



<b>Data Sheet</b>	<b>AS02008MO-R</b>
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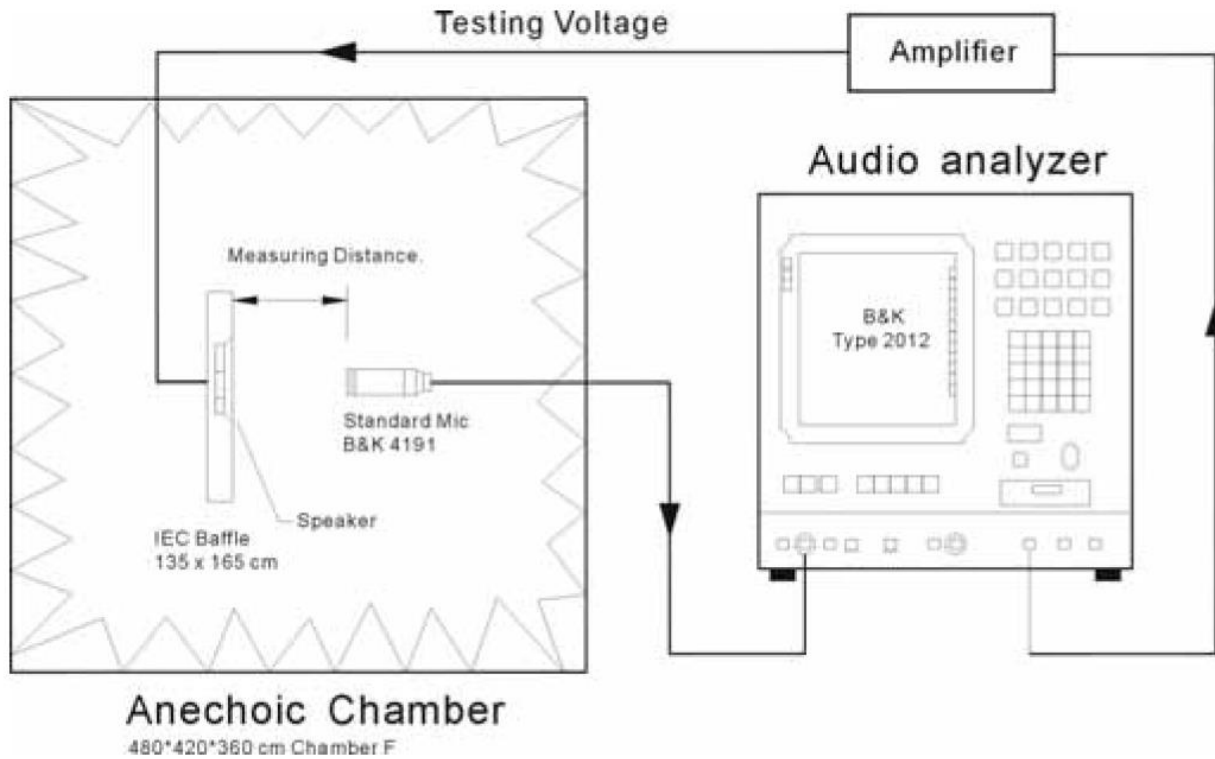
**Features:**

- IP65-rated design for protection against dust and water
- 3M™ 55256 double-sided tape for easy installation
- Great frequency response and sensitivity

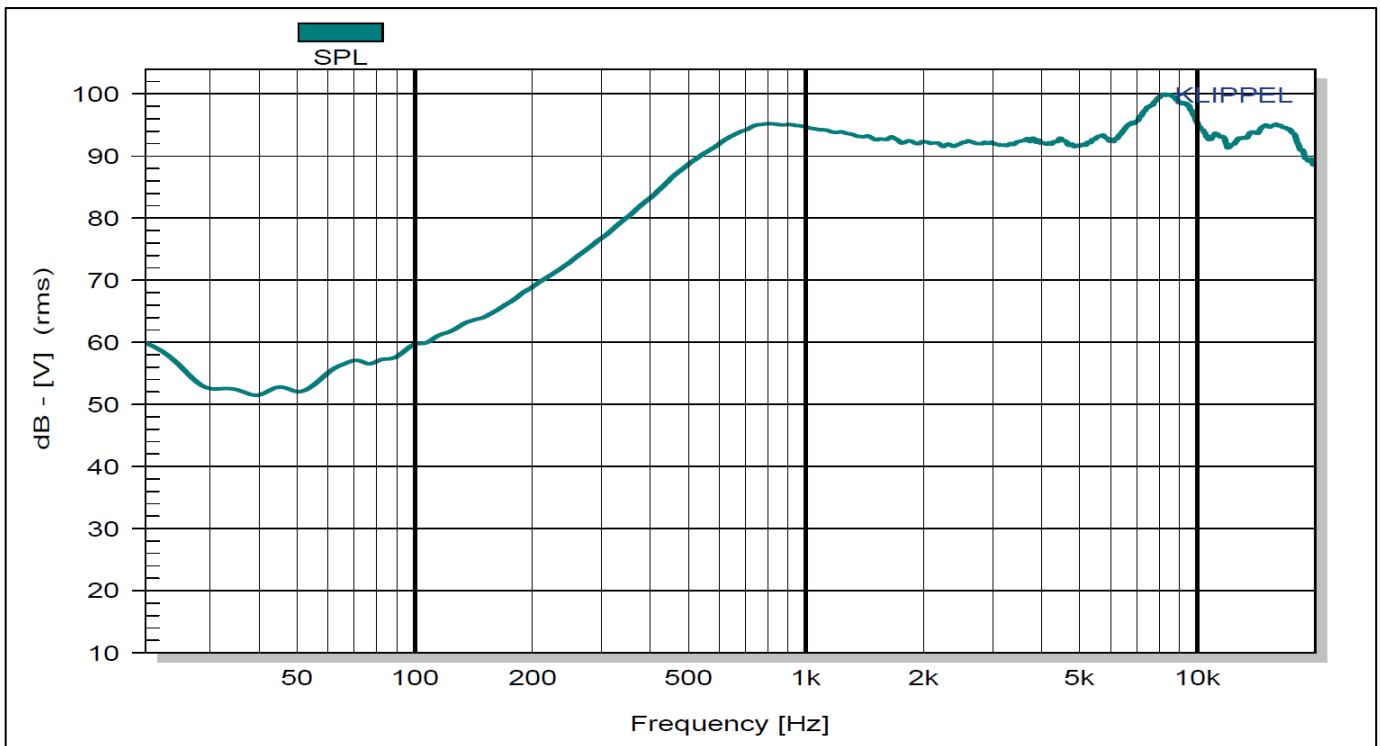
**Speaker Specifications**

Parameters	Values	Units
Rated Input Power	0.5	Watts
Max Input Power	1	Watts
Impedance	$8 \pm 15\%$	Ohms
Sensitivity @ 0.5W/0.1M (at 0.8, 1.0, 1.2, and 1.5 kHz)	$94 \pm 3$	dB
Resonant Frequency	$750 \pm 20\%$	Hz
Frequency Range	400 ~ 20,000	Hz
Frame Material	ABS	-
Magnet Material	NdFeB	-
Weight	1.32	Grams
Ingress Protection Rating	IP65	-
Acceptable Soldering Methods	Hand Solder	-
Buzz, Rattle, etc.	2V	-
Environmental Compliances	RoHS	-
Polarity	Diaphragm shall move forward when a positive DC signal is applied to positive terminal	-
Storage Temperature	-40 to +85	°C
Operating Temperature	-40 to +85	°C

## Measurement Method (Tested with 2V @ 10cm)



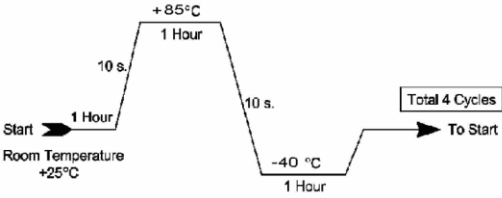
## Typical Frequency Response (2V @ 10cm)



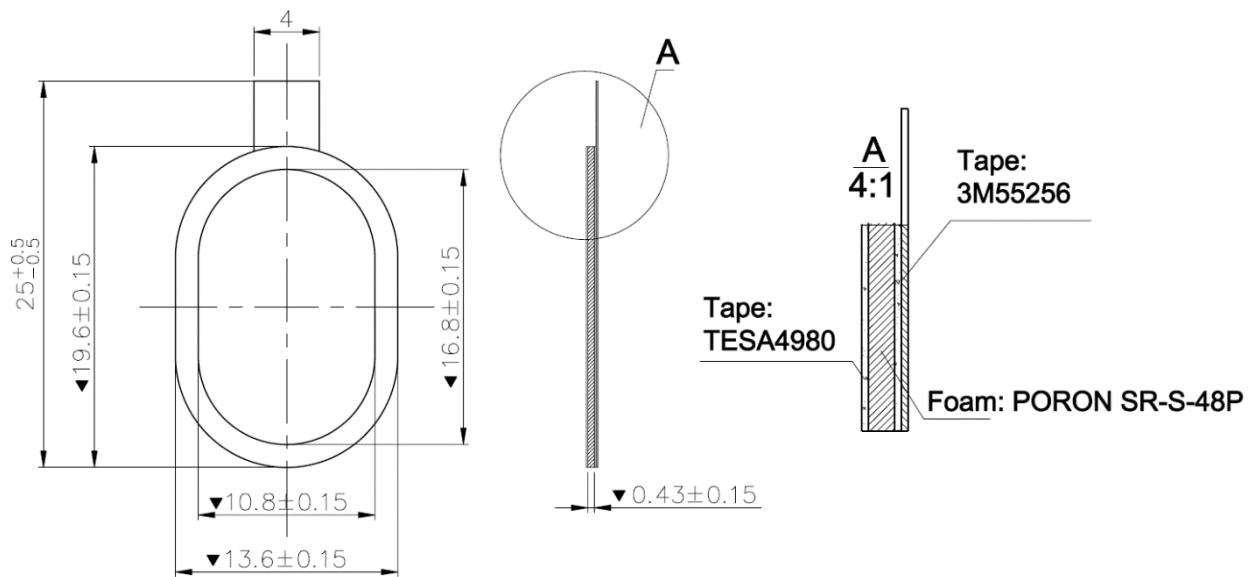
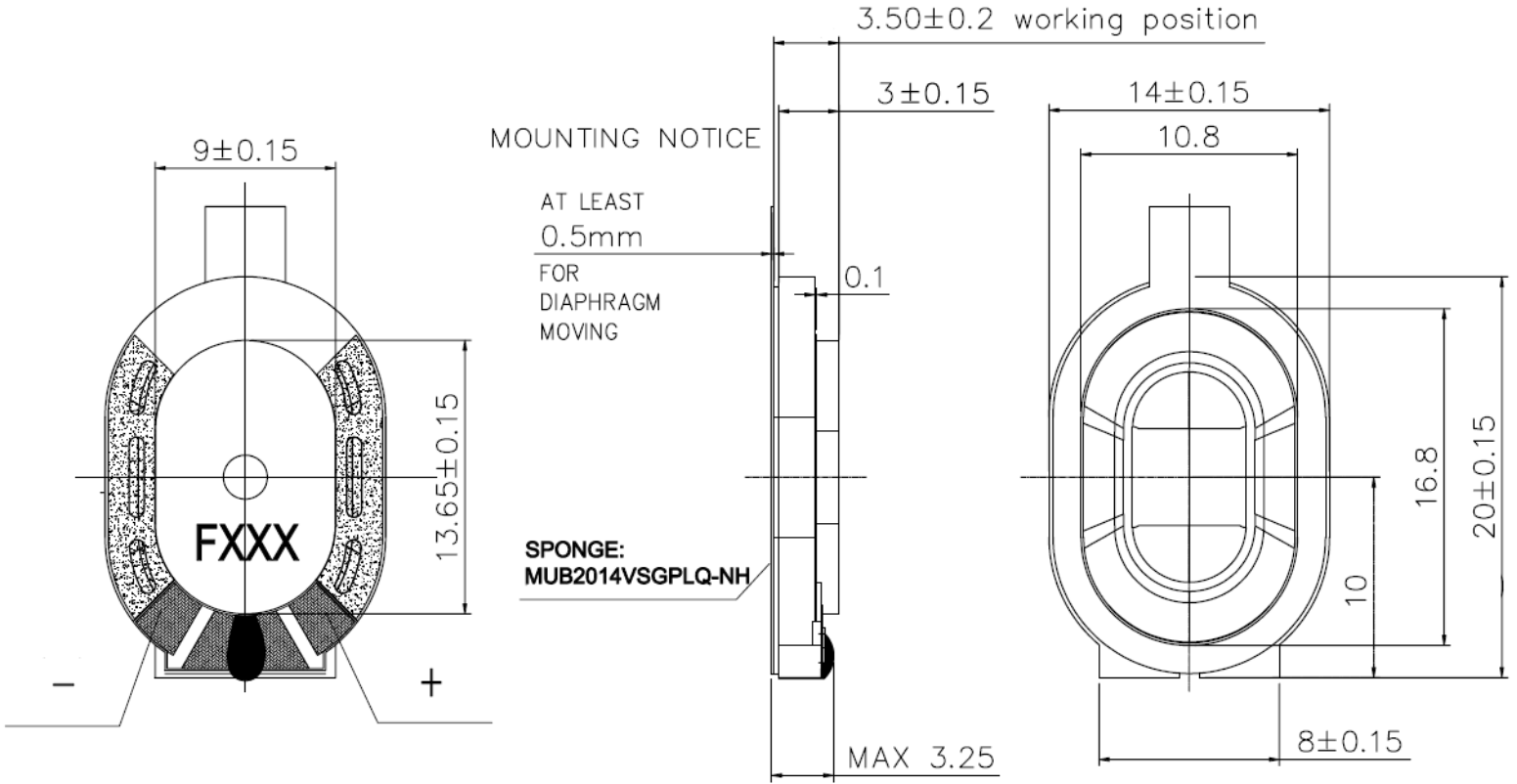
## Recommended Soldering Procedure

Hand solder using a 25 to 100-watt ESD safe soldering iron with the smallest practical tip. Solder at  $350^{\circ}\text{C} \pm 20^{\circ}\text{C}$  ( $660^{\circ}\text{F} \pm 30^{\circ}\text{F}$ ) using lead-free solder for less than 3 seconds per terminal.

## Reliability Testing

Type of Test	Test Specifications
High Temperature Test	Place the speaker in the $+85 \pm 2^{\circ}\text{C}$ chamber for 96 hours, then leave the speaker at room temperature for 1 hour, the SPL should not deviate by $\pm 3$ dB, and resonant frequency should not deviate by $\pm 50$ Hz, compared with pre-test measurement.
Low Temperature Test	Place the speaker in the $-40 \pm 2^{\circ}\text{C}$ chamber for 96 hours, then leave the speaker at room temperature for 1 hour, the SPL should not deviate by $\pm 3$ dB, and resonant frequency should not deviate by $\pm 50$ Hz, compared with pre-test measurement.
Humidity Test	After exposure the speaker in the $+40 \pm 2^{\circ}\text{C}$ , relative humidity 90% ~ 95% chamber for 96 hours, then leave the speaker at room temperature for 6 hours, the SPL should not deviate by $\pm 3$ dB, and resonant frequency should not deviate by $\pm 50$ Hz, compare with pre-test measurement.
Temperature Cycle Testing	Place the speaker in the chamber, temperature cycle setting as below, SPL should not deviate by $\pm 3$ dB, and resonant frequency should not deviate by $\pm 80$ Hz, compare with pre-test measurement.  <p>The diagram illustrates a temperature cycle test. It starts at 'Room Temperature +25°C'. A 1-hour dwell period follows. The temperature then ramps up at 10 seconds to <math>+85^{\circ}\text{C}</math>, where it dwells for 1 hour. It then ramps down at 10 seconds to <math>-40^{\circ}\text{C}</math>, where it dwells for 1 hour. The temperature then ramps back up at 10 seconds to the room temperature level. This entire cycle is repeated 4 times, as indicated by a box labeled 'Total 4 Cycles' and an arrow pointing 'To Start'.</p>
Vibration Test	Frequency $30 \pm 15$ Hz, Amplitude 1.5 mm for 3 Hours. After test, SPL shall not deviate by $\pm 3$ dB from pre-test measurement
Drop Test	75 cm free falling on concrete floor, 10 times. After test, SPL shall not deviate by $\pm 3$ dB from pre-test measurement.
Load Test	Speaker shall not fail after applying 20 ~ 20 kHz pink noise with HPF rated power input (RMS), 96 hours. After test, SPL shall not deviate by $\pm 3$ dB from pre-test measurement,

## Dimensions



**Specifications Revisions**

<b>Revision</b>	<b>Description</b>	<b>Date</b>
-	Released from Engineering	5/13/2011
A	Revised to Inventor 3D Template	7/15/2013
B	Revised double-sided tape	11/11/2019

Note:

- Unless otherwise specified:
  - All dimensions are in millimeters.
  - Default tolerances are  $\pm 0.5\text{mm}$  and angles are  $\pm 3^\circ$ .
- Specifications subject to change or withdrawal without notice.