



PUI audio



Data Sheet

AS01808AO-SC18-WP-R

The eight ohm 18mm x 13mm **AS01808AO-SC18-WP-R** speaker is designed for high fidelity audio reproduction in the thinnest size possible—only 2.5mm thick! Spring contacts offer quick electrical connection.

Features:

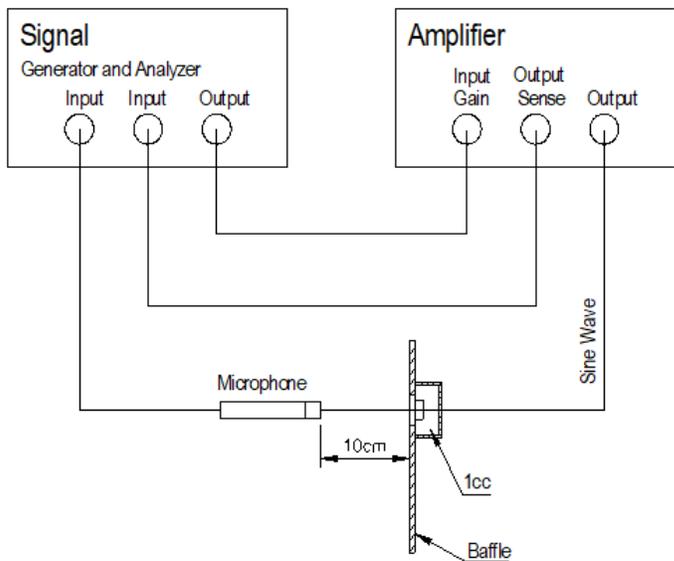
- PEEK diaphragm for flat frequency response
- 96 dB output (2.83V @ 10cm)
- High-energy triple magnet neodymium motor
- Double-sided tape for easy mounting
- Dustproof and waterproof IP68-rated face

Specifications

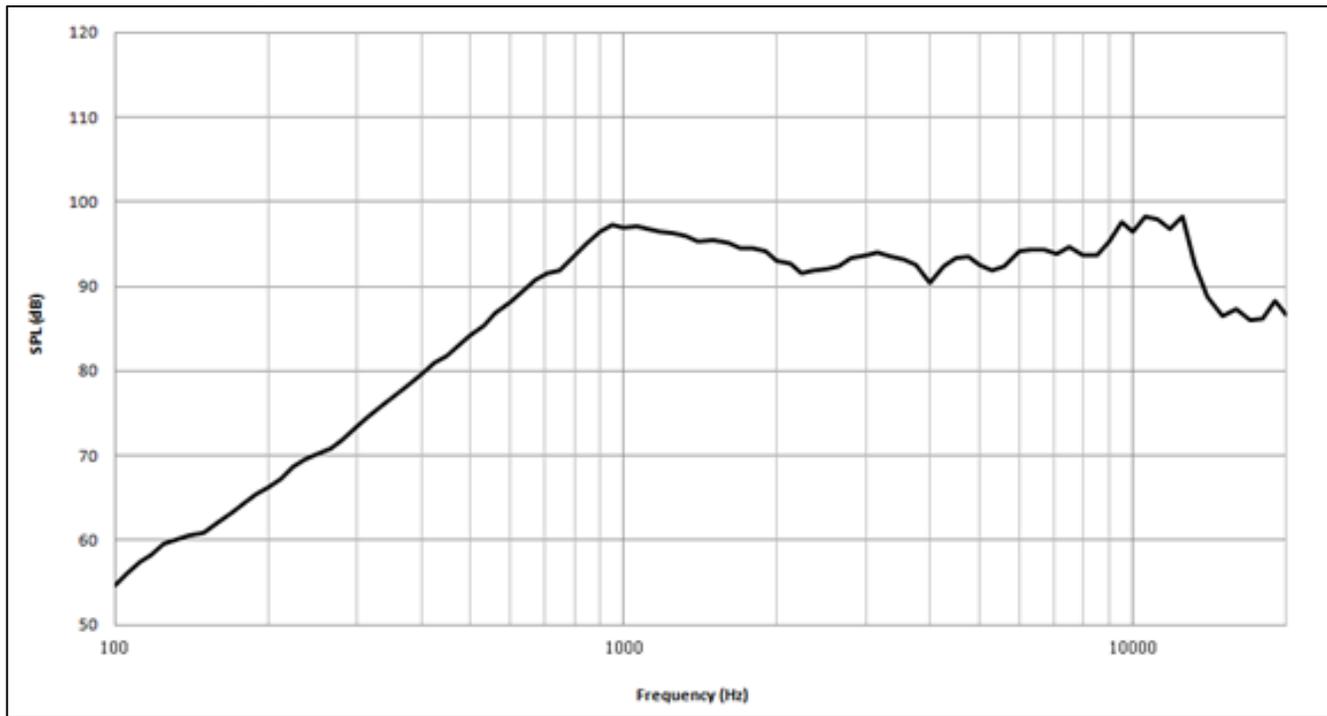
Parameters	Values	Units
Rated Input Power	1	Watts
Max Input Power	1.2	Watts
Impedance	$8 \pm 15\%$	Ohms
Sensitivity (SPL) $P_{IN} = 1.0W$, distance = 0.1m f = ave. 0.8kHz, 1kHz, 1.2kHz, 1.5kHz 1cc back-volume	96 ± 3	dB
Resonant Frequency (f_0)	$420 \pm 20\%$	Hz
Frequency Range	$F_0 \sim 15,000$	Hz
Voice-Coil Inductance	$0.008 \pm 30\%$	mH
Frame Material	PPA	-
Magnet Material	NdFeB	-
Weight	1.8	Grams
Environmental Protection Rating	IP68	-
Buzz, Rattle, etc.	Not audible with $P_{IN} = 1.0W$ (1cc back-volume), $500Hz \leq f \leq 15kHz$ sine wave	-
Polarity	Diaphragm moves forward with positive dc current applied to "+" terminal	-
Storage Temperature	$-40 \leq T_S \leq 85$	°C
Operating Temperature	$-20 \leq T_0 \leq 70$	°C

Measurement Method (Measured with $P_{IN} = 1.0W$, distance = 10cm, Temperature (T_A): $15^{\circ}C \leq T_A \leq 35^{\circ}C$, Relative Humidity (RH): $45\% \leq RH \leq 85\%$)

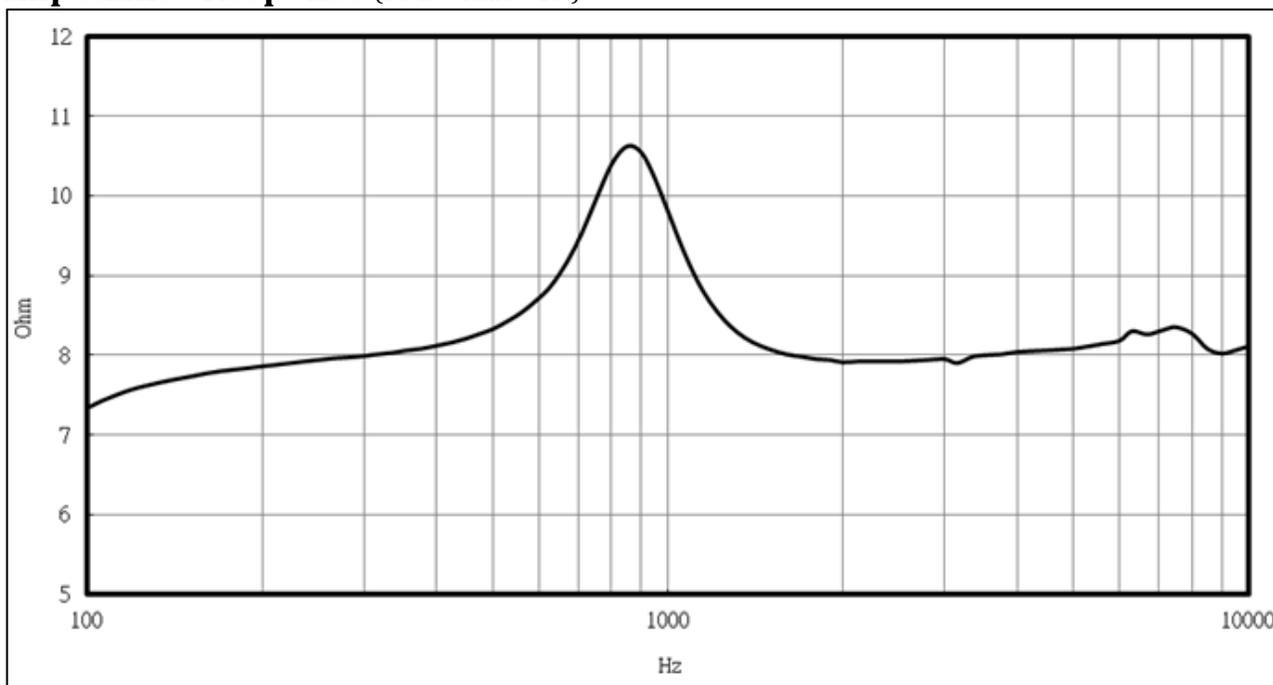
Speaker Measurement Circuit



Frequency Response ($P_{IN} = 1.0W$, distance = 10cm, back volume = 1cc)



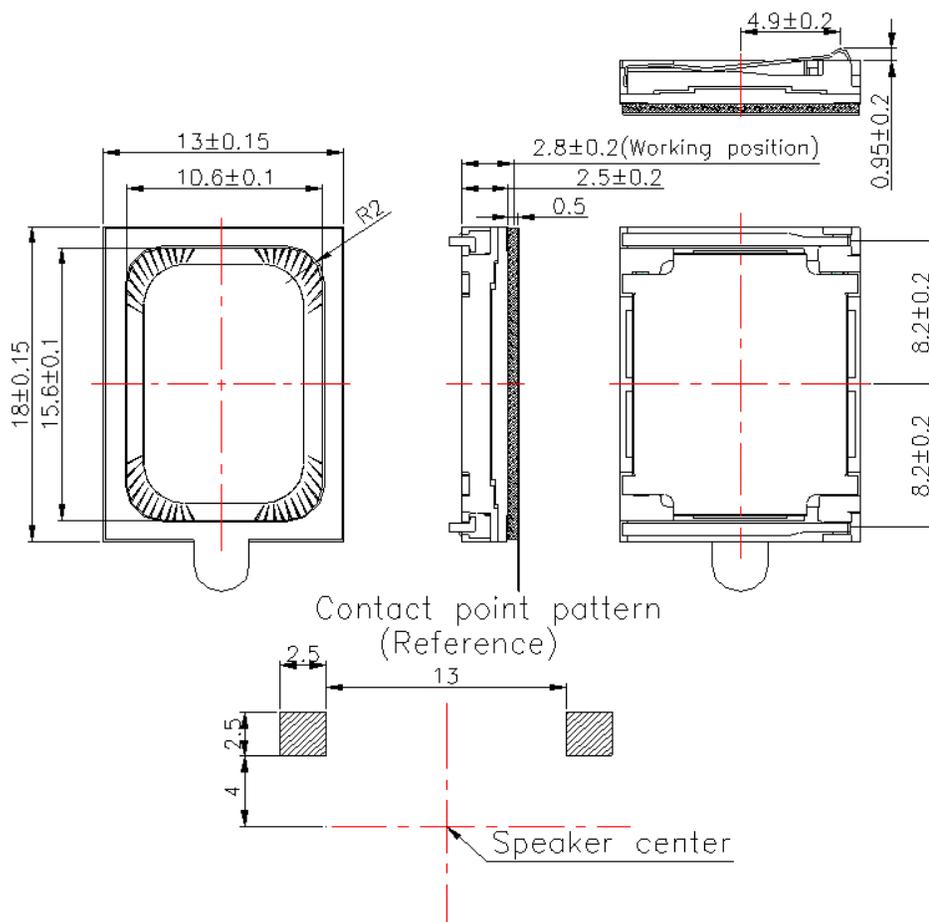
Impedance Response (Back volume = 1cc)



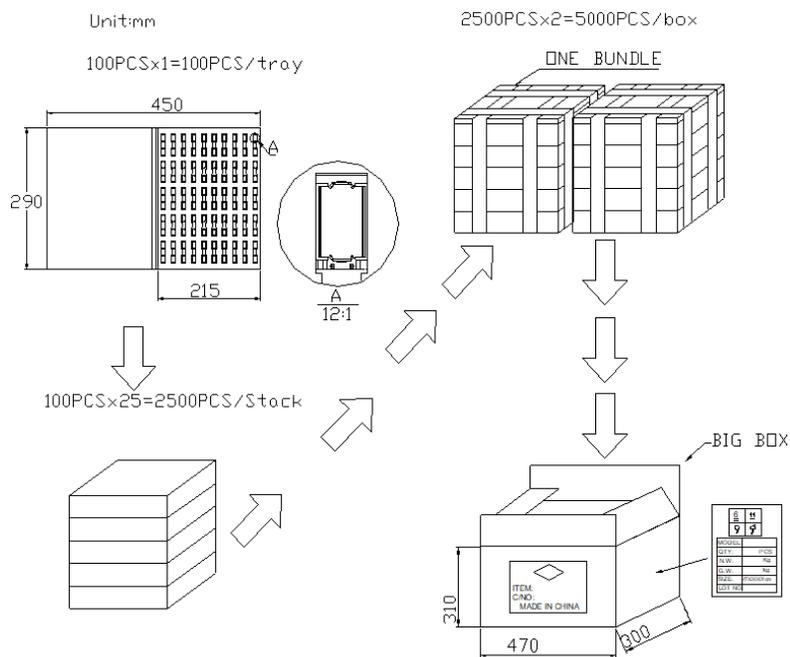
Reliability Testing (After each test and a six-hour recovery period at $T_A = 25^\circ$, the speaker's SPL shall be $\pm 3\text{dB}$ of the original SPL when driven at rated power.)

Type of Test	Test Specifications
High Temperature Test	96 hours at $+85^\circ\text{C} \pm 3^\circ\text{C}$ followed by two hours in normal room temperature
Low Temperature Test	96 hours at $-40^\circ\text{C} \pm 3^\circ\text{C}$ followed by two hours in normal room temperature
Humidity Test	96 hours at $+55^\circ\text{C} \pm 3^\circ\text{C}$ with relative humidity at 95% in accordance with IEC 68-2-67
Temperature Cycle Testing	The part shall be subjected to 20 cycles using the following procedure: Low temperature: $-40^\circ\text{C} \pm 3^\circ\text{C}$ High temperature: $+85^\circ\text{C} \pm 3^\circ\text{C}$ Cycle: 30 mins at High, 10 seconds High to Low, 30 mins at Low, 10 seconds minutes Low to High
Vibration Test	10 to 55 to 10 Hz sine sweep, per minute @ 1.5mm amplitude 2 hours in each axis X, Y, and Z
Drop Test	Mount speaker to 150g fixture, drop fixture 1.5 meters onto marble surface 18 times total
Load Test	DUTs shall be tested under each specified climatic condition for a continuous period of 100 hours at rated noise power. Speakers mounted in a 1cc back cavity; simulated program signal (IEC 268-1) with crest factor of 1.8~2.2 in rated frequency range; high pass 12dB/Oct or steeper, cut off at 850Hz. Refer to IEC 268-5

Dimensions (Bottom contact is positive on the far right drawing below)



Packaging



Unless otherwise specified, tolerance: ± 10 (unit:mm)

Specifications Revisions

Revision	Description	Date	Approved
A	Released from Engineering	10/03/2018	
B	Added typical voice-coil inductance value to specification table.	01/10/2024	KH
C	Update IP rating to IP68	12/09/2024	ML

Notes:

1. Unless otherwise specified:
 - A. All dimensions are in millimeters.
 - B. Default tolerances are $\pm 0.5\text{mm}$ and angles are $\pm 3^\circ$.
2. Specifications subject to change or withdrawal without notice.
3. This part is RoHS/REACH Compliant.