

Features

- Miniature speaker
- 16ohm
- 0.5W rated input power
- 1W max. input power
- SPL ≥ 92 dB
- Frequency range 0Hz – 6KHz
- Diameter: 40mm
Height: 5.0mm

RS PRO Miniature Speaker, 16ohm, 0.5W, 40mm dia.

RS Stock No.: 0102780



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

Miniature speakers are used in products that require voice, music & sound reproduction. They generally have a wide frequency range making them versatile in terms of the sound they produce. This is a 16ohm, 40mm diameter, miniature speaker. It has a frequency range from 0-6KHz. Applications include:

APPLICATIONS:

- Headsets
- Access and security
- Lift panels
- Parking metres
- Medical products
- PDAs
- Computers
- Smart phones
- Model railways
- Toys & games
- Sensing & instrumentation
- Communications equipment
- Remote monitoring systems
- Safety products

Electrical Specifications

1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

	Item	Specifications
1-1	Dimension	$\phi 40 \times 5.0t$
1-2	Rated Input Power	0.5W
1-3	Max Input Power	1.0W
1-4	Rated Impedance	$16 \pm 15\% \Omega$ /2KHz/1V
1-5	Resonance Frequency(f_0)	$600 \pm 20\%$ Hz/1V
1-6	Sound Pressure Level	92 ± 3 dB at (AVG 0.8,1.0,1.2,1.5)KHz 0.1W/0.1m baffleboard (IEC)
1-7	Frequency Range	f_0 Hz ~ 6KHz
1-8	Total Harmonic Distortion	5%MAX. at 1KHz, 0.5W
1-9	Flux Density	0.6T
1-10	Polarity	When a positive DC Current is applied to the voice coil terminal marked +or red ,the diaphragm shall move forward
1-11	OperationTest	Must be normal at sine wave and program source0.5W.
1-12	Buzz,Rattle,etc.	Should not be audible at 2.83V sine wave between (f_0 Hz ~ 6kHz)
1-13	Weight	9.2g
1-14	Voice Coil Diameter	$\phi 13.28$ mm
1-15	Magnet (NdFeB)	$\phi 12.5 \times 1.5t$ mm
1-16	Appearance	Should not exist any obstacle to be harmful to normal operation;damages,cracks,rusts and distortions,etc.

2.ENVIRONMENTAL TEST

	Item	Specifications
2-1	High temp. Test	Keep 96 hours at $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
2-2	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
2-3	Humidity test	Keep 96 hours at $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
2-4	Thermal cycle test.	Low temperature: $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$, temperature: $+60^{\circ}\text{C} \pm 3^{\circ}\text{C}$, cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
2-5	Vibration	10~55~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.
2-6	Drop test	Free drop a unit 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.
<p>PASS CRITERION :</p> <p>After these test , the change of S.P.L shall be within ± 3 dB .</p>		

3. MEASURING METHOD (SPEAKER MODE)

3-1 . Test Condition

STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

JUDGEMENT

Temperature : $20 \pm 3^\circ\text{C}$

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

3-2 . Standard Test Fixture

1. Input Power : 0.1W(1.26V)

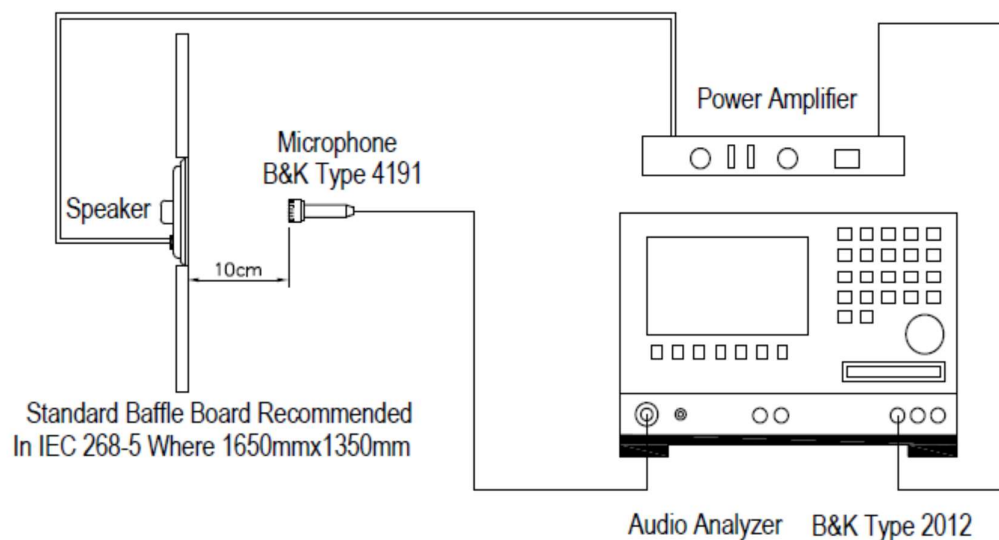
2. Zero Level : -dB

3. Mode : TSR

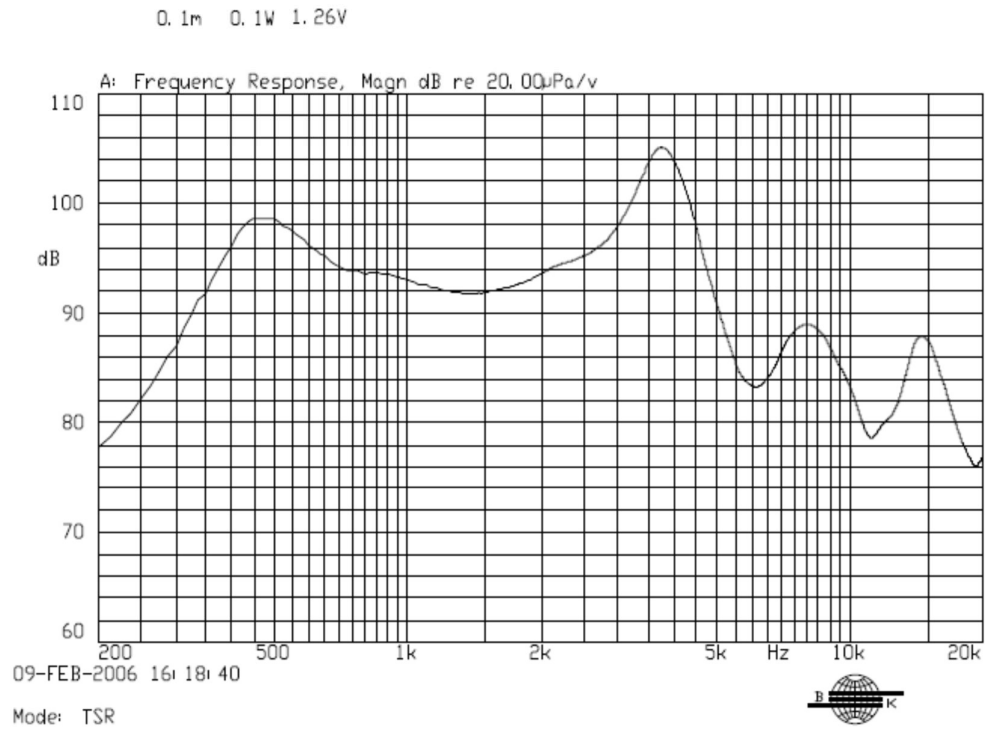
4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec

Standard test condition of speaker

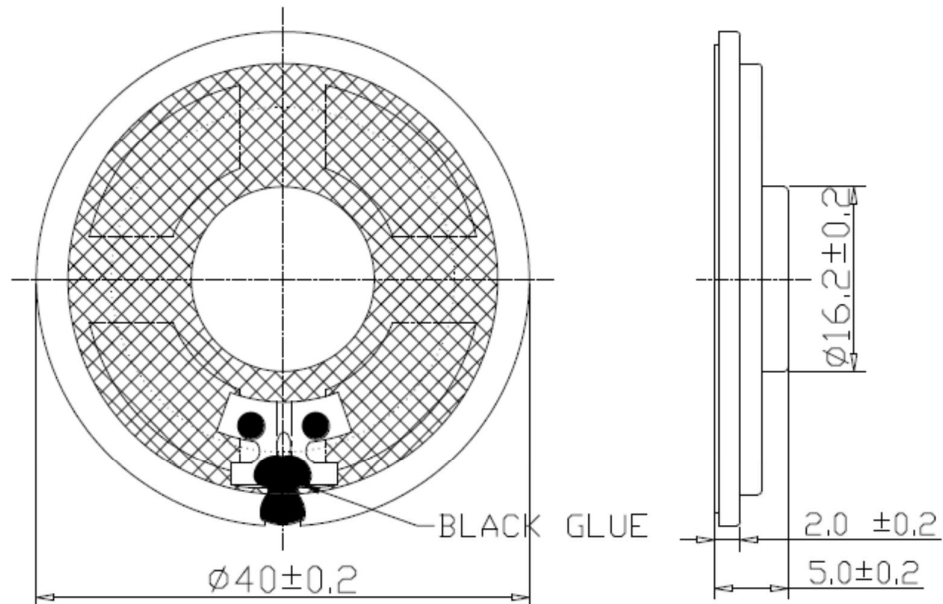


4.FREQUENCY RESPONSE CURVE



5.DIMENSIONS

Unless otherwise specified, tolerance: ± 0.5 (unit:mm)



7	Front gasket	1	Paper	GU-001
6	PCB	1	FR4	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	PET	GU-001
1	Frame	1	SPCC	GU-001
PART NO.	PART NAME	Q'TY	MATERIAL	REMARK