

## Features

- Miniature speaker
- 8ohm
- 2W rated input power
- 3W max. input power
- SPL ≥83dB
- 24 x 20 x 5.8mm

## RS PRO Miniature Speaker Rectangular, 8ohm, 2W

RS Stock No.: 7564609



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 small, rectangular, 8 ohm speaker which generates a minimum SPL of 83dB. It has a paper cone and mounting holes within a metal surround. 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

## 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

	Item	Specifications
1-1	Dimension	24×20.0×5.8t
1-2	Rated Input Power	2.0W
1-3	Max Input Power	3.0W
1-4	Rated Impedance	8±15% Ω /1KHz/1V
1-5	Resonance Frequency(f0)	400±20% Hz/1V
1-6	Sound Pressure Level	83±3 dB at (AVG 0.8,1.0,1.2,1.5)KHz 1W/0.5M
1-7	Frequency Range	200HZ ~ 20KHz
1-8	Total Harmonic Distortion	5%MAX. at 1KHz, 1V
1-9	Flux Density	1.0T
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 source 2.0W.
1-12	Buzz,Rattle,etc.	Should not be audible at 4.0 V sine wave between (200 Hz ~ 20KHz)
1-13	Weight	7.6g
1-14	Voice Coil Diameter	φ 11.75mm
1-15	Magnet (NdFeB)	φ 11×1.5t 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℃~+70℃

## 2.ENVIRONMENTAL TEST

	Item	Specifications
2-1	<b>High temp. Test</b>	Keep 96 hours at $+75^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
2-2	<b>Low temp. Test</b>	Keep 96 hours at $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
2-3	<b>Humidity test</b>	Keep 96 hours at $+40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ relative humidity 90%~95% and leave 3 hours in normal temperature and then checked.
2-4	<b>Thermal cycle test.</b>	<p>Low temperature: <math>-40^{\circ}\text{C} \pm 3^{\circ}\text{C}</math>, temperature: <math>+75^{\circ}\text{C} \pm 3^{\circ}\text{C}</math>, 1 cycle: total 5cycles and then keep 6 hours in a room.</p>
2-5	<b>Vibration</b>	10~55~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.
2-6	<b>Drop test</b>	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	<b>Load test</b>	Rated Power white noise is applied for 48 hours
2-8	<b>Max Power test</b>	Max power 1 min on – 2 min off 10 cycles.
2-9	<b>Terminal strength test</b>	Capable of withstand 1kg load for 15seconds without resulting in any damage or rejection.
<p><b>PASS CRITERION :</b></p> <p>After these test , the change of S.P.L shall be within <math>\pm 3</math> dB .</p>		

## 3. MEASURING METHOD

### 3-1 .Test Condition

#### STANDARD

Temperature : 23 ~ 25°C

Relative humidity : 55% MAX,

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 : 1.0W(2.83V)

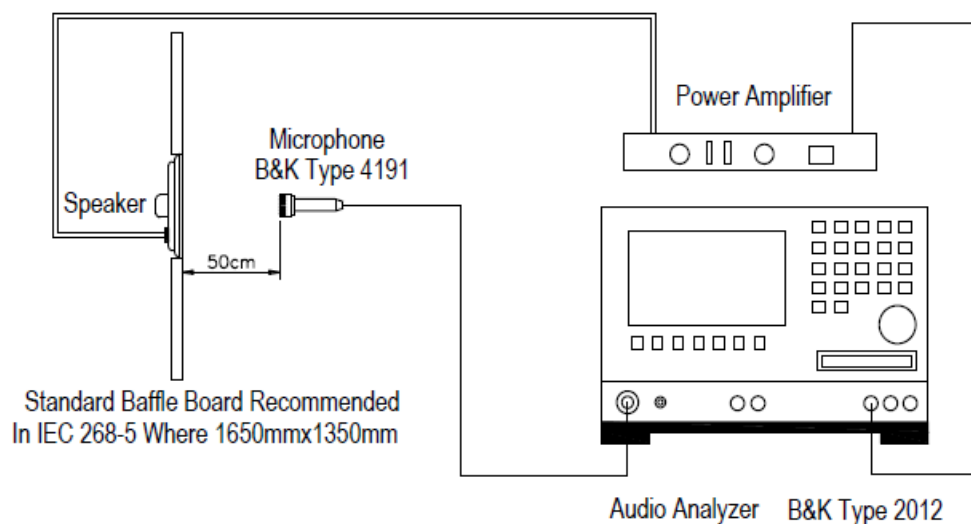
2. Zero Level : -dB

3. Mode : TSR

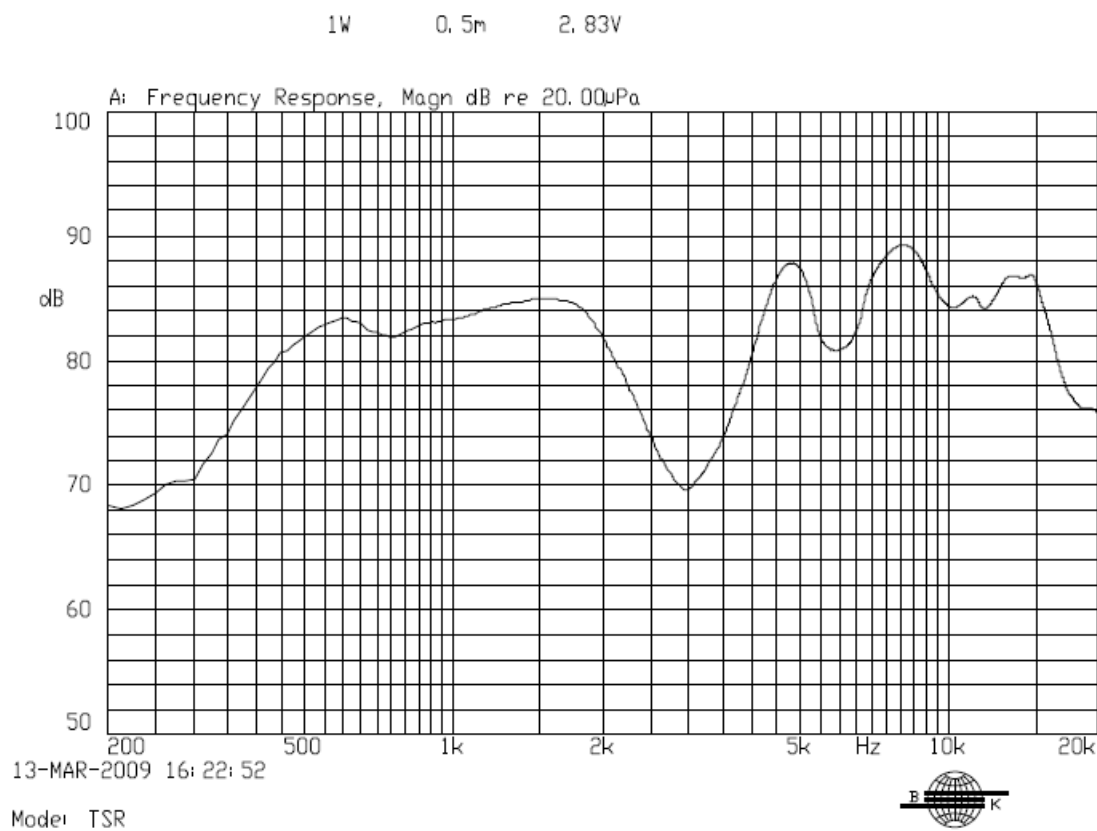
4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec

### Standard test condition of speaker

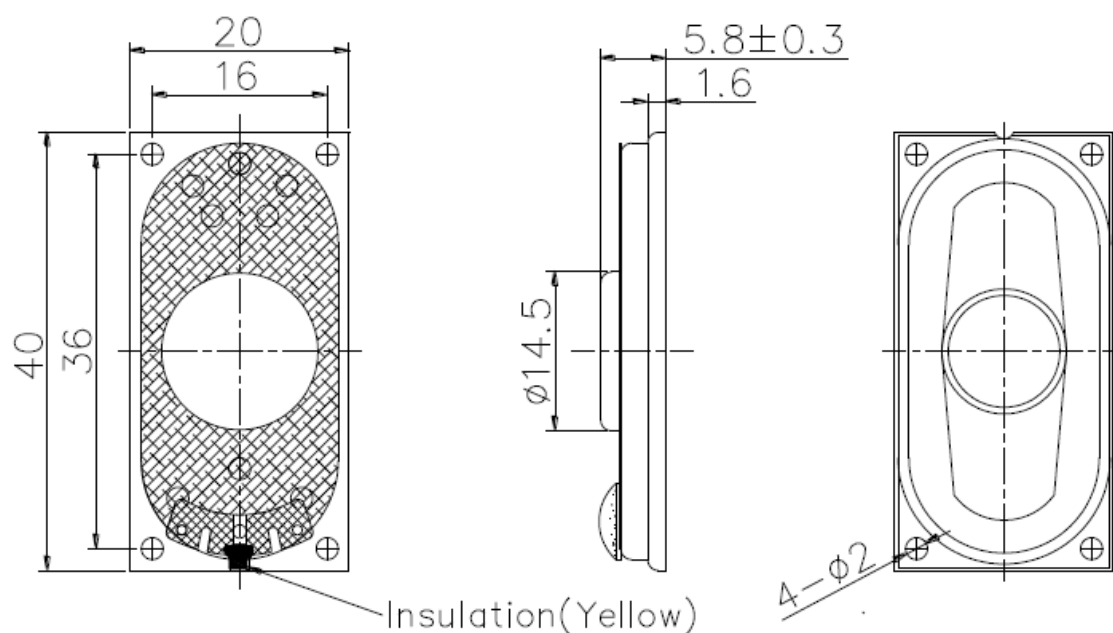


## 4.FREQUENCY RESPONSE CURVE



## 5.DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.5$  (unit:mm)



7	Frame	1	SPCC	
6	PCB	1	EPOXY	
5	Plate	1	0.8t	
4	Magnet	1	NdFeB	
3	Cloth conel	1	Cloth	
2	Dust cap	1	PAPER	
1	Voice coil	1	Self bonding wire	
PART NO.	PART NAME	Q'TY	MATERIAL	REMARK