105

### Test conditions

The test assembly is in free field or a test room with min 2m ×2m ground and 2m high  
 Distance between loudspeaker and SPL meter=10cm  
 Trigger voltage is 5.6V0-p, 50% duty square wave signal  
 The trigger signal comes from a function generator FG100. The trigger voltage is adjusted to 5.6V0-p constant voltage.(in case of load)

### 1.2 Frequency response curve(Sine wave 0.15W,10cm testing)



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## 2. Notice

### 2.2 Storage Condition

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.

### 2.3 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.

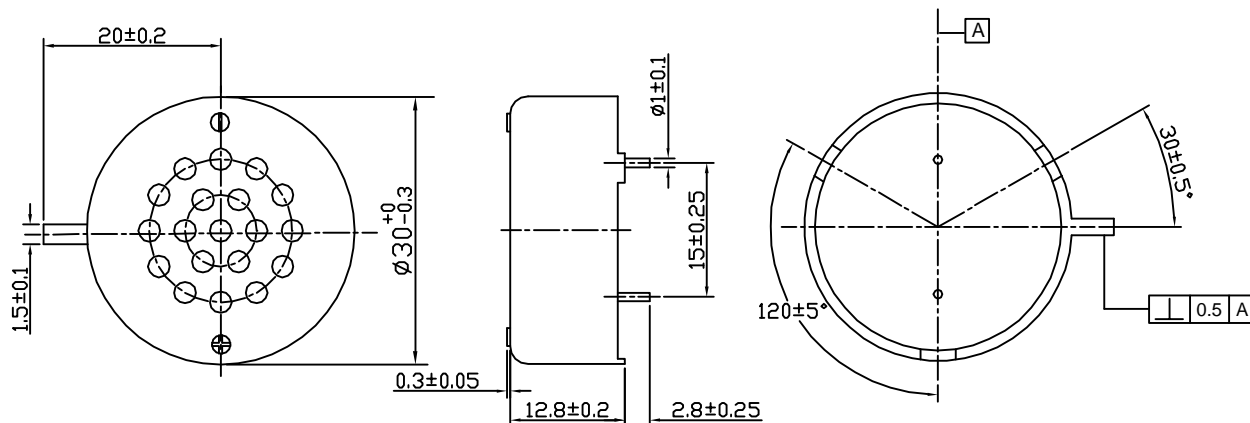
### 2.4 Notice on Product Storage

(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.

## 3. Drawing

### 3.1 figure drawing

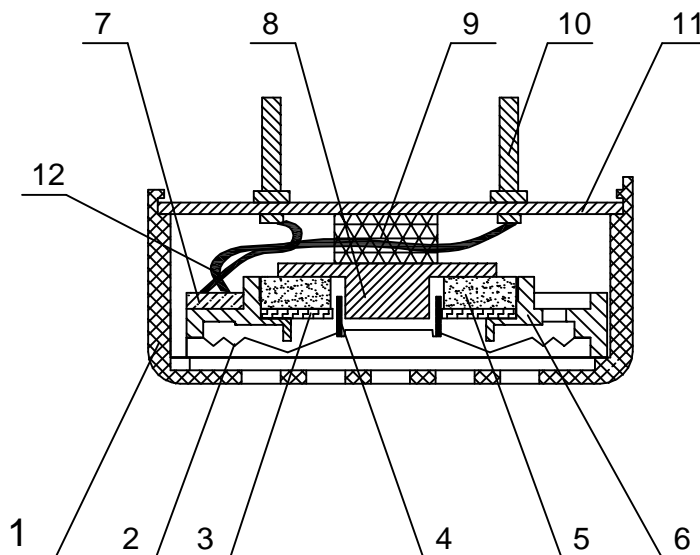


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## 4. Bill of Material



12	Connect wire	Cu and PVC
11	Plugboard	Epoxy and Cu
10	Pin	CuΦ1.0 (plating Sn)
9	Mat	Sponge
8	Yoke	SPCC
7	PCB	Epoxy and Cu(plating Sn)
6	Frame	Plastic MPPO+20%GF
5	Magnet	Nd-Fe-B N35H
4	Voice Coil	∅0.045 Cu, self-bonding by hot air
3	Piece	SPCC, δ=0.6mm
2	Diaphragm	PEI δ=0.05mm
1	Housing	Plastic MPPO+20%GF
No	Parts Name	Material

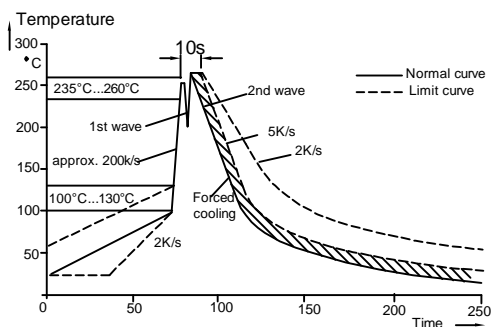
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## 5. Reliability test

1. Endurance test
  - Duration 240hrs
  - at square wave, duty cycle: 50% asymmetric,  $U_n = 7V_{op}$   $f = 2048 \pm 30Hz$
  - Temperature cycle  $-40 \dots +85^\circ C$  with cycle duration 4h; 10s on/off
2. High temperature durability acc. to IEC 60068 part 2-2
  - Temperature  $+85 \pm 3^\circ C$
  - Duration 1000h
3. Low temperature durability acc. to IEC 60068 part 2-1
  - Temperature  $-40 \pm 3^\circ C$
  - Duration 500h
4. Humidity durability acc. to IEC 60068 part 2-3
  - Temperature  $40 \pm 3^\circ C$
  - Rel. humidity 93%RH
  - Duration 56days
5. Temperature cycle durability acc. to IEC 60068 part 2-14
  - Low Temperature  $-40 \pm 3^\circ C$
  - Upper Temperature  $+85 \pm 3^\circ C$
  - Transfer time from lower to upper temperature  $< 10s$
  - Number of cycles 100cycles
6. Shock test acc. to IEC 60068 part 2-27
  - 100g for each free mutually perpendicular directions to each of 3times by sine-wave
7. Vibration test acc. to IEC 60068 part 2 -6
  - sine-wave excitation; 8...300Hz, 2g, 1 octave/min; test time 16h each axis
  - Additional requirements:
    - Test of solderability and resistance to soldering heat acc. to VDON4.3643.001
    - X-ray solderpoint inspection according to VDON 4.4814.001
    - Washability: not washable
    - Cadmium prohibited as per DIN 5.5000.1
8. Wave soldering

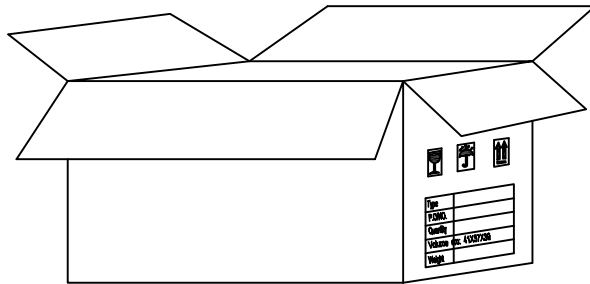
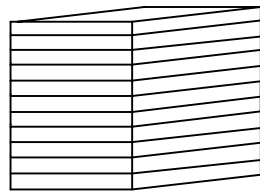


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## 6.Packing



Remark :  
50pcs per tray  
20 trays per carton  
Cartion size : 41x37x39cm

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