

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

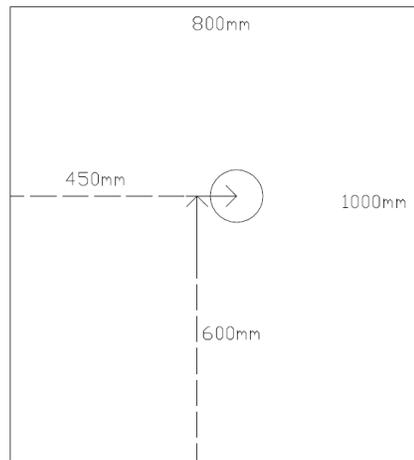
Specifications

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

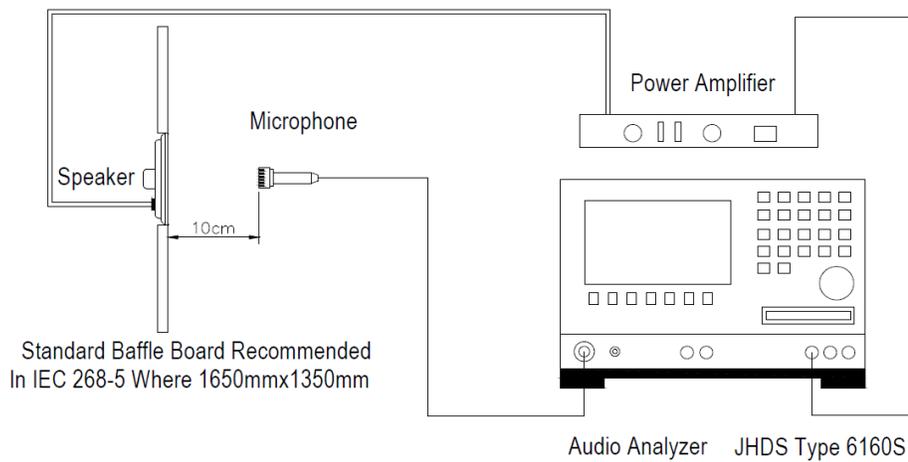
Specifications (continued)

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

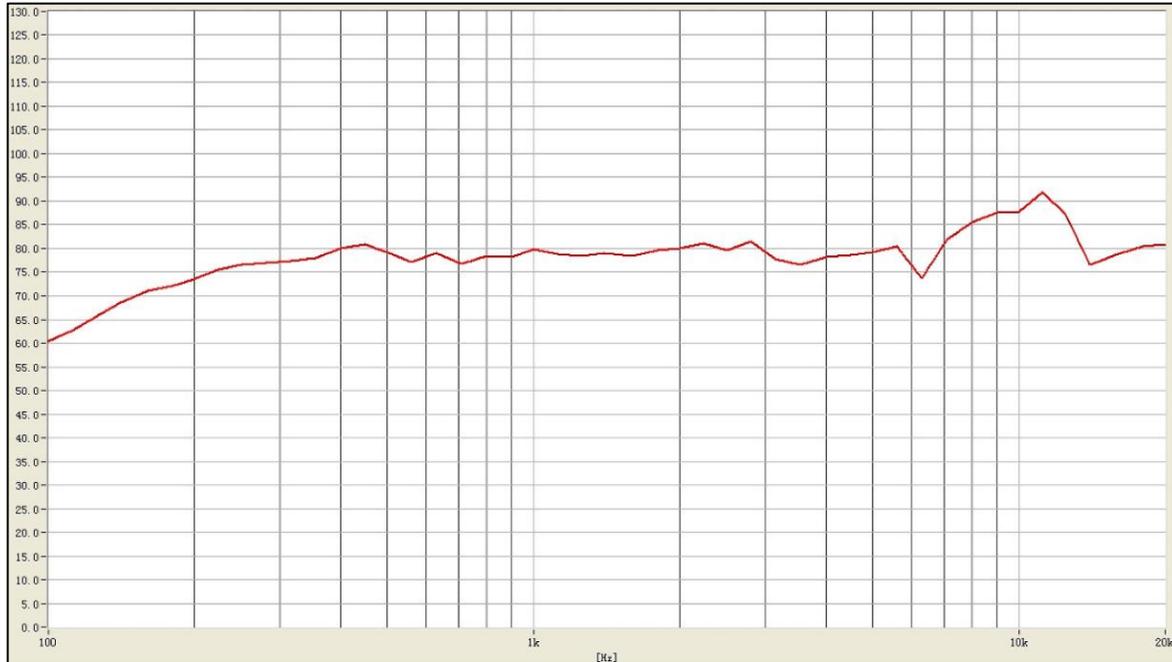
Measurement Method



Test Baffle (speaker mounted in circle)



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

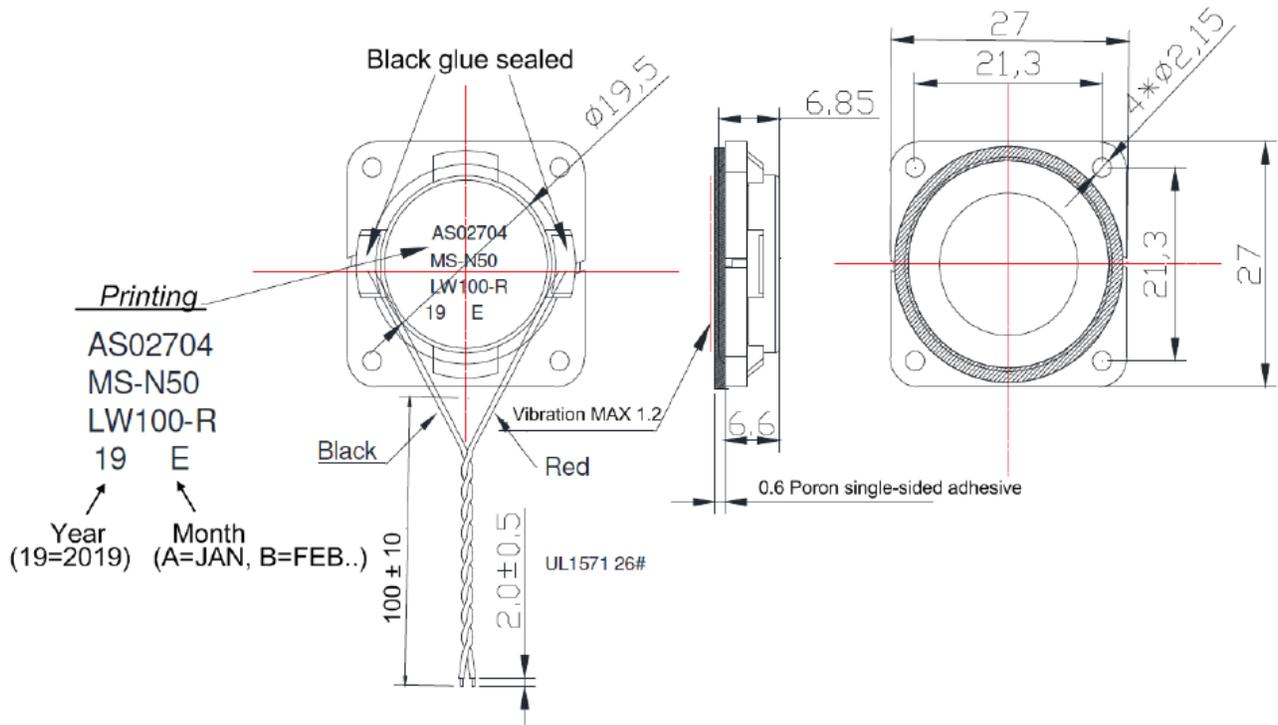


Reliability Testing

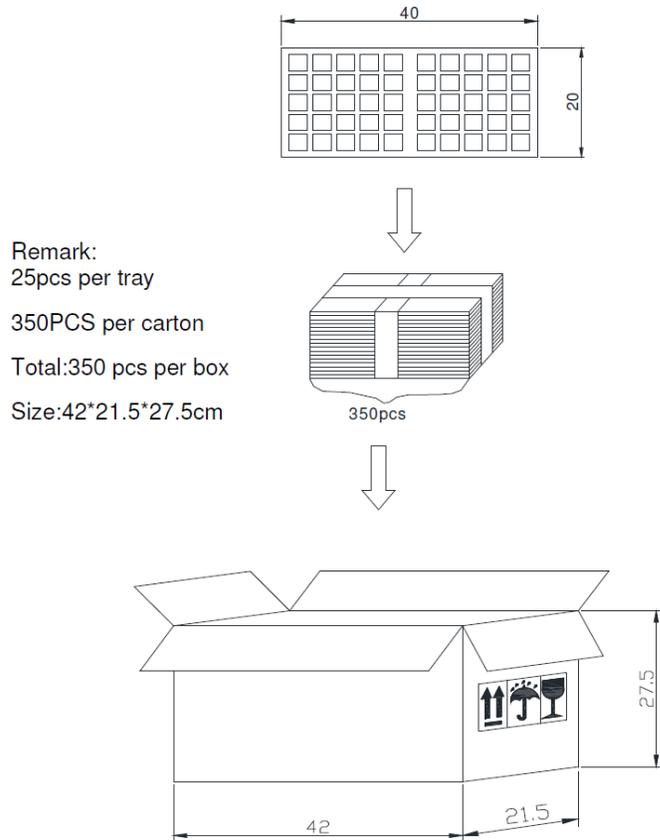
Type of Test	Test Specifications
High Temperature Test	96 hours at +70°C ± 3°C followed by six hours in normal room temperature
Low Temperature Test	96 hours at -30°C ± 3°C followed by six hours in normal room temperature
Humidity Test	96 hours at +30°C ± 3°C with relative humidity at 92% to 95% followed by 3 hours in normal room temperature
Temperature Cycle Testing	<p>The part shall be subjected to 5 cycles using the following procedure:</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 ±3 dB of the original SPL

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



Packaging (in cm)



Specifications Revisions

Revision	Description	Date
-	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.