



Data Sheet	AS05508MO
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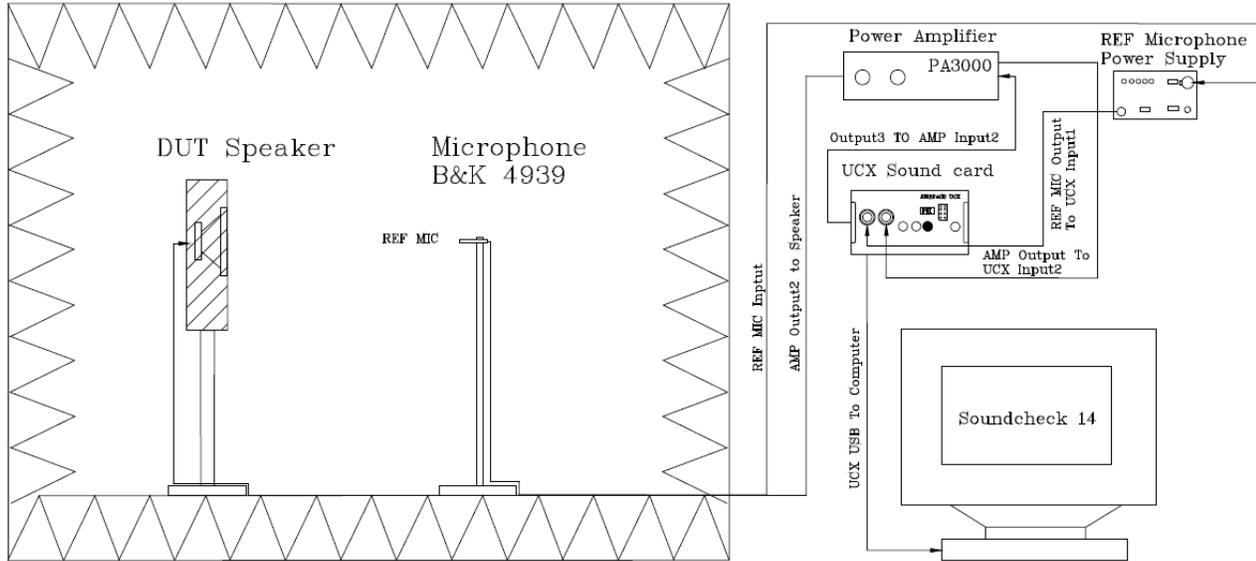
Features:

- 85dB SPL: $P_{DRIVE} = 3W$, distance = 1.0m
- 3W Continuous Dissipation
- 230Hz Free-Air Resonance
- 85°C Temperature Grade
- IP55 Rating
- 54.0mm x 30.5mm x 14.2mm dimensions

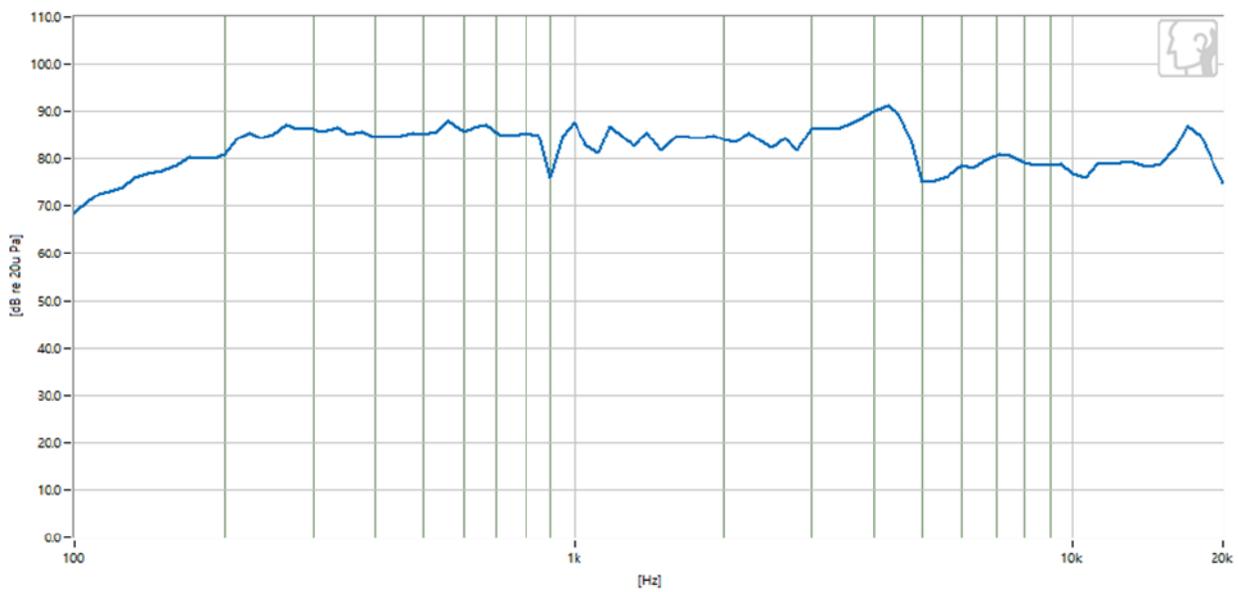
Specifications

Parameters	Values	Units
Rated Input Power	3	Watts
Max Input Power	4	Watts
Impedance	$8 \pm 15\%$	Ohms
Sensitivity (SPL) $P_{DRIVE} = 1.0W$, distance = 1.0m f = ave. 1.0kHz, 2.0kHz, 3.0kHz, 4.0kHz	85 ± 3	dB
Resonant Frequency (f_0)	$300 \pm 20\%$	Hz
Frequency Range (-10 dB)	$f_0 \leq f \leq 20,000$	Hz
THD	≤ 5	%
Recommended Enclosure Volume (closed box, no damping)	114.4	cc
Frame Material	ABS	-
Magnet Material	NdFeB	-
Diaphragm Material	PU	-
Buzz, Rattle, etc.	Not audible with $P_{DRIVE} = 3W$, sine wave , $f_0 \leq f \leq 20,000$	-
Polarity	Diaphragm moves forward with positive dc current applied to "+" terminal	-
Ingress Rating	IP55	-
Storage Temperature	$-40 \leq T_S \leq 90$	°C
Operating Temperature	$-40 \leq T_A \leq 85$	°C
Environmental Compliances	ROHS/REACH	-

Measurement Method



Typical Frequency Response



Typical Thiele-Small Parameters (based on Golden Sample, up to 20% variance is normal)

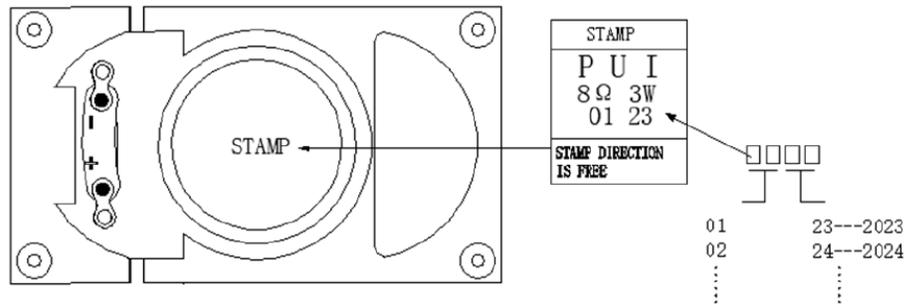
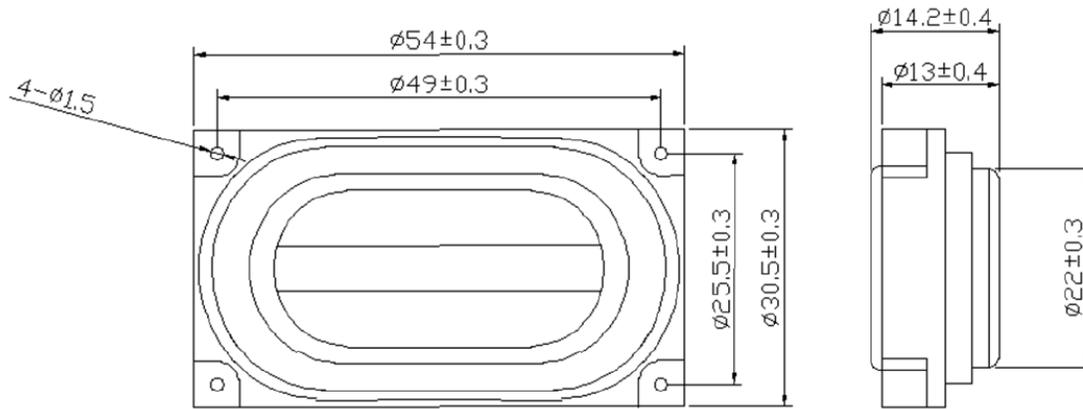
Specification	Value	Description
Re	7.200	DC resistance
Le	0.080	Inductance @ 10 kHz
Fs	479.4704	Resonant Frequency
Mms	0.9175	Moving Mass
Bl	1.810	Magnet Force Factor
Qms	2.8541	Mechanical Q-factor
Qes	6.0749	Electrical Q-factor
Qts	1.9418	Total Q-factor
Vas	0.0212	Equivalent Air Volume of Suspension

Reliability Testing

Type of Test	Test Specifications
High Temperature Test	96 hours at 85°C
Low Temperature Test	96 hours at -40°C
Humidity Test	96 hours at 45°C with relative humidity at 90~95%
Temperature Cycle Testing	<p>Subject each part to 5 cycles, with each cycle consisting of:</p> <p>The diagram illustrates a temperature cycle testing profile. It starts at +85°C for a 2-hour dwell. This is followed by a 0.5-hour ramp down to +25°C, where it dwells for 1 hour. Another 0.5-hour ramp down leads to -40°C, which is dwelled for 2 hours. The total duration of one cycle is 6 hours, indicated by a dashed line at the bottom.</p>
Vibration Test	Speaker shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours.
Shock Test	If applicable, describe conditions of test.
Drop Test	Drop the speakers contained in normal box onto the board 40mm thick 2times from the height of 75cm
Load Test	3W White noise is applied for 96 hours, at room temp product

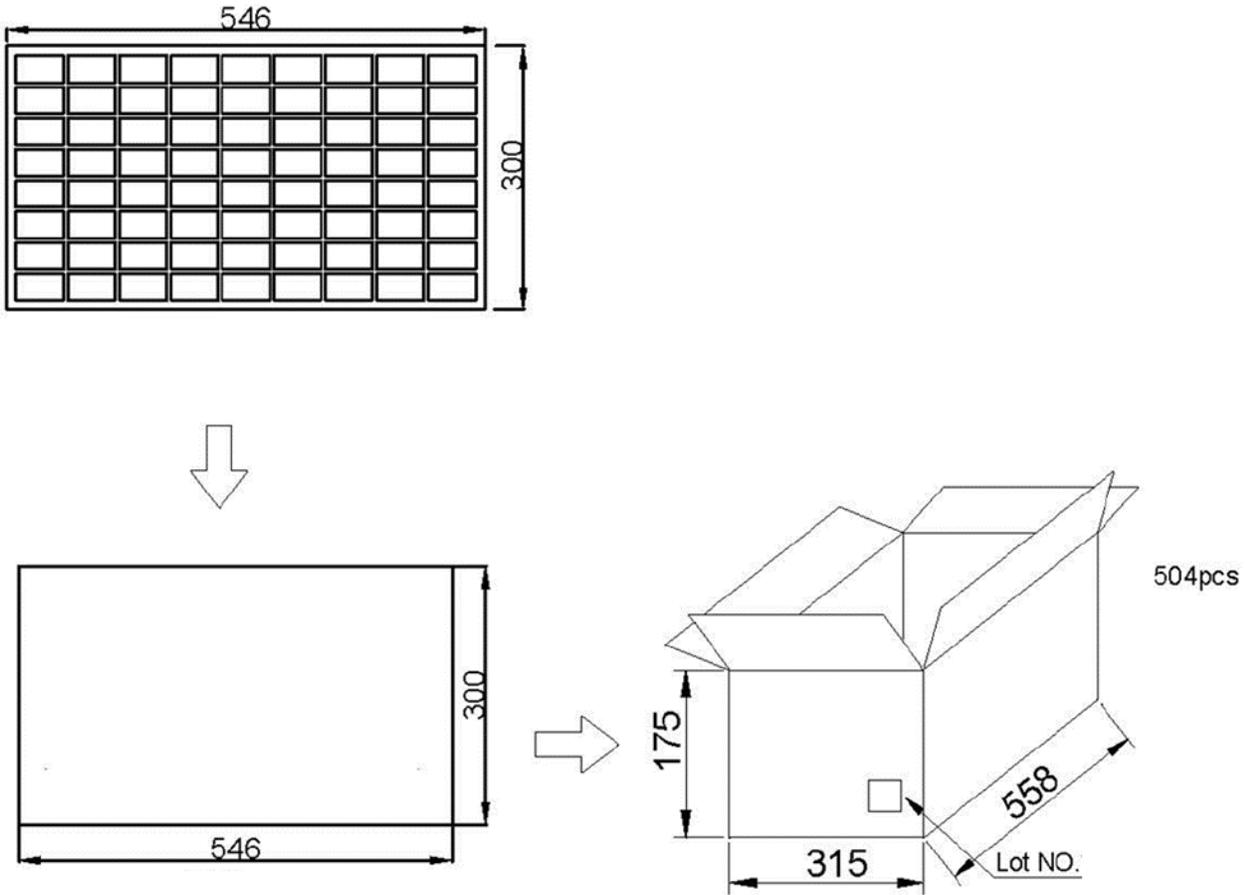
After each test let rest for 6 hours in 25°C, and then each part should be within ±3dB.

Dimensions



Tol : ± 0.3
Unit : mm

Packaging



Specifications Revisions

Revision	Description	Date	Approved
A	Released from Engineering	12/16/2022	
B	Updated Dimensions	4/11/2023	
C	Added the IP55 rating to specification table; edited specification table layout	01/30/2024	KH

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.