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# SPECIFICATION FOR APPROVAL

|                      |                 |
|----------------------|-----------------|
| Product              | DYNAMIC SPEAKER |
| Part No.             | AS-1027R08-B13T |
| Customer<br>Approval |                 |

|             |            |         |
|-------------|------------|---------|
| Approved By | Checked By | Made By |
|             |            |         |



A & B Components

<http://www.speaker-tw.com>

## 1. SPECIFICATION

AS-1027R08-B13T

| ITEM |                            | SPECIFICATIONS                                                                                                           |                                |
|------|----------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| 01   | Type                       | Dynamic speaker                                                                                                          |                                |
| 02   | Dimension                  | External diameter 10 mm                                                                                                  |                                |
| 03   | Rated Input Power          | 0.15 W                                                                                                                   |                                |
| 04   | Impedance                  | 8 ohm $\pm$ 15% at 3K Hz                                                                                                 |                                |
| 05   | Resonance Frequency (Fo)   | 1200 Hz $\pm$ 20% at Fo, 1V                                                                                              |                                |
| 06   | Sensitivity (S.P.L.)       | 72dB(W/m) $\pm$ 3 dB                                                                                                     | at AVE 1.2K,1.6K,2.0K,2.5K Hz. |
|      |                            | 83dB(0.15W/0.1m) $\pm$ 3 dB                                                                                              |                                |
| 07   | Frequency Range            | Fo – 6K Hz                                                                                                               |                                |
| 08   | Total Harmonics Distortion | Less than 8 % at 1 KHz ,1.0V.                                                                                            |                                |
| 09   | Max. Input Power           | Must be normal at 0.3W White Noise for 1 minute.                                                                         |                                |
| 10   | Voice Coil                 | Diameter 5.7 mm                                                                                                          |                                |
| 11   | Magnet                     | Rare earth permanent (Nd-Fe-B) magnet $\Phi$ 5.2 x 0.8mm                                                                 |                                |
| 12   | Weight                     | 0.7g $\pm$ 0.2g                                                                                                          |                                |
| 13   | Appearance                 | Should not exist any obstacle to be harmful to normal operation, damages, cracks, rusts and distortions, etc.            |                                |
| 14   | Operation Test             | Must be normal at program source 0.15W                                                                                   |                                |
| 15   | Buzz, Rattle, etc.         | Should not be audible at 1.1V sine Wave between Fo to 20KHz                                                              |                                |
| 16   | Polarity                   | When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.                         |                                |
| 17   | Terminal Strength          | Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.                               |                                |
| 18   | Temperature                | Operating temperature: -20 $^{\circ}$ C to +60 $^{\circ}$ C<br>Storage temperature: -30 $^{\circ}$ C to +70 $^{\circ}$ C |                                |

## 2. MEASURING METHOD

### 2-1 .Test Condition

#### STANDARD

Temperature : 15 ~ 35℃

Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

#### JUDGEMENT

Temperature : 20±3℃

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

### 2-2 . Standard Test Fixture

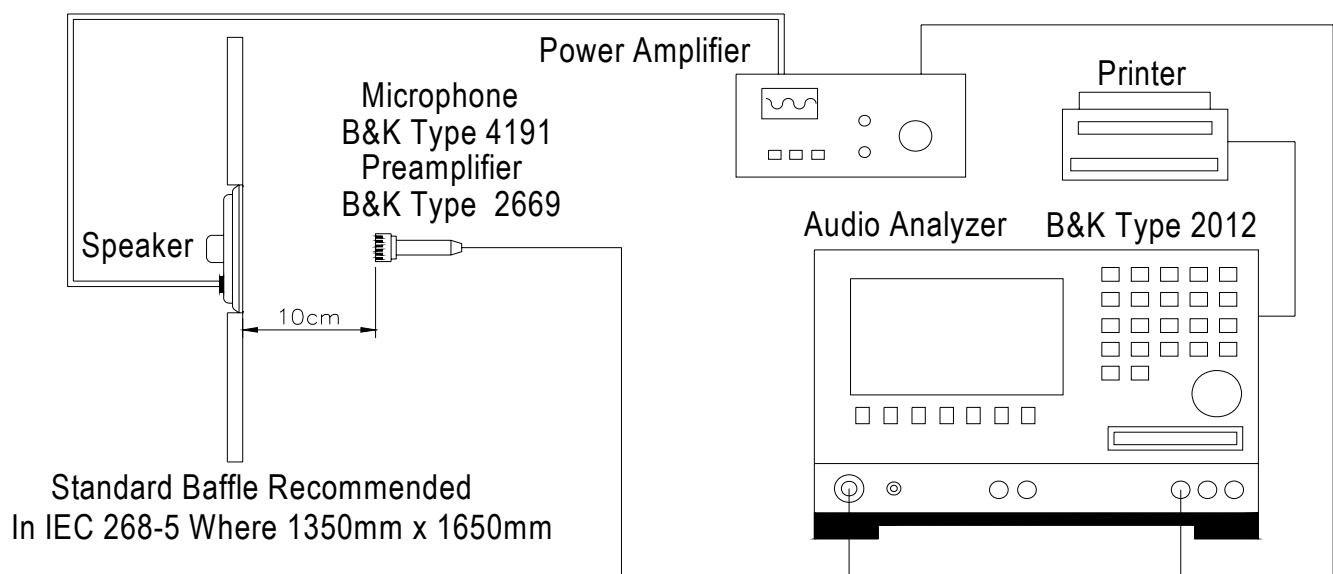
1.Input Power : 0.15W(1.1V)

2.Zero Level : -dB

3.Mode : SPEAKER

4.potentiometer Range : 50dB

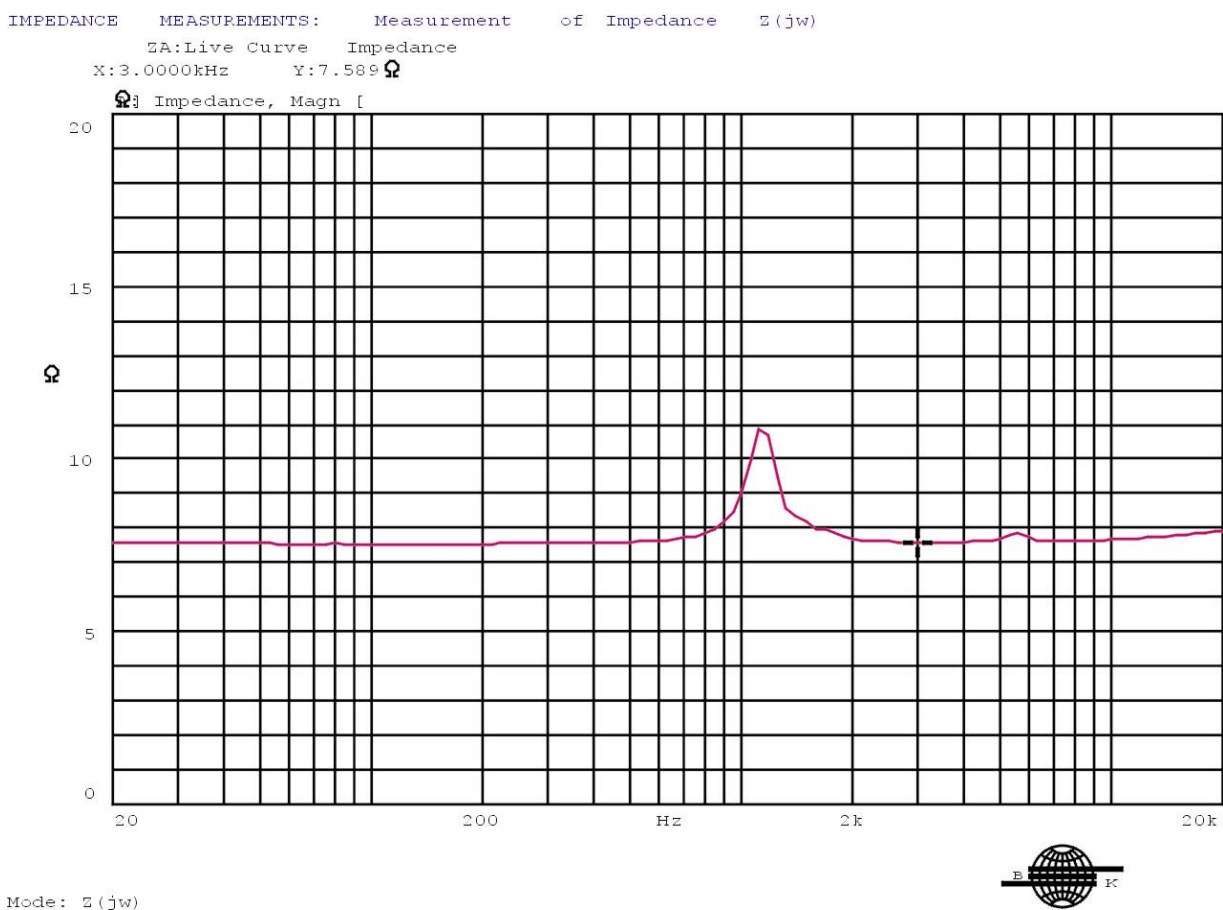
5.Sweep Time : 0.5sec



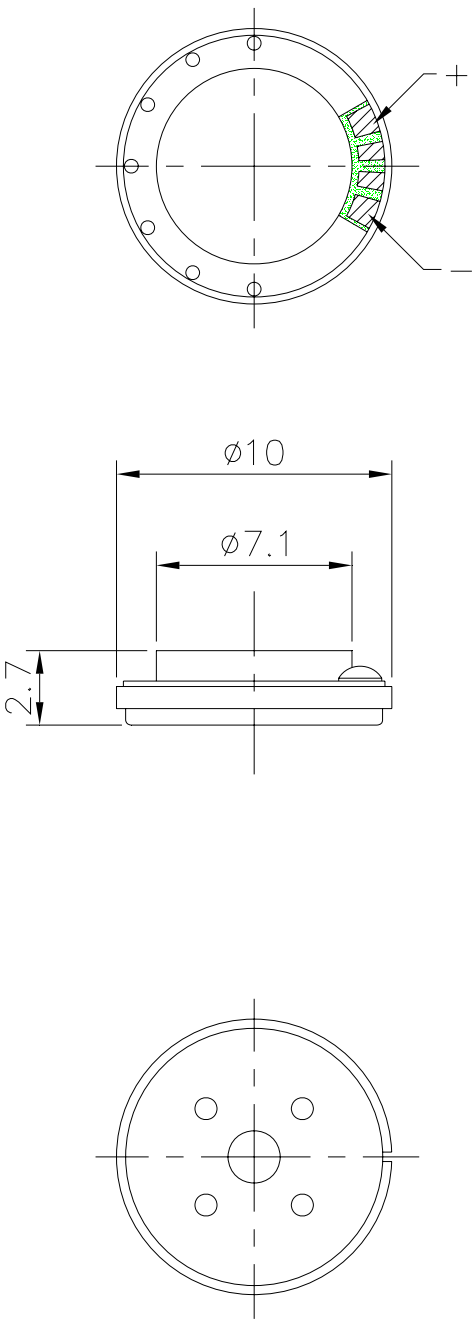
## 2-3. Frequency Response Curve



## 2-4. Impedance Curve



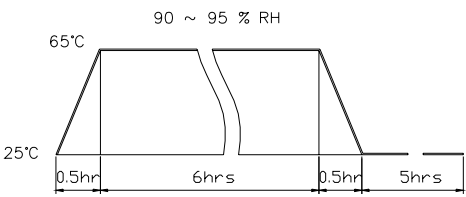
| REV NO. | REVISION NOTE | APPROVAL | DATE |
|---------|---------------|----------|------|
|---------|---------------|----------|------|



|                          |     |                          |                                                                                 |               |
|--------------------------|-----|--------------------------|---------------------------------------------------------------------------------|---------------|
| TITLE: DYNAMIC SPEAKER   |     | DRAWN: Richard 2009-3-30 | SCALE: 3:1                                                                      | SHEET: 1 of 1 |
| PART NO. AS-1027R08-B13T | 1   | DESIGNED: R & D DEP.     | UNITS: mm                                                                       |               |
|                          |     | CHECKED:                 | TOLERANCE ± 0.2                                                                 |               |
| DWG NO. K09033001        | REV | APPROVAL:                | UNLESS OTHERWISE SPECIFIED:                                                     |               |
|                          |     | MATERIAL: *****          | ONE PLACE DECIMAL ± ***<br>TWO PLACE DECIMAL ± ***<br>THREE PLACE DECIMAL ± *** |               |

A & B Components

## 4.RELIABILITY TESTS

| Items. |                        | Specifications                                                                                                                                                                      |
|--------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01     | High temp. Test        | Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check                                                                  |
| 02     | Low temp. Test         | Keep 96 hours at $-20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check                                                                  |
| 03     | Humidity test          | Keep 96 hours at $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.                                         |
| 04     | Temp./Humidity cycle   | <p>The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of;</p>          |
| 05     | Thermal cycle test.    | Low temperature: $-20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , cycle: 1 hour/cycle each, and then keep 5 cycles in a room. |
| 06     | Vibration              | 10~200~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.                                                                                     |
| 07     | Fix drop test          | Fix on jig. Then drop from 152cm height to the concrete floor X,y, z 6 direction. 5 times each, total 30 times.                                                                     |
| 08     | Free drop test         | Free drop from 100cm height to the concrete floor X,Y, Z 6 direction. 1 times each, total 6 times.                                                                                  |
| 09     | Load test              | Rated Power White noise is applied for 96 hours                                                                                                                                     |
| 10     | Max Power test         | Max power 1 min. on - 2 min. off 10 cycles.                                                                                                                                         |
| 11     | Terminal strength test | Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.                                                                                          |