| Miniature Speaker<br>8ohm, 1.5W, 28mm dia. | Part No. | ABS-221-RC |
|---|---|---|
| | Page | 1/5 |

# 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

| | Item | Specifications |
|---|---|---|
| 1-1 | Dimension | Φ28×5.6t |
| 1-2 | Rated Input Power | 1.5W |
| 1-3 | Max Input Power | 3.0W |
| 1-4 | Rated Impedance | 8±15% Ω /2KHz/1V |
| 1-5 | Resonance Frequency(f0) | 550±20% Hz/1V |
| 1-6 | Sound Pressure Level | 92±3 dB at (AVG 0.8,1.0,1.2,1.5)KHz<br>0.1W/0.1m baffleboard (IEC) |
| 1-7 | Frequency Range | FOHZ ~ 9KHz |
| 1-8 | Total Harmonic Distortion | 5%MAX. at 1KHz, 0.1W |
| 1-9 | Flux Density | T |
| 1-10 | Polarity | When a positive DC Current is applied to the voice coil terminal marked +or red ,the diaphram shall move forward |
| 1-11 | OperationTest | Must be normal at sine wave and program source 1.5W. |
| 1-12 | Buzz,Rattle,etc. | Should not be audible at 3.46V sine wave between (FO Hz ~ 9kHz) |
| 1-13 | Weight | 8.7 g |
| 1-14 | Voice Coil Diameter | Φ13.28 mm |
| 1-15 | Magnet (NdFeB) | Φ12.5×2.0t mm |
| 1-16 | Appearance | Should not exist any obstacle to be harmful to normal operation;damages,cracks,rusts and distortions,etc. |
| 1-17 | Operating Temp. Range | -20℃～+60℃ |
| 1-18 | Storage Temp. Range | -30℃～+20℃ |

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## 2.ENVIRONMENTAL TEST

| | Item | Specifications |
|---|---|---|
| 2-1 | High temp. Test | Keep 96 hours at +60℃±3℃ and leave 3 hours in normal temperature and then check |
| 2-2 | Low temp. Test | Keep 96 hours at -30℃±3℃ and leave 3 hours in normal temperature and then check |
| 2-3 | Humidity test | Keep 96 hours at + 40℃±3℃ relative humidity 95% and leave 3 hours in normal temperature and then checked. |
| 2-4 | Thermal cycle test. | Low temperature: -30℃±3℃, temperature:+60℃±3℃, cycle: 1 hour/cycle each, and then keep 5 cycles in a room. |
| 2-5 | Vibration | 10~55~10Hz sin-wave sweep , amplitude:1.5mm<br>X,Y, Z 3 direction. 2 hours each, total 6 hours. |
| 2-6 | Drop test | Free drop from 100cm height to a board of 20mm thick x,y, z 6 direction. 1 times each, total 6 times. |
| 2-7 | Load test | Rated Power white noise is applied for 96 hours |
| 2-8 | Max Power test | Max power 1 min on – 2 min off 10 cycles. |
| 2-9 | Terminal strength test | Capable of withstand 1kg load for 15seconds without resulting in any damage or rejection. |

PASS CRITERION :

After these test , the change of S.P.L shall be within ±3 dB .


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# 3.MEASURING METHOD(SPEAKER MODE)

## 3-1 .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

## 3-2 . Standard Test Fixture

1.Input Power : 0.1W(0.89V)

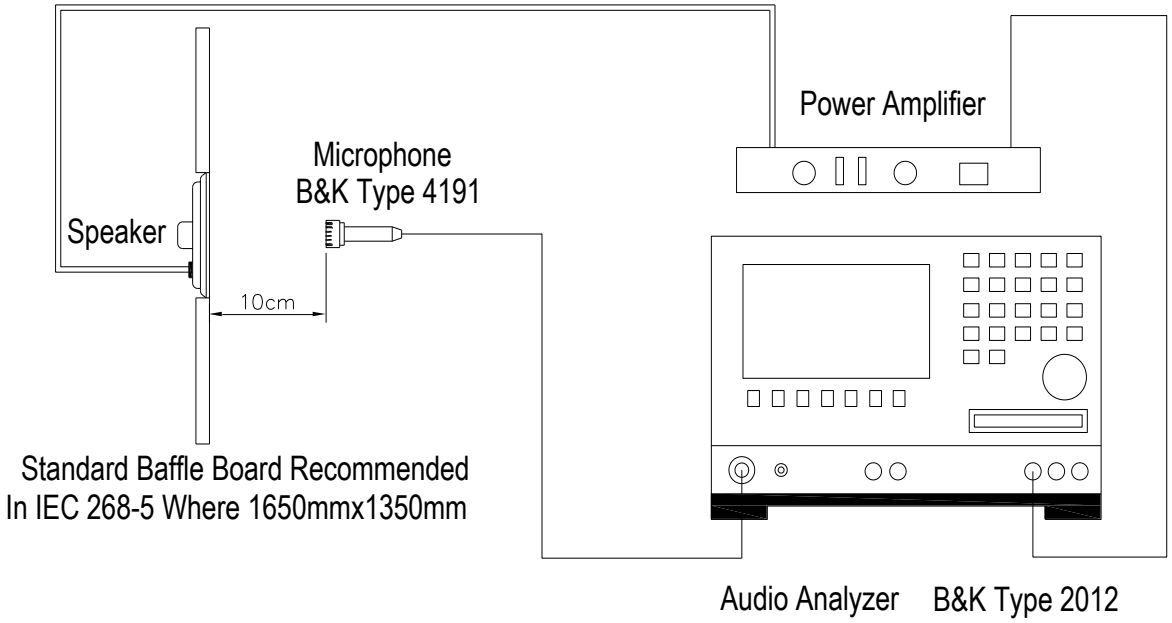
2.Zero Level : -dB

3.Mode : TSR

4.potentiometer Range : 50dB

5.Sweep Time : 0.5sec

Standard test condition of speaker





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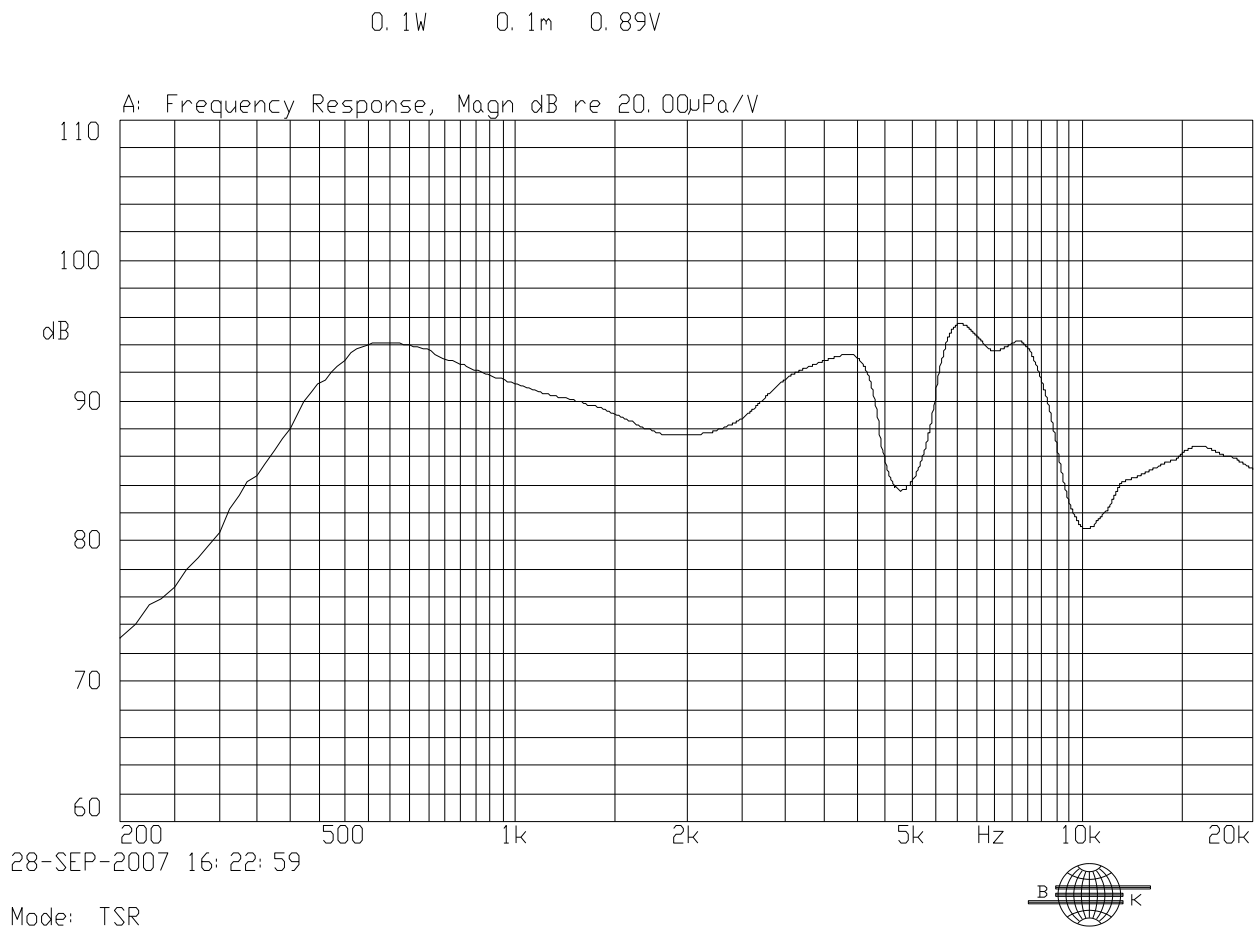
## 4.FREQUENCY RESPONSE CURVE





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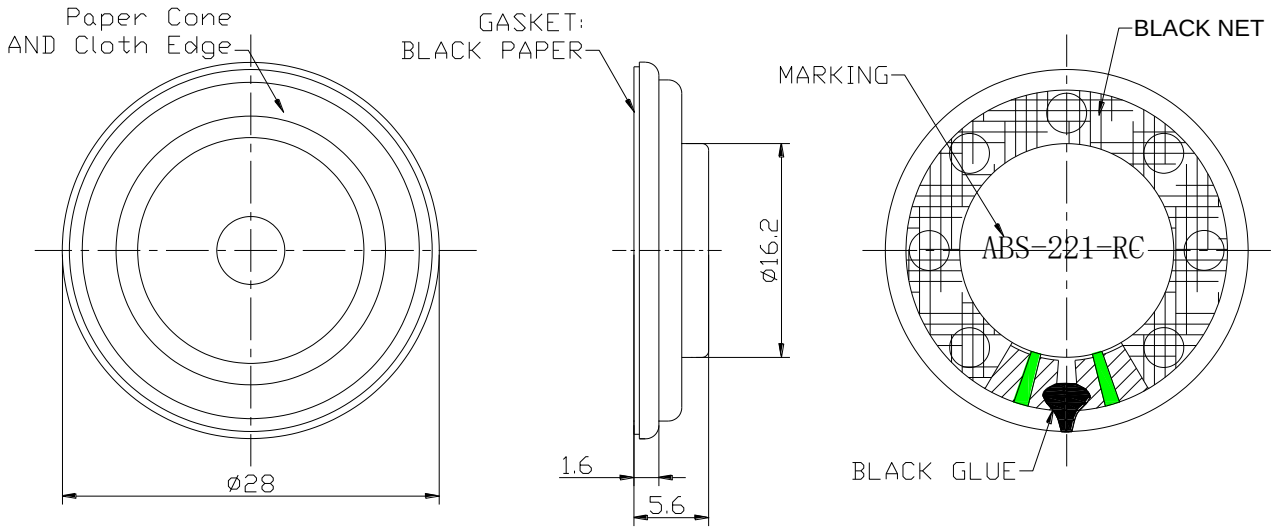
| SPECIFICATIONS | Part No. | ABS-221-RC |
|---|---|---|
| | Page | 5/5 |

## 5.DIMENSIONS

Unless otherwise specified,tolerance:±0.3(unit:mm)




| | | | | |
|---|---|---|---|---|
| 8 | | | | |
| 7 | Front Gasket | 1 | Black Paper | GU-001 |
| 6 | PCB | 1 | Epoxy | GU-001 |
| 5 | Magnet | 1 | NdFeB | GU-001 |
| 4 | Plate | 1 | SPCC | GU-001 |
| 3 | Voice coil | 1 | Self-bonding wire | GU-001 |
| 2 | Diaphragm | 1 | Black PET | GU-001 |
| 1 | Frame | 1 | SPCC | GU-001 |
| The material must be meet to GU-001 | | | | |
| PART NO. | PART NAME | Q'TY | MATERIAL | REMARK |

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