



Data Sheet

AS04004MR-N50-WP-R

Introducing the N50 Mini Speaker Series from PUI Audio. High-grade neodymium magnetic motors are employed in each N50 Series speaker to create the highest output possible, in the smallest form factor.

The 40mm diameter **AS04004MR-N50-WP-R** is the waterproof, high-temperature version of the popular AS04004MR-N50-R and is built with a silver-poly convex-capped-paper diaphragm, rubber surround, and a cupped spider. A Kapton® former reduces moving mass for high sensitivity. The frame encapsulates the magnetic motor for durability and drop resistance.

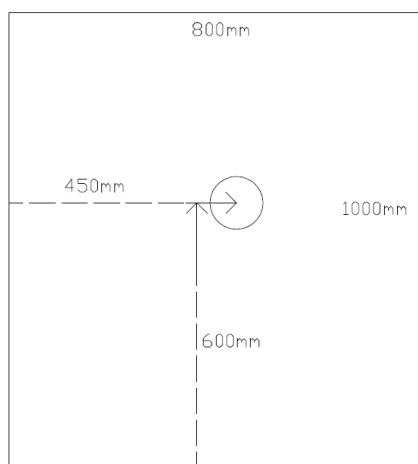
Features:

- Silver poly cone and rubber surround
- High 84 dB output at 1W/50cm
- Frame-encapsulated, high-temperature N50 neodymium motor
- Only 20.5mm thick
- 2.5mm of excursion

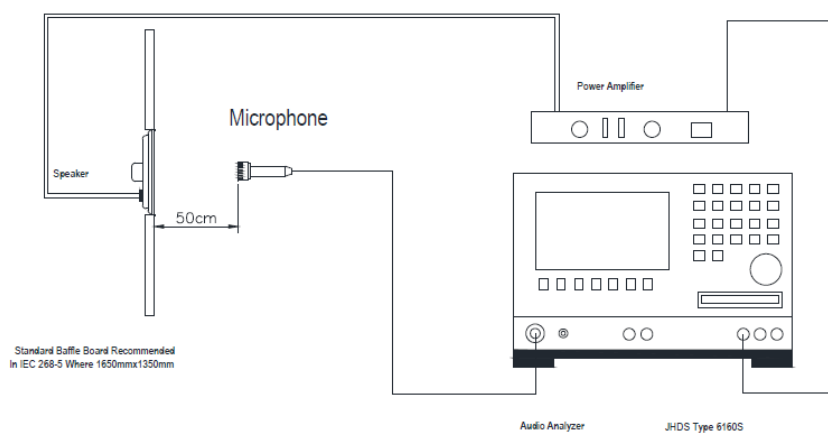
Specifications

Parameters	Values	Units
Rated Input Power	5	Watts
Max Input Power	6	Watts
Impedance	$4 \pm 15\%$	Ohms
Sensitivity (SPL @ 1W/50cm) (800, 1000, 1200, and 1500 Hz)	84 ± 3	dBa
Distortion (Max @ 1W, 1 kHz)	<5%	-
Resonant Frequency	$160 \pm 20\%$	Hz
Frequency Range	100 ~ 20,000	Hz
Housing Material	PA	-
Magnet Material	NdFeB	-
Weight	21.5	Grams
Buzz, Rattle, etc.	Should not be audible with 4.47Vpk sine wave from 150 Hz to 20 kHz	-
Polarity	When positive voltage is applied to the positive terminal, the diaphragm will move outward	-
Acceptable Soldering Methods	Hand Solder Only	-
Ingress Protection Rating	IP65	-
Environmental Compliances	RoHS	-
Operating Temperature	-30 ~ +85	°C
Storage Temperature	-30 ~ +85	°C

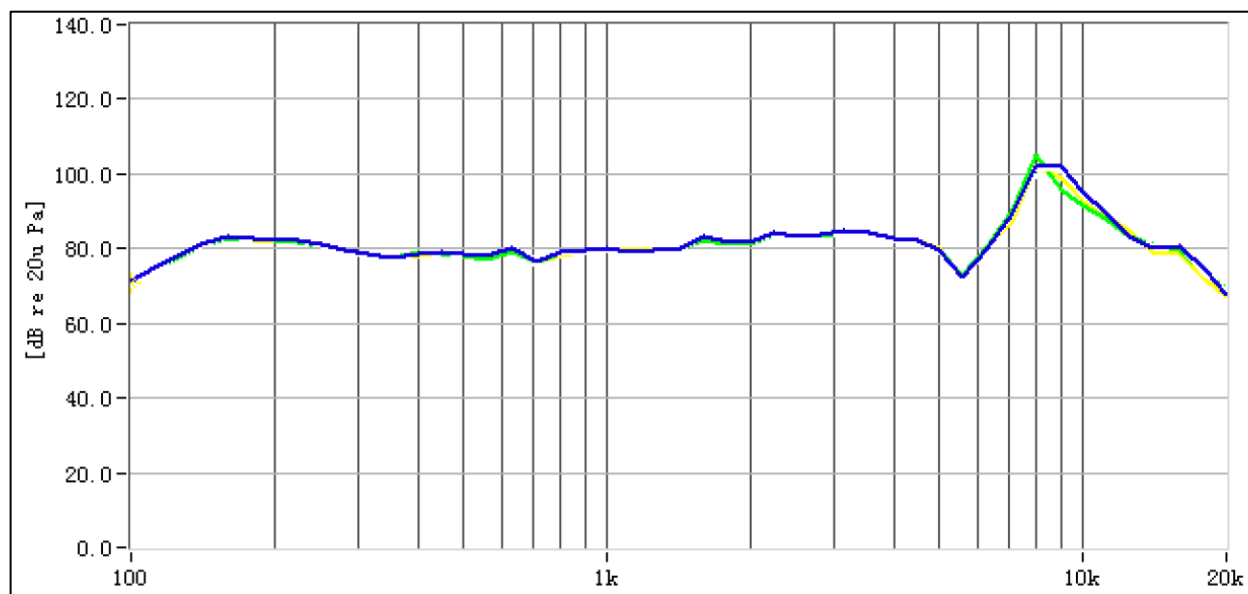
Measurement Method



Test Baffle (speaker mounted in circle)



Frequency Response (measured at 50cm with 1W input power)

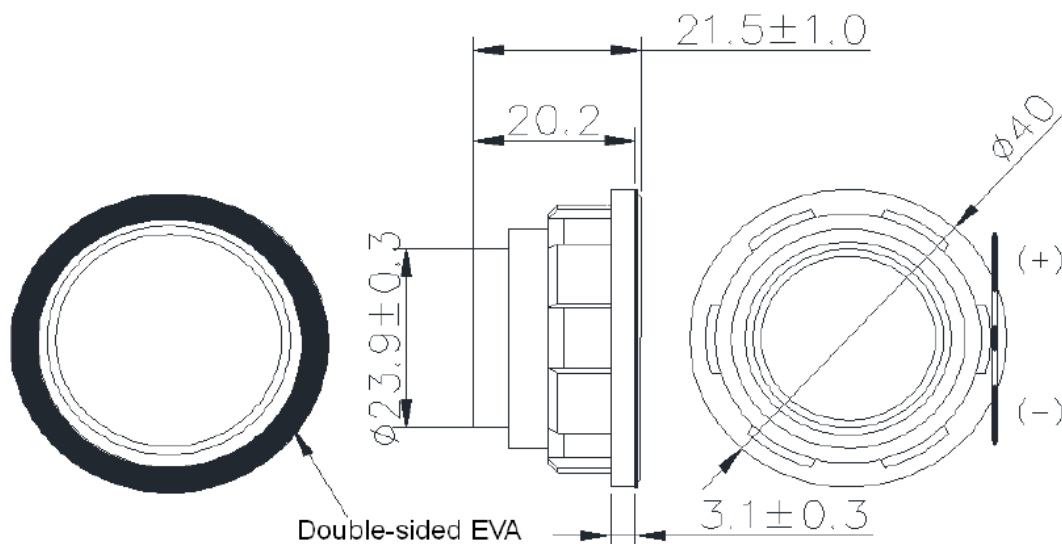


Reliability Testing

Type of Test	Test Specifications
High Temperature Test	96 hours at +85°C ± 3°C followed by six hours in normal room temperature
Low Temperature Test	96 hours at -30°C ± 3°C followed by six hours in normal room temperature
Humidity Test	96 hours at +30°C ± 3°C with relative humidity at 92% to 95% followed by 3 hours in normal room temperature
Temperature Cycle Testing	The part shall be subjected to 5 cycles using the following procedure: 90 ~ 95 % RH 65°C 25°C 0.5hr 6hrs 0.5hr 5hrs
Vibration Test	10 to 55 to 10 Hz cycles, 15 minutes per cycle. 2 hours in each axis X, Y, and Z.
Drop Test	Drop the speakers onto a 40mm thick board 10 times from a height of 75cm.
Load Test	Pink noise is applied at the speakers rated power for 96 hours at room temperature

After each test, the speaker's SPL shall be ±3 dB of the original SPL

Dimensions



CONSTRUCTION DETAIL

PART NO.	PART NAME	Q'TY	MATERIAL	REMARK
1	Gasket	1	3M	
2	Diaphragm	1	PU+AL	
3	VOICE COIL	1	Paper Cu	
4	Plate	1	SPCC	
5	Magnet	1	NdFeB	
6	PCB Terminal	1	FR4	
7	Frame	1	PA	

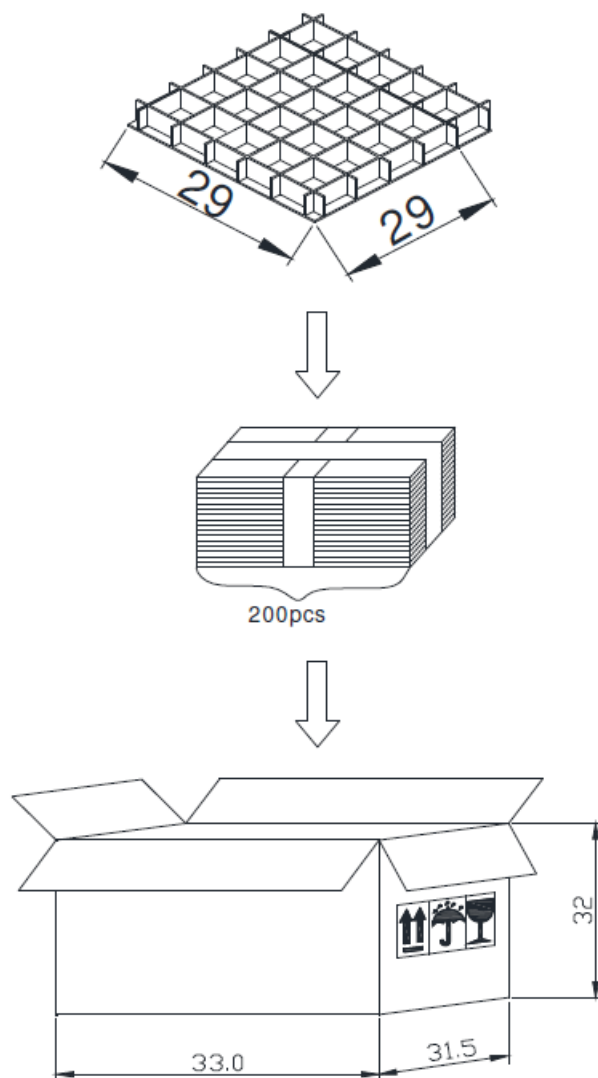
Packaging

25 pcs per tray

8 units per carton

Total:200 pcs per box

Size:33.0*31.5*32cm



Specifications Revisions

Revision	Description	Date
-	Released from Engineering	10/24/2018

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.
3. This part is RoHS 2011/65/EU Compliant.