



Data Sheet	APR050SO-R
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PUI Audio’s eXtreme Series speakers are purpose-built for superior performance. When combined with the **APR050SO-R** passive radiator, a speakers’ low frequency performance can be extended almost a full octave lower, for exceptional bass response without adding space for a tuned vent.

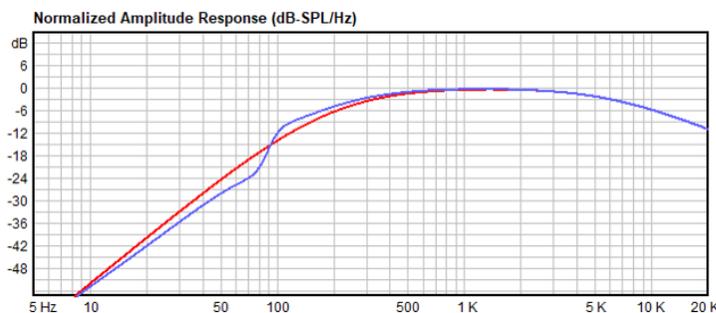
Features:

- Replaces a tuned port in vented enclosures, saving space
- Enhances bass response in many speakers from 25mm to 70mm in diameter
- Built with peel-and-stick 3M™ double-sided tape for quick, easy mounting
- Stamped steel diaphragm

Specifications (Parameters derived from Golden Sample, up to 20% variance is acceptable except for Fs)

Parameters	Values	Units
Resonant Frequency (Fs)	78±10%	Hz
Mechanical Q-Factor (Qms)	2.53	-
Moving Mass (Mms)	4.06	Grams
Mechanical Compliance (Cms)	0.928	mm/N
Mechanical Stiffness (Kms)	1.09	N/mm
Mechanical Resistance (Rms)	0.81	Kg/s
Diaphragm Surface Area (Sd)	8.7	cm ²
Frame Material	Stamped Steel	-
Diaphragm Material	Stamped Steel	-
Surround Material	TPE	-
Weight	5.67	Grams
Ingress Protection Rating	IP67	-
Environmental Compliances	RoHS, REACH	-
Operating Temperature	-20 ~ +60	°C

**Two APR050SO-Rs used with AS04504PS-X-R in 0.4 Liter Enclosure (in Blue)
AS04504PS-X-R in 0.4 Liter Sealed Enclosure (in Red)**



Example Applications

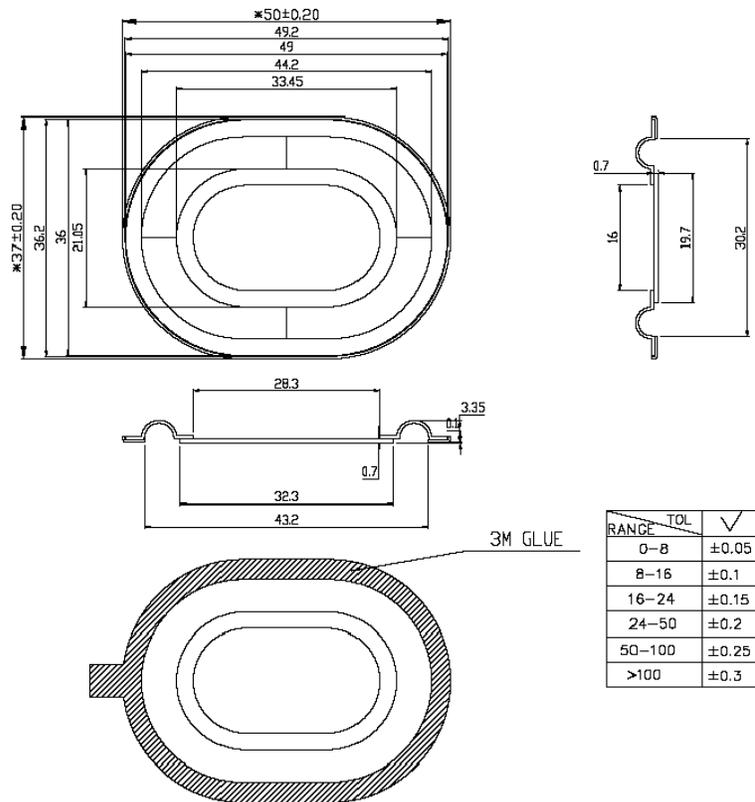
Speaker	Enclosure Volume*	# of APR050SO-Rs	f3 (-3 dB frequency)	f10 (-10 dB frequency)
AS04504PS-X-R	0.40 Liters	Two	250 Hz	105 Hz
	0.20 Liters	Two	218 Hz	112 Hz
	0.10 Liters	Two	192 Hz	128 Hz
AS05804PS-X-R	0.50 Liters	Two	174 Hz	95 Hz
	0.25 Liters	Two	150 Hz	100 Hz
	0.10 Liters	Two	159 Hz	120 Hz
AS06504PS-X-R	0.40 Liters	Two	260 Hz	103 Hz
	0.20 Liters	Two	217 Hz	110 Hz
	0.10 Liters	Two	193 Hz	133 Hz

*Enclosure volume does not include volume displaced by speaker and passive radiator.

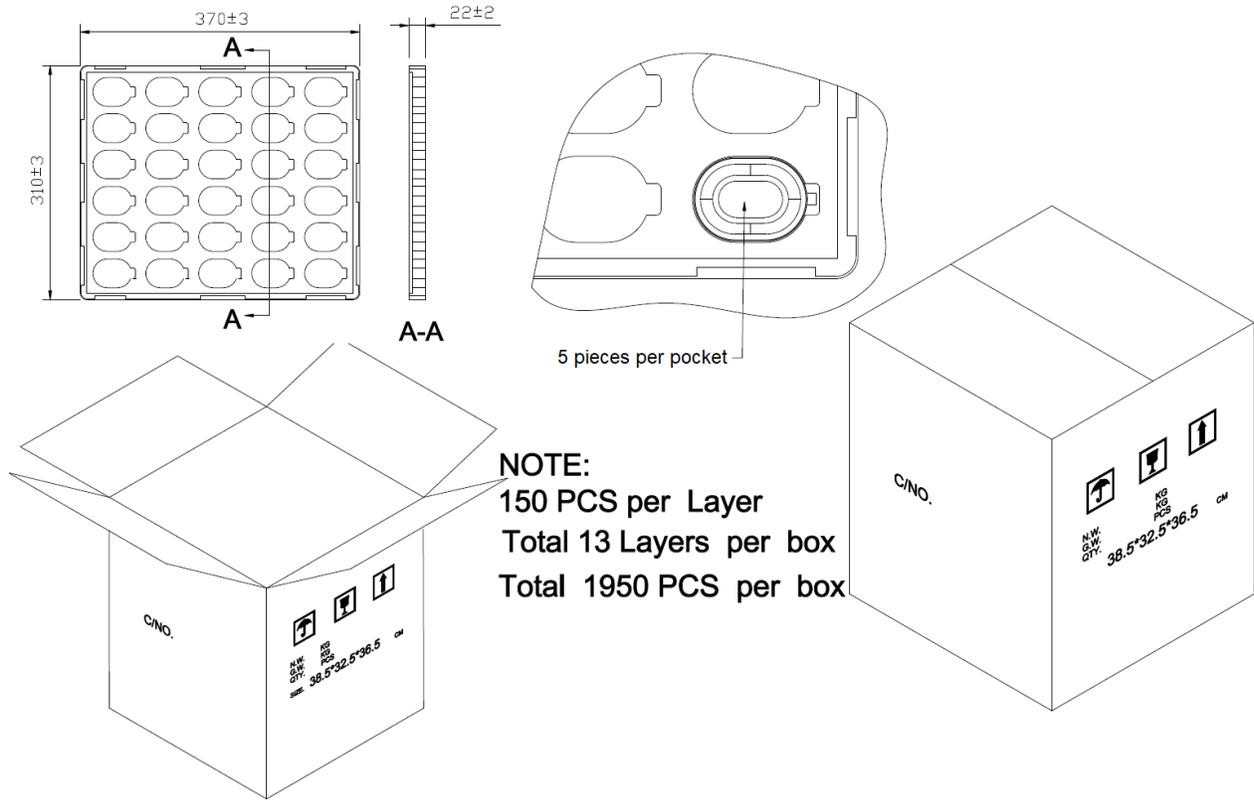
Reliability Testing

Type of Test	Test Specifications
High Temperature Test	96 hours at +60°C ± 2°C followed by 0.5 hours in normal room temperature
Low Temperature Test	96 hours at -20°C ± 3°C followed by 0.5 hours in normal room temperature
Humidity Test	96 hours at +40°C ± 2°C with relative humidity at 80% followed by 12 hours in normal room temperature

Dimensions



Packaging



Specifications Revisions

Revision	Description	Date	Approved
A	Released from Engineering	6/14/2019	
B	Updated IP rating to IP67 starting at date code FH423	1/30/2024	JD

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.