

SPECIFICATION FOR AUTOMOTIVE SPEAKER

| | |
|-------------------|---------------|
| Customer | |
| Customer P/N | |
| Bestar Model Name | BMS3650L-LF |
| Product No. | 133300 |
| Issue No. | BS/TES01.042C |
| Issue Date | 08.05.14 |

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 |
|----------|------------|-------------|-------------------|
| 丁小军 | 莫丽丽 | 郭敏 | |



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BMS3650L-LF

1. Characteristic

1.1 Electrical and Mechanical Characteristics



| | | |
|----|-----------------------|--|
| 1 | Rated input | 1W |
| 2 | Maximum input | 1.5W |
| 3 | Resonance Frequency | 540± 150Hz |
| 4 | Frequency Response | 350...6000Hz |
| 5 | Impedance(at 1500Hz) | 50ohm± 15% |
| 6 | Output SPL | min79dB (12V DC power special circuit 30cm) |
| 7 | Buzzes & Rattles | must be normal at sine wave7.07V |
| 8 | Magnet | Nd-Fe-B |
| 9 | Diaphragm | PEI Film |
| 10 | Operation temperature | -40° C...+85° C |
| 11 | Storage temperature | -40° C...+85° C |

2. Notice

2.1 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.

2.2 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.

2.3 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.

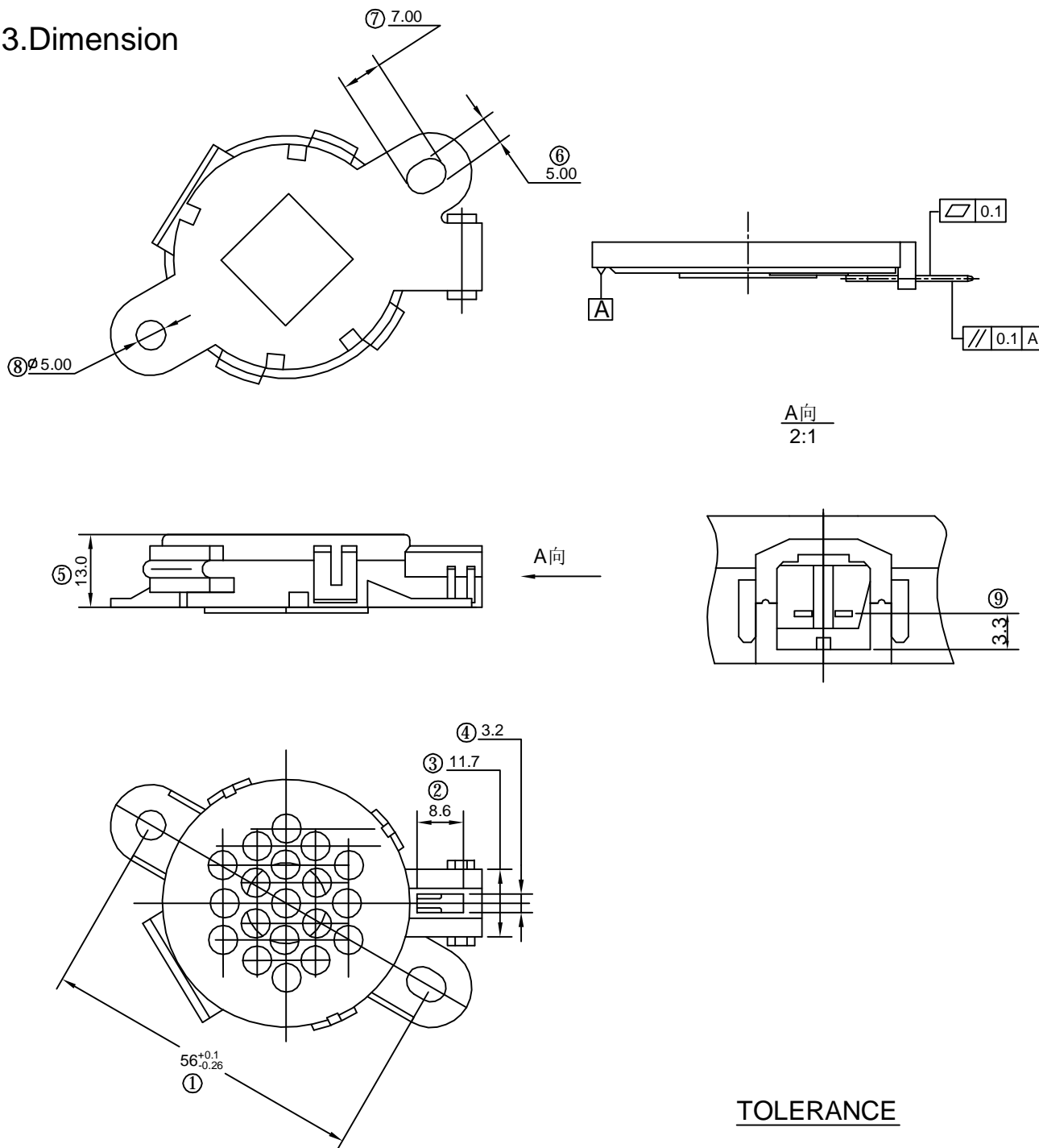
(2) Please use the products immediately after the package is opened, because the characteristics may be reduced at quality, and/or be degraded in the solderability due to storage under the poor condition.

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| | | | | Date: | 08.05.14 | BMS3650L-LF |
| C | 08.05.14 | 丁小军 | | Drawn by: | 丁小军 | |
| A | 03/01/03 | 王善梅 | | Checked by: | 莫丽丽 | Speaker |
| Rev. | Date | Drawn | Note | Approved by: | 张秀琴 | |
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3.Dimension



TOLERANCE

.XX=±0.1

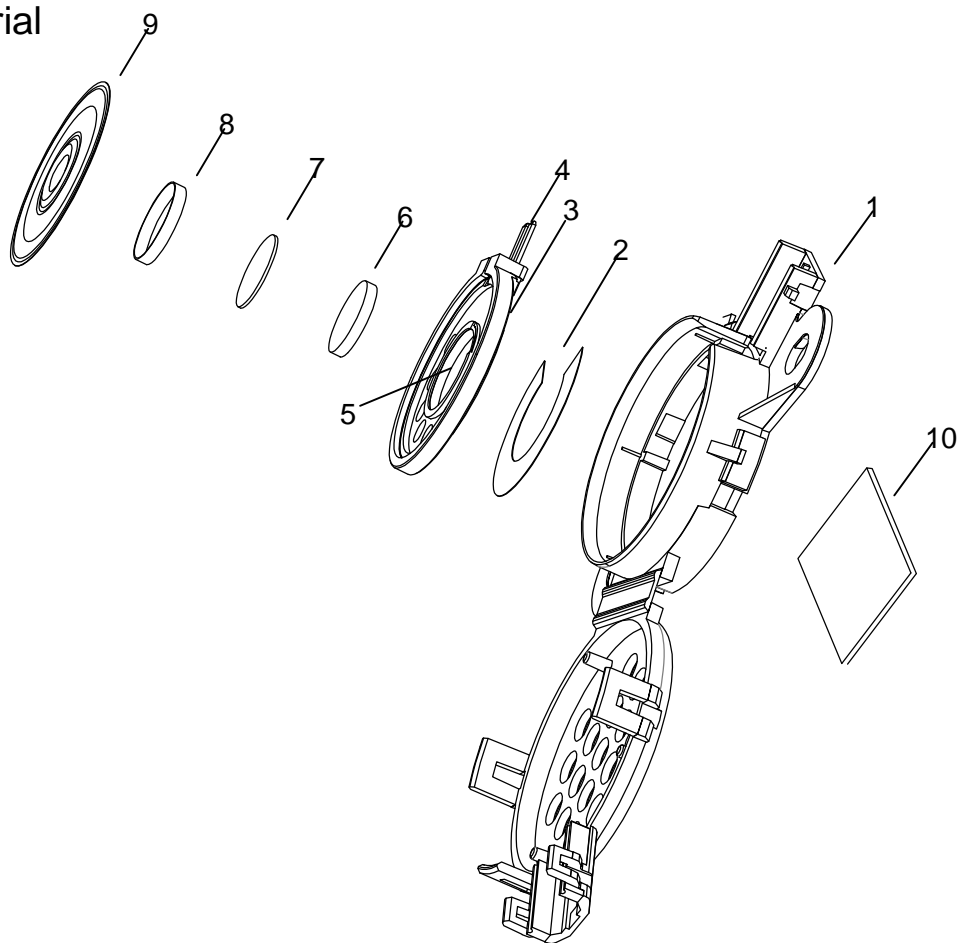
.X =±0.2

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4. Bill of Material



| | | |
|----|-------------|-----------------------------------|
| 10 | Foam | Double side adhesive |
| 9 | Diaphragm | PEI |
| 8 | Voice Coil | φ0.05 wire, Annealed Copper Alloy |
| 7 | Piece | SPCC |
| 6 | Magnet | NdFeB |
| 5 | Magnet bowl | SPCC |
| 4 | Pin | BrassY68 |
| 3 | Frame | PBT |
| 2 | Mesh | SILK |
| 1 | Housing | PA6 |
| No | Parts Name | Material |

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5. Reliability test

5.1 Life Test/Load test/temperature cycling

| | |
|--|-------------------------|
| Lower temperature | -40°C |
| upper temperature | +85°C |
| Dwell time | 30 Min each temperature |
| Duration of whole test | 240 h |
| dynamic operation with maximum rated voltage | |

5.2 Heat Test

| | |
|-------------|-----------|
| Temperature | +85° C± 2 |
| Duration | 96hrs |

5.3 Cold Test

| | |
|-------------|-----------|
| Temperature | -40° C± 2 |
| Duration | 96hrs |

5.4 Moisture Test

| | |
|--|-----------|
| Temperature | +85° C± 2 |
| Humidity | 85%RH |
| Duration | 56days |
| Recovery conditions: Climatic condition standard atmospheric | |
| Ventilation time 1 h | |

5.5 Temperature shock

| | |
|---|--------|
| Low temperature | -40° C |
| Upper temperature | +85° C |
| Dwell time each temperature | 30min. |
| Transfer time from lower to upper temperature | < 10s |
| Number of cycles | 100 |

5.6 Vibration Test

| | |
|----------------------|-------------------|
| Range of frequency 1 | 10 to 55Hz |
| Amplitude | +/-0.75mm |
| Range of frequency 2 | 55 to 2000Hz |
| Amplitude | 10g |
| Frequency sweep | 1 oct/min |
| Duration | 2h each of 3 axis |

5.7 Drop test

Drop the speaker contained in normal box on to the board 20mm thick 10 times from the height of 1.2m

After each test of 5.2 to 5.3, speakers should be measured after 6hrs exposed in normal temperature.

After each test, performance should be satisfied with spec.

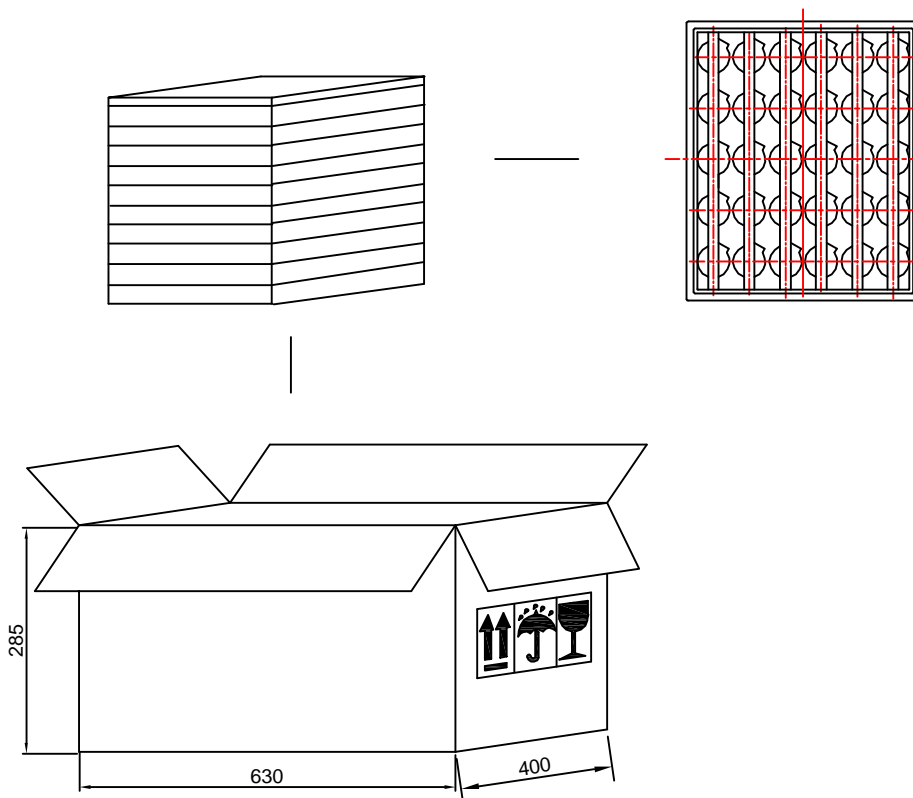
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6. Packing

6.1 Packing Drawing



6.2 packing quantity


- 1) 30pcs per tray,
- 2) 20pcs tray per carton
- 3) 600pcs per carton,
- 4) carton size: 63X40X28.5cm

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7. History change record

| version No. | Change Items | | Date | Drawn | Approved |
|-------------|--------------|---|----------|-------|----------|
| | Before | After | | | |
| A | | | 03/01/03 | 王善梅 | 郭敏 |
| B | | Add dimension:3.3±0.1 | 07.10.12 | 丁小军 | 张秀琴 |
| | |  0.1  | | | |
| | | change the type of the wire, the new coil is without paper. change magnet, use new diaphragm | | | |
| C | | change the frame | 08/05/14 | 丁小军 | 张秀琴 |
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