



Data Sheet	AS05004MR-4-LWC45
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Features:

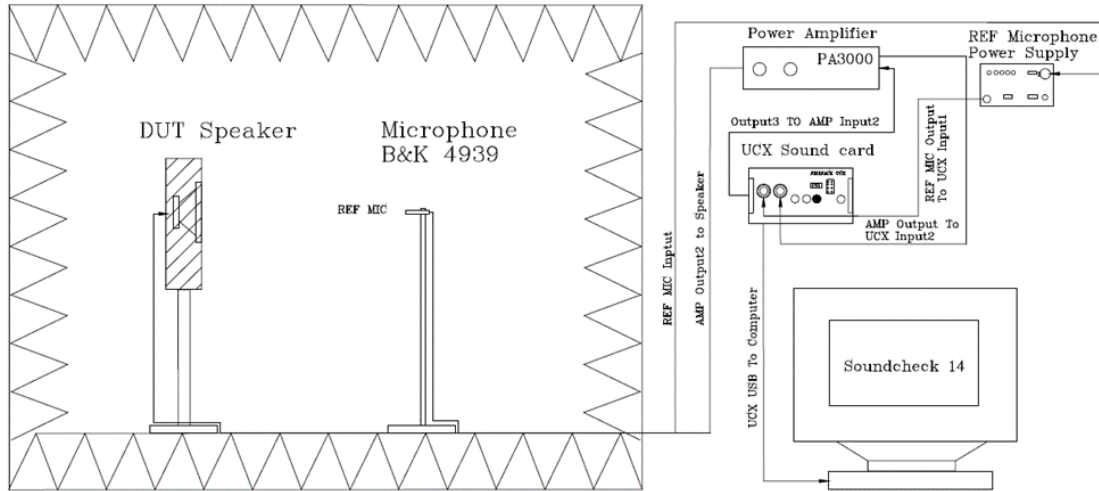
- High Input power and High SPL
- Low threshold distortion
- IP67 Rated

Specifications

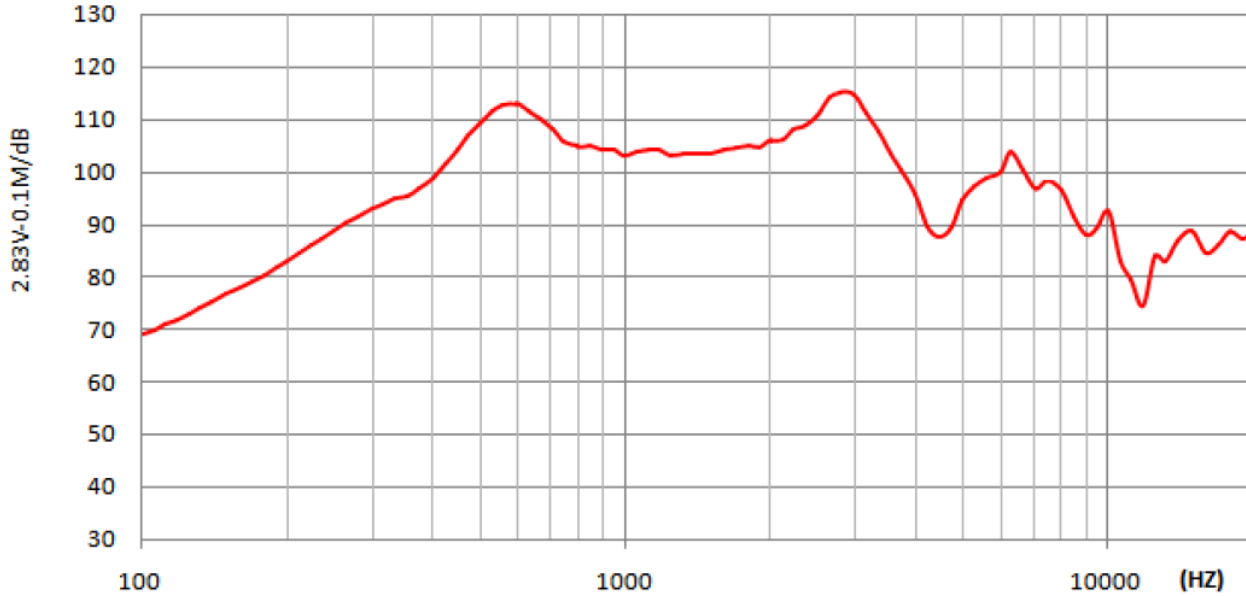
Parameters	Values	Units
Rated Input Power	2.0	Watts
Max Input Power	3.0	Watts
Impedance	4 ± 20%	Ohms
Output SPL (At 0.8 1.0 1.2 1.5KHz; 2.83V/10cm)	103 ± 3	dB
Resonant Frequency	530 ± 20%	Hz
Frequency Range	530 ~ 20,000	Hz
THD	<5%	
Recommended Enclosure Volume (closed box, no damping)	166.4	cc
Frame Material	SPCC	-
Magnet Material	NdFeB	-
Diaphragm Material	PET	-
Weight	17	Grams
Ingress Protection Rating	IP67	-
Buzz, Rattle, etc.	Not be audible at 2.83V sine wave between Fo~20K	-
Environmental Compliances	ROHS/REACH	-
Polarity	Diaphragm shall move Forward when Apply a Positive DC. Current to the “+”	-
Storage Temperature	-30 ~ 70	°C
Operating Temperature	-20 ~ 60	°C

Measurement Method

Speaker Testing framework diagram



Typical Frequency Response



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

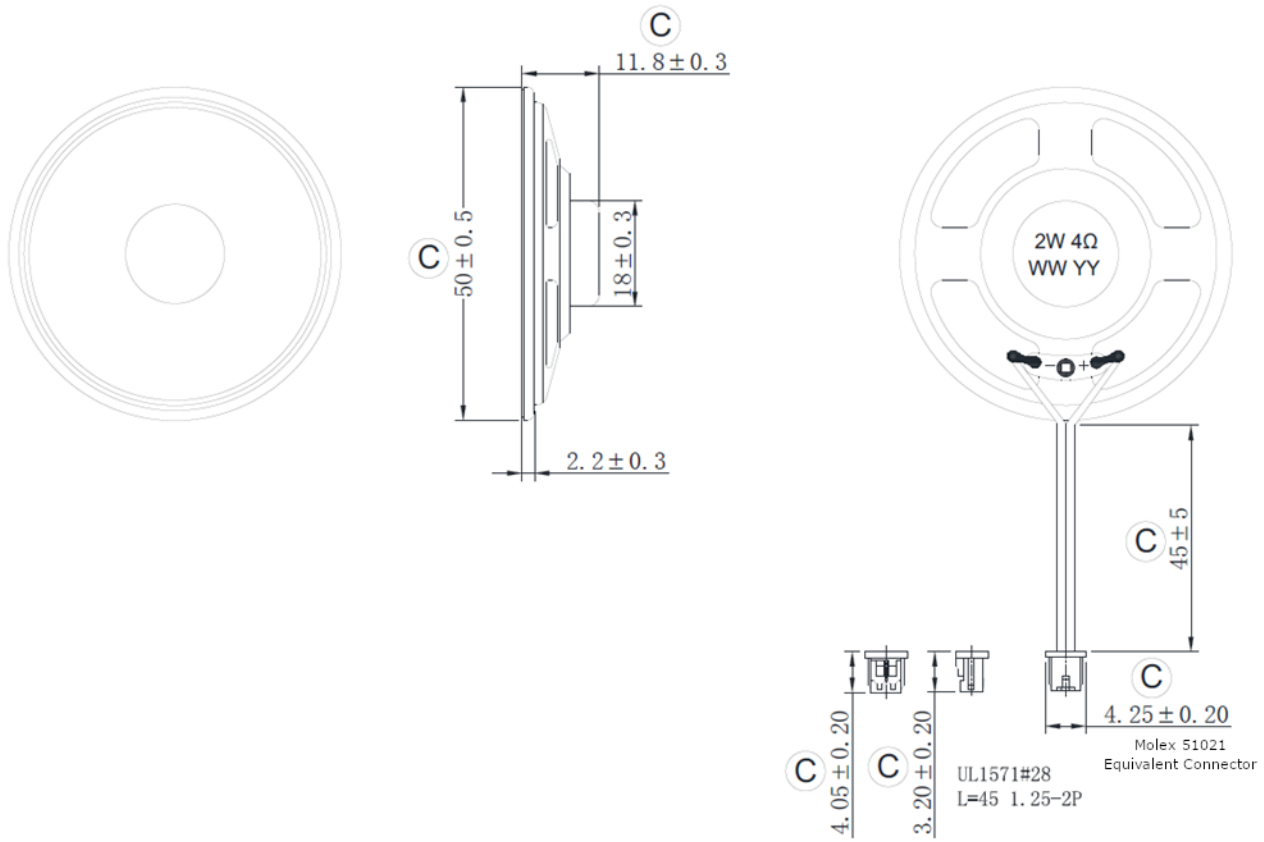
Specification	Value	Description
Re	3.8	DC resistance
Le	0.028	Inductance @ 10 kHz
Fs	615.6	Resonant Frequency
Mms	0.461	Moving Mass
Bl	0.811	Magnet Force Factor
Qms	16.717	Mechanical Q-factor
Qes	10.312	Electrical Q-factor
Qts	6.378	Total Q-factor
Vas	0.0264	Equivalent Air Volume of Suspension

Reliability Testing

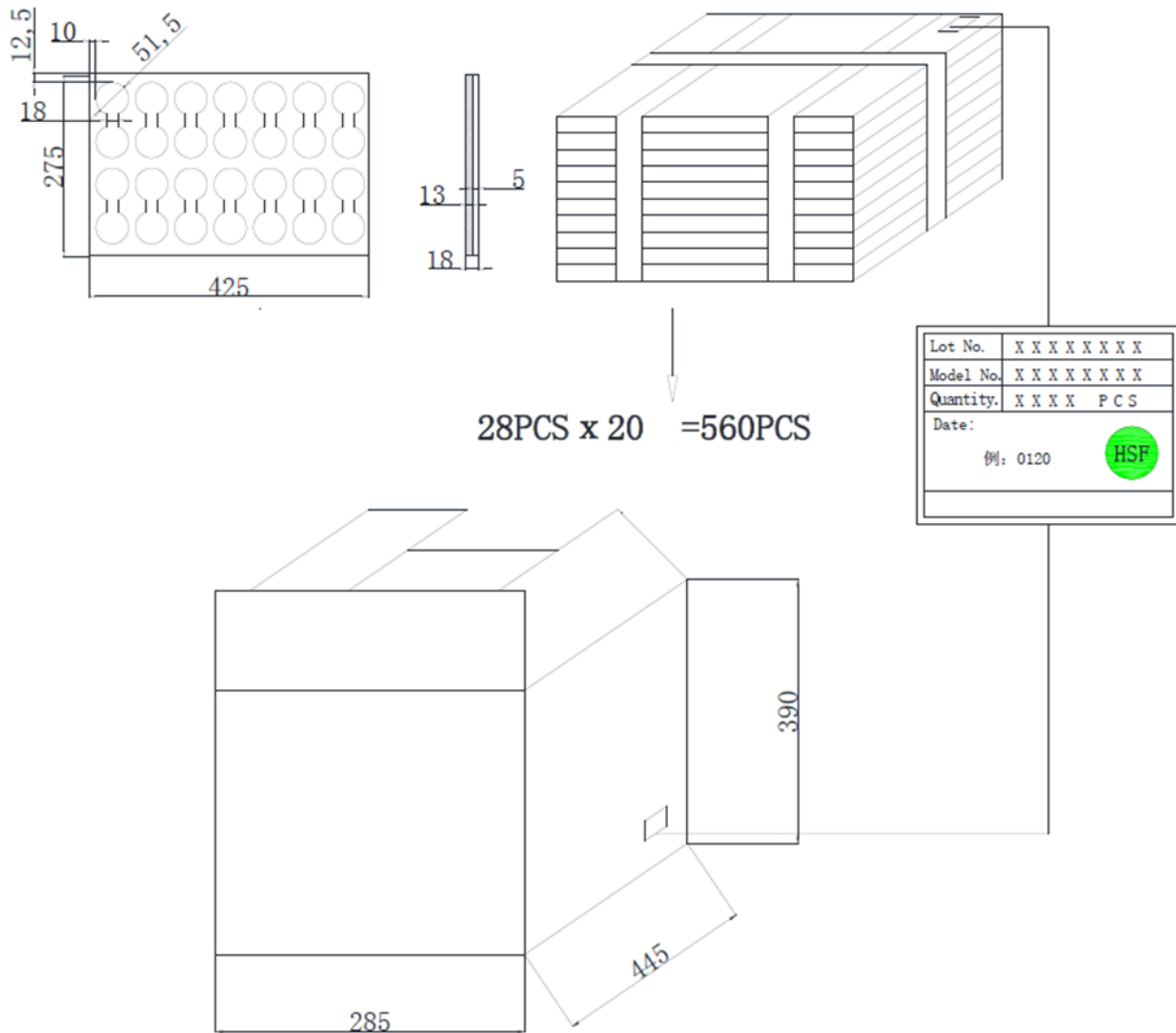
Type of Test	Test Specifications
High Temperature Test	96 hours at 70°C
Low Temperature Test	96 hours at -30°C
Humidity Test	96 hours at 30°C with relative humidity at 90~95%
Temperature Cycle Testing	<p>Subject to 5 cycles with each cycle consisting of:</p> <p>The diagram illustrates a temperature cycle testing profile. It starts at +60°C for 2 hours, then ramps down to +25°C over 0.5 hours. It remains at +25°C for 1 hour, then ramps down to -20°C over 0.5 hours. Finally, it remains at -20°C 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 perpendicular directions for 2 hours
Drop Test	Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm
Load Test	2W White noise is applied for 96 hours, at room temp product

Call out how pass/fail conditions are determined after the reliability testing is complete

Dimensions



Packaging



Tray	425*275*18	28*1=28PCS
Unit	345*290*180	28*10=280PCS
Box	445*285*390	280*2=560PCS

Specifications Revisions

Revision	Description	Date
A	Released from Engineering	12/16/2022

Note:

- 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.