



## Data Sheet

AS02704MS-N50-LW100-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 27mm square frame **AS02704MS-N50-LW100-R** features a polymer cone, rubber surround, and a Poron gasket for an IP67 ingress protection rating. Add high fidelity sound to your product without sacrificing space with this big-sounding speaker that measures only 6.6mm thick!

### Features:

- Polymer cone with rubber surround with Poron gasket for IP67 rating
- High 79 dB output at 1W/50cm with full range sound
- N50 neodymium motor and 100mm lead wires
- Only 6.6 mm thick with 1.5 mm of excursion

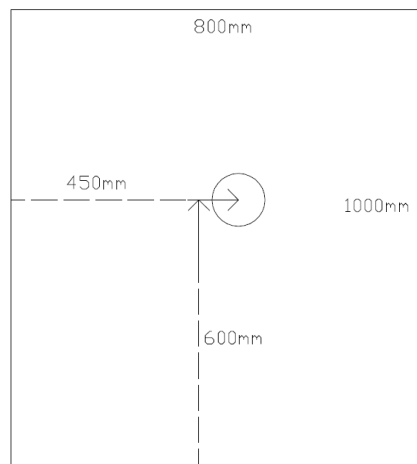
### Specifications

Parameters	Values	Units
Rated Input Power	2	Watts
Max Input Power	3	Watts
Impedance	$4 \pm 15\%$	Ohms
Sensitivity (SPL @ 1W/50cm) (800, 1000, 1200, and 1500 Hz)	$79 \pm 3$	dBA
Resonant Frequency	$350 \pm 20\%$	Hz
Frequency Range	300 ~ 20,000	Hz
Housing Material	PBT	-
Magnet Material	NdFeB	-
Weight	9	Grams
Environmental Protection Rating	IP67	-

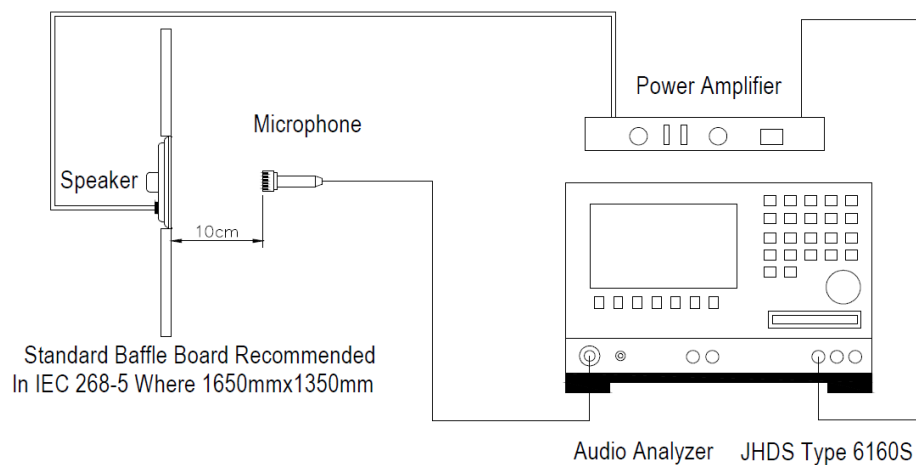
## Specifications (continued)

Buzz, Rattle, etc.	Should not be audible with 4Vpk sine wave from 500 Hz to 10 kHz	-
Polarity	When positive voltage is applied to the positive terminal, the diaphragm will move outward	-
Operating Temperature	-20 ~ +60	°C
Storage Temperature	-25 ~ +60	°C

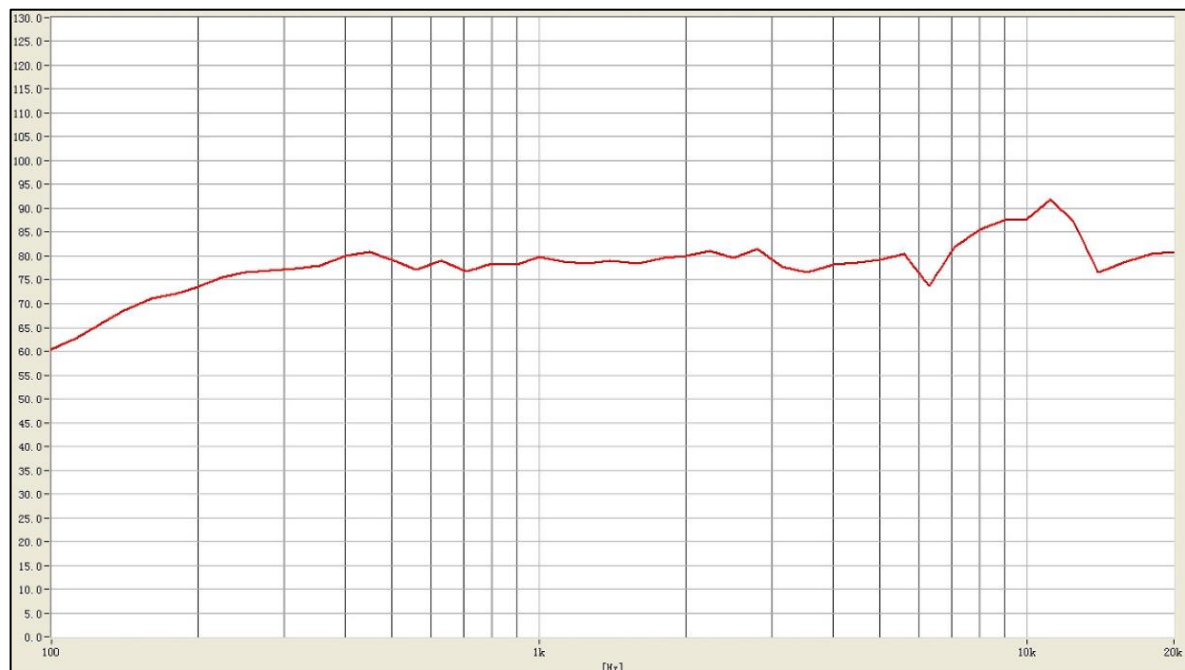
## Measurement Method



Test Baffle (speaker mounted in circle)



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

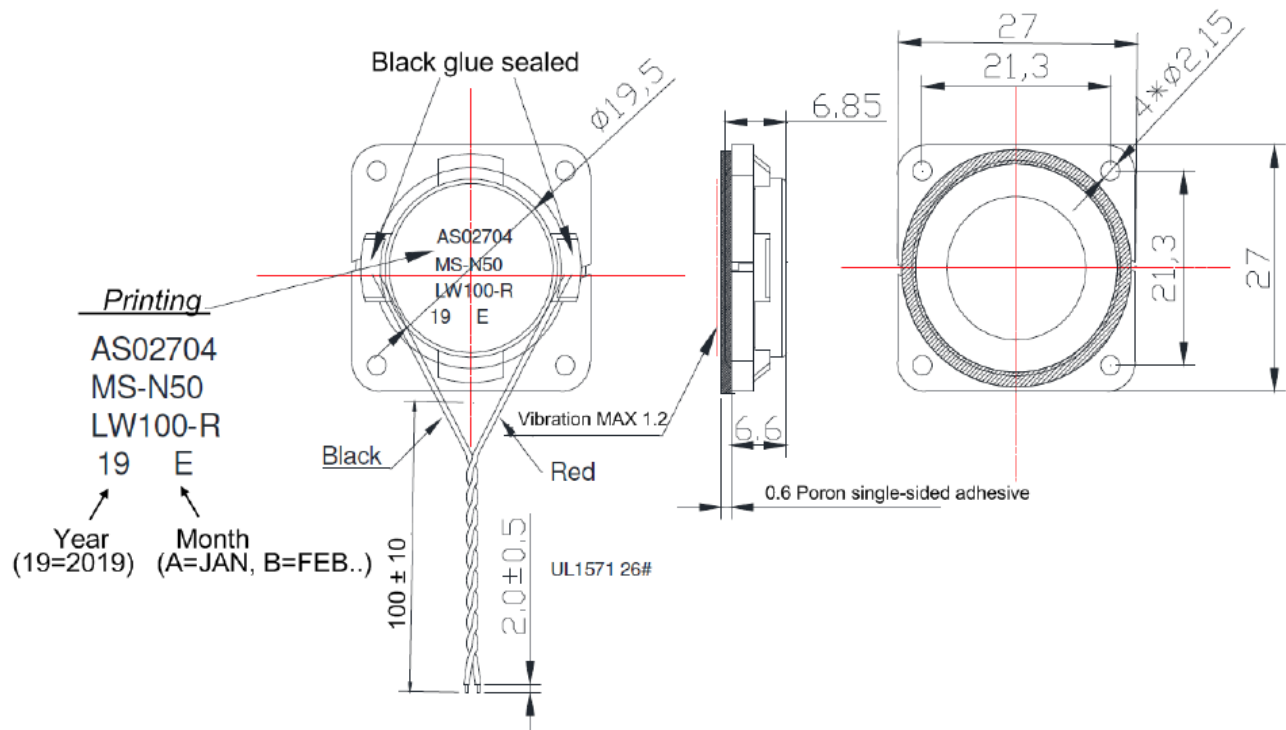


## Reliability Testing

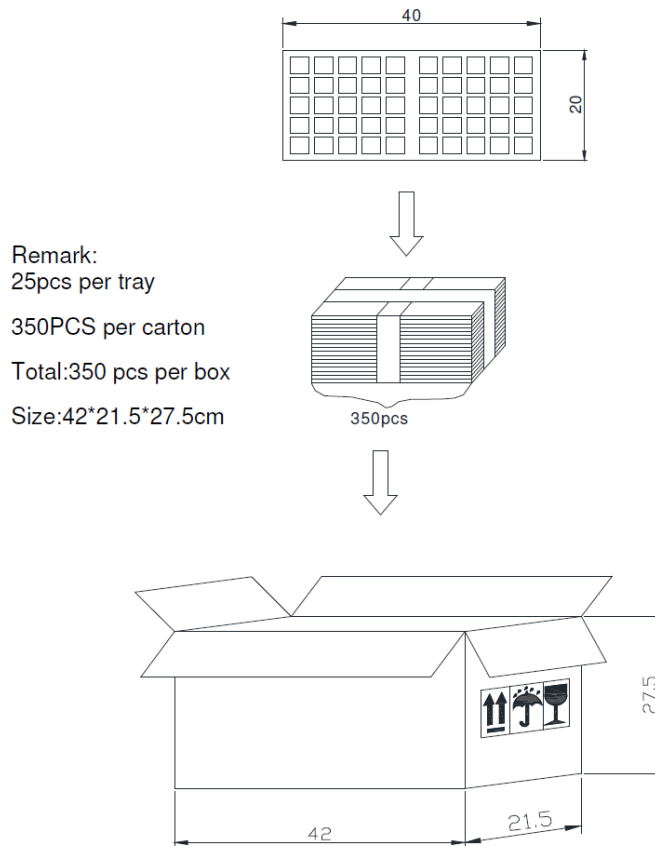
Type of Test	Test Specifications
High Temperature Test	96 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ followed by six hours in normal room temperature
Low Temperature Test	96 hours at $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ followed by six hours in normal room temperature
Humidity Test	96 hours at $+30^{\circ}\text{C} \pm 3^{\circ}\text{C}$ with relative humidity at 92% to 95% followed by 3 hours in normal room temperature
Temperature Cycle Testing	<p>The part shall be subjected to 5 cycles using the following procedure:</p> <p>90 ~ 95 % RH</p> <p>65°C</p> <p>25°C</p> <p>0.5hr 6hrs 0.5hr 5hrs</p>
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  $\pm 3$  dB of the original SPL**

## Dimensions (Tolerances are $\pm 0.5\text{mm}$ unless otherwise noted)



## Packaging (in cm)



**Specifications Revisions**

<b>Revision</b>	<b>Description</b>	<b>Date</b>
-	Released from Engineering	3/21/2018
A	Revised gasket material and Storage Temperature	5/21/2019
B	Revised IP rating to IP67	6/10/2019
C	Revised gasket material to Poron	3/4/2020

**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.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

PUI Audio:

[AS02704MS-N50-LW100-R](#)