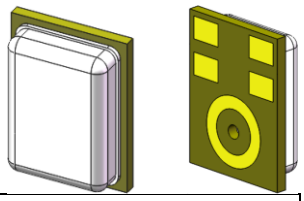
PUIaudio



Data Sheet	AMM-3537-B

The AMM-3537-B MEMS microphones are integrated with a specialized pre-amplification ASIC to provide high sensitivity and high SNR output from a capacitive audio sensor. They are packaged for surface mounting and high temperature reflow assembly.

Key Features:

- -37dB sensitivity
- 70dB Signal-to-Noise
- Small 3.5mm x 2.65mm surface-mount package

Specifications (VDD=2.7V)

Parameters		Values	Units
Sensitivity f = 1kHz 0dBV =1V with 1Pa acoustic input		-37 ±1	dBV
Rated Power Supply Voltage (V_S)		2.7	V_{DC}
Operating Power Supply Voltage Range (V_S)		$1.6 \le V_S \le 3.6$	V_{DC}
Maximum Output Impedance f = 1kHz		400	Ω
Current consumption	Typical	105	µA
	Maximum	150	
Signal-to-Noise Ratio f = 1kHz Acoustic input = 94 dBSPL A-weighted		70	dB
Sensitivity Change 0dBV =1V with 1Pa acoustic input ΔV_S: $3.3 \ge V_S \ge 2.4$		0.5	dB
Frequency Range		$20 \le f \le 10{,}000$	Hz
Max Total Harmonic Distortion Acoustic input = 94 dBSPL f = 1kHz		0.5	%
Acoustic Overload Point (AOP) f = 1kHz THD = 10%		130	dB
Directivity		Omnidirectional	-
Power Supply Rejection (PSR) $100mV_{P-P}$ Square Wave f = 217Hz A-weighted		-100	dB
Weight		<0.3	Grams

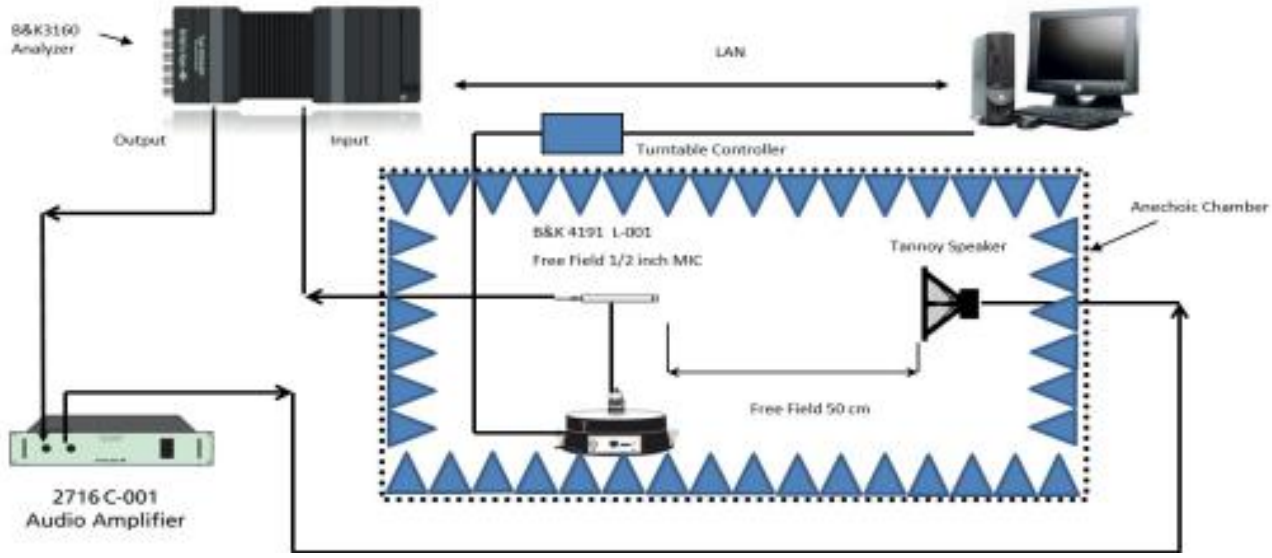
Operating Temperature	$-40 \leq T_O \leq 85$	°C
Storage Temperature	$-40 \leq T_S \leq 100$	°C
Environmental Compliances	RoHS/Halogen Free	-
MSL (Moisture Sensitivity Level)*	1	-

*MSL level dependent on product remaining in sealed packaging until use

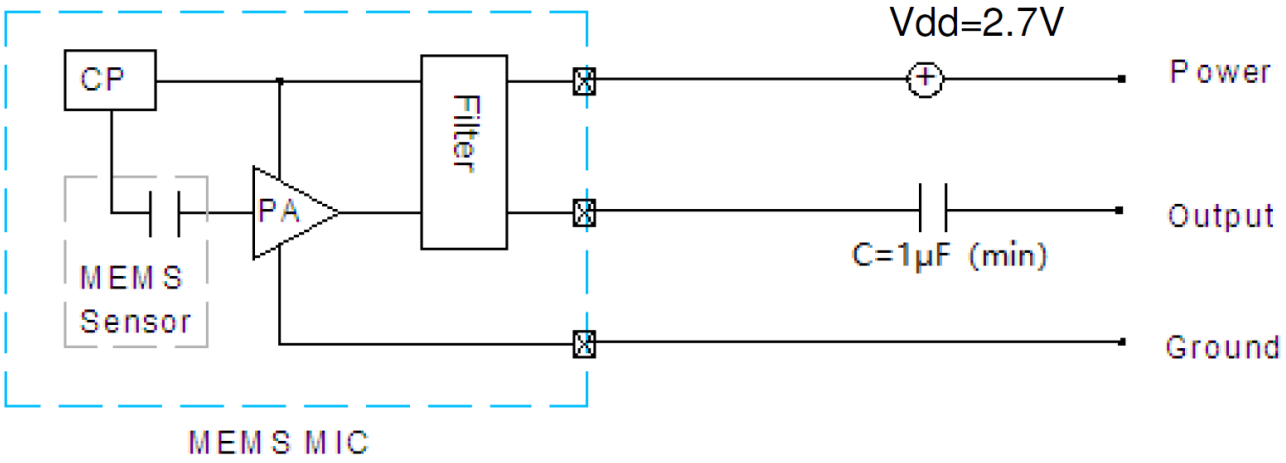
Absolute Maximum Rating

Parameters	Values	Units
Supply Voltage	3.6	V
Max Voltage on any pin	$-0.3 \sim V_{DD}+0.3$	V_{DC}
Max Sound Pressure Level	160	dB
Max Mechanical Shock	10000	G
Max Vibration	Pre-MIL-STD-883 Method 2007, Test Condition A	

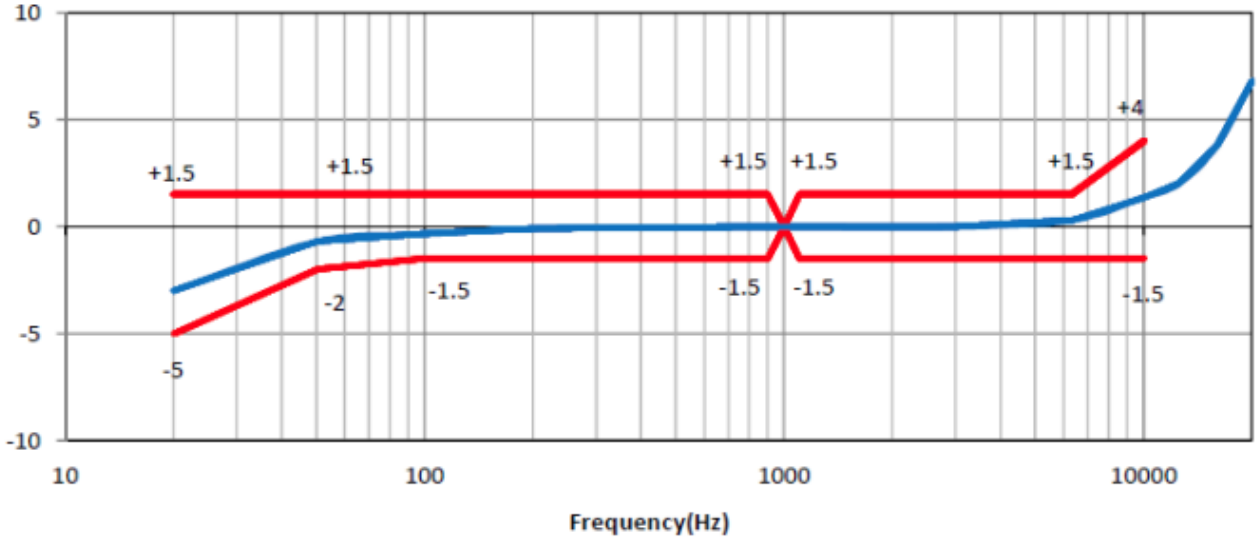
Measurement Method



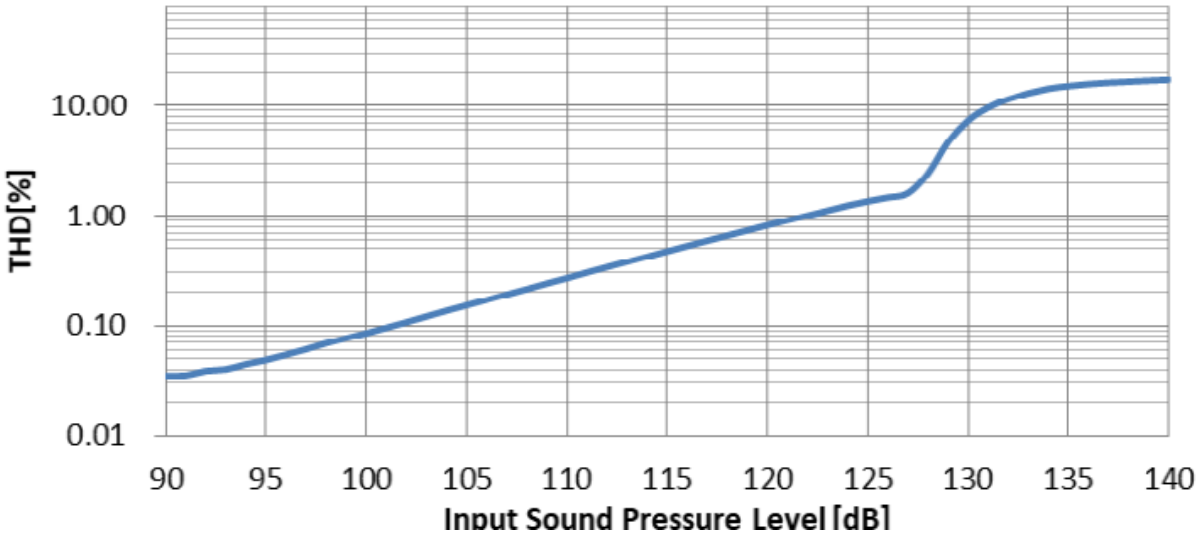
Recommended Drive Circuit



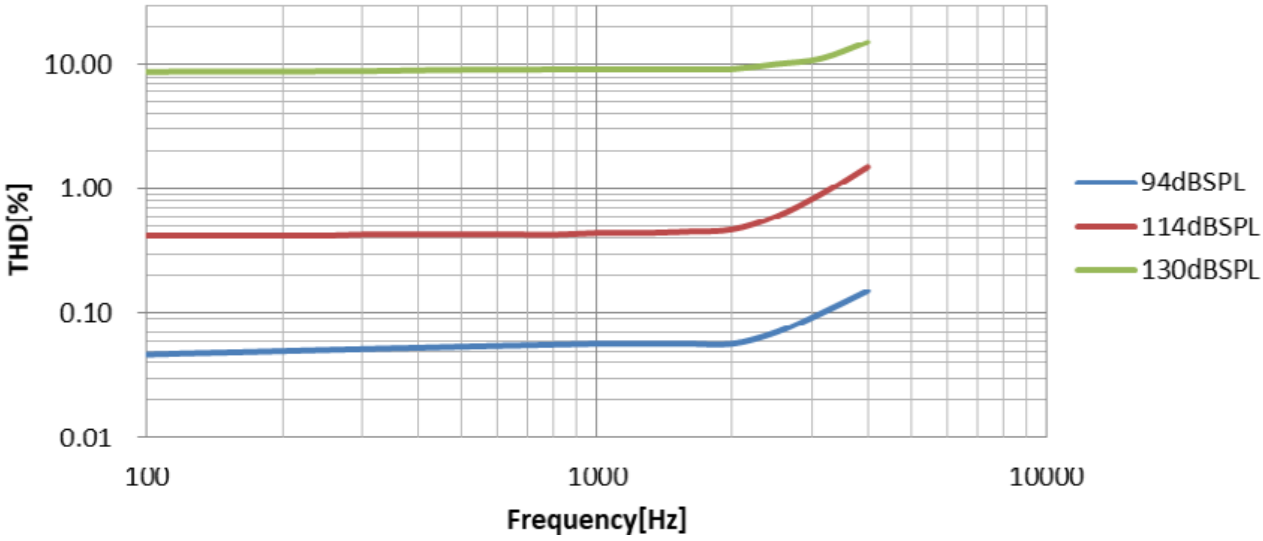
Typical Frequency Response



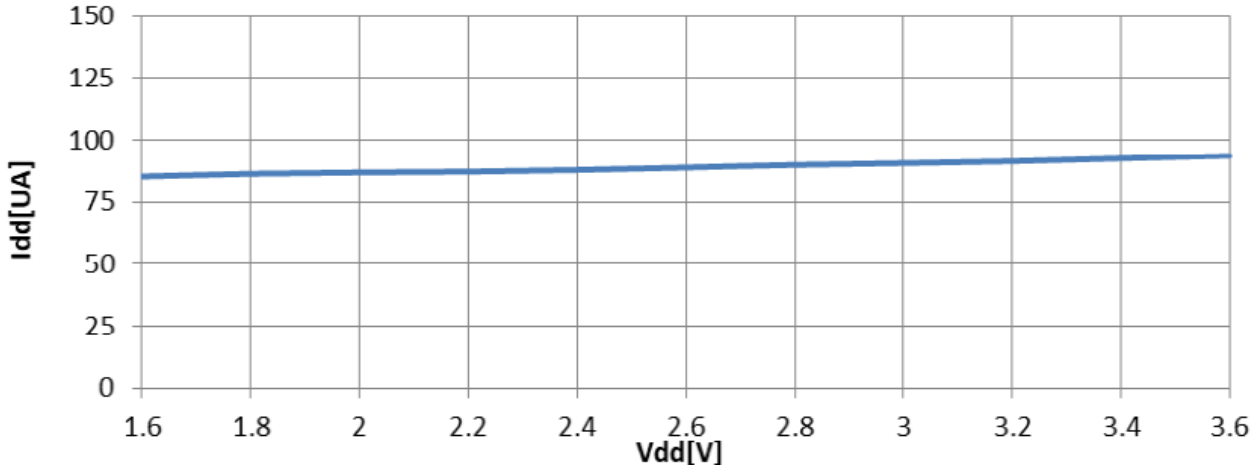
Typical THD vs. SPL



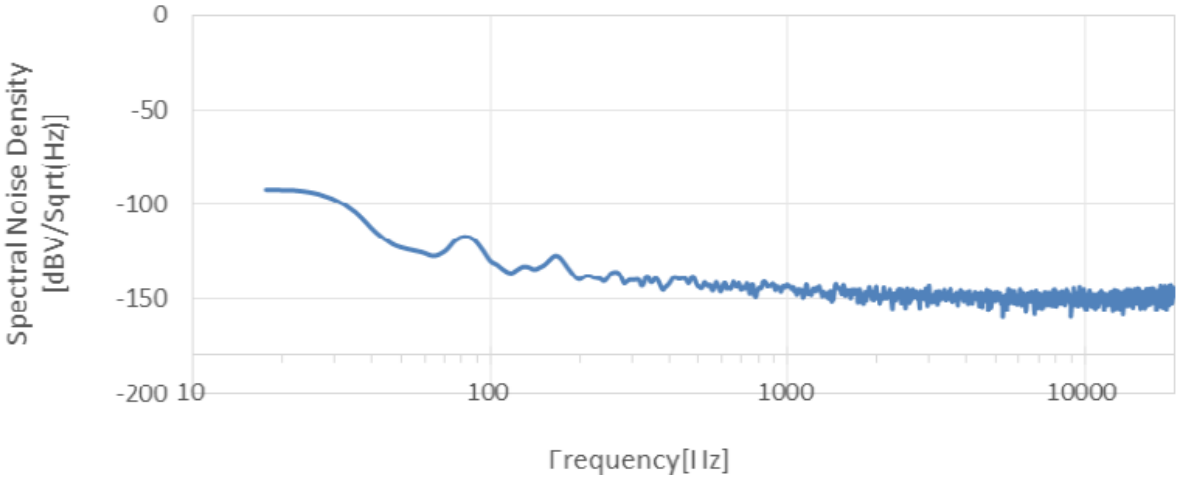
Typical THD vs. Frequency



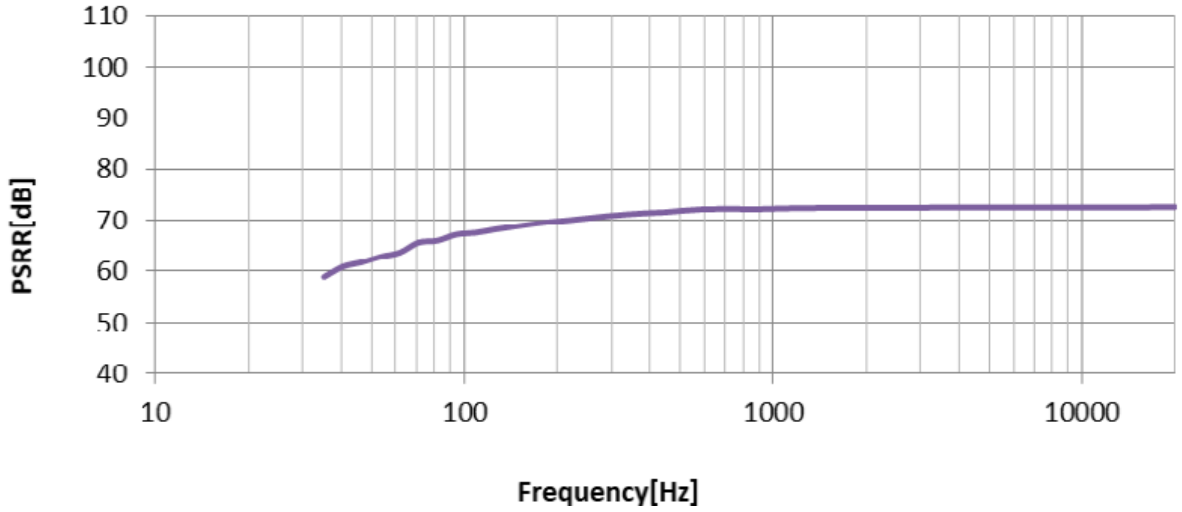
IDD vs. VDD



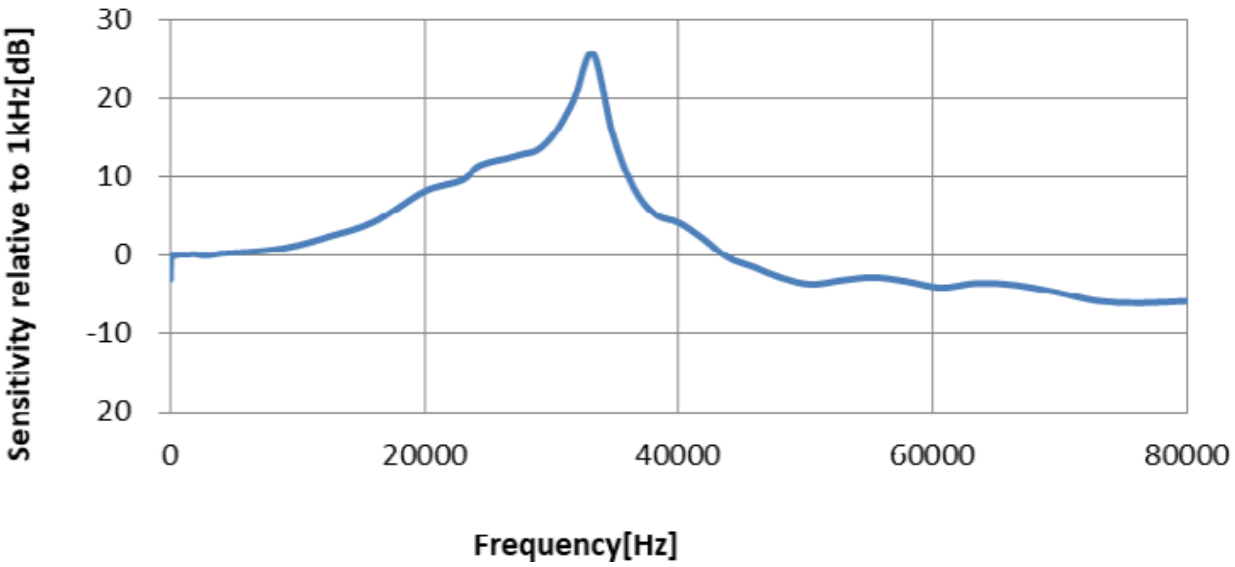
Typical Noise Floor (Unweighted)



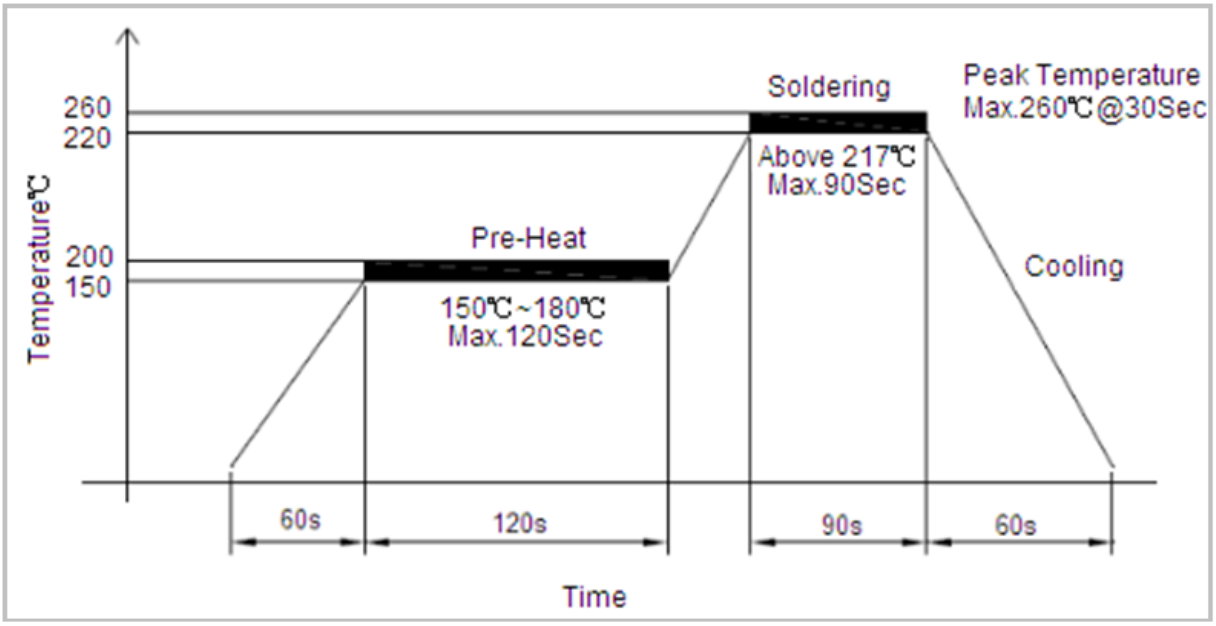
Typical PSRR vs. Frequency



Typical Free-Field Ultrasonic Response



Recommended Reflow Soldering Procedure



Important Notes to minimize device damage:

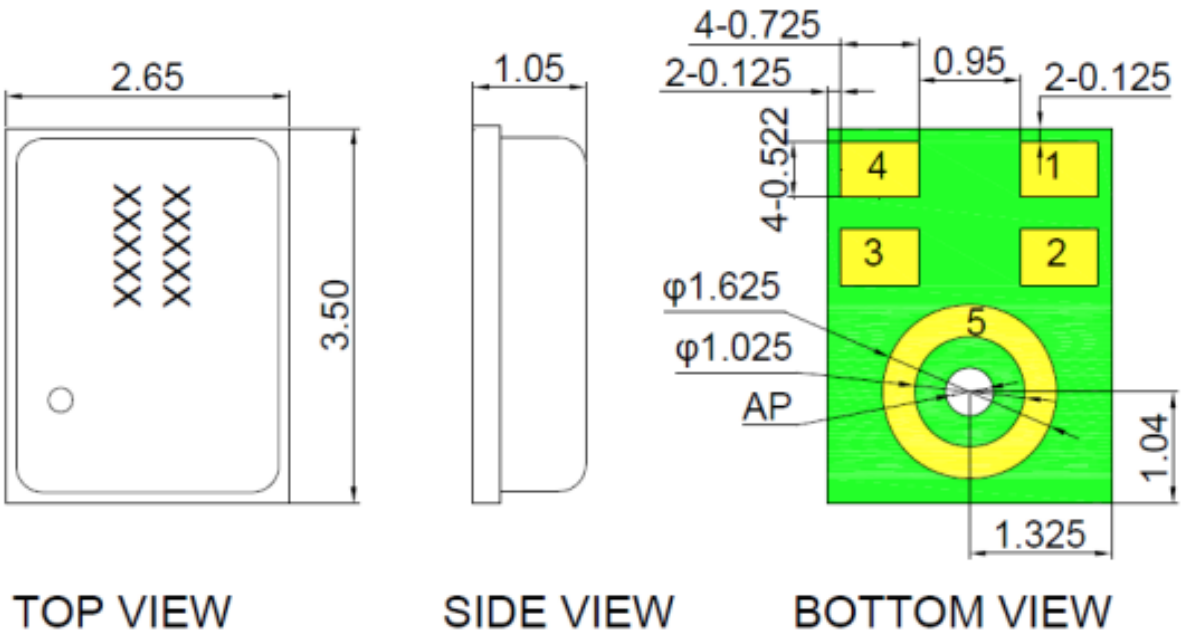
1. Do not boards wash or clean after the reflow process.
2. Do not apply over 0.3Mpa of air pressure into the port hole.
3. Do not expose to ultrasonic processing or cleaning.
4. Do not pull a vacuum over port hole of the microphone.

Reliability Testing

Type of Test	Test Specifications
Simulated Reflow (Without Solder)	Samples for qualification testing require 3 passes 260±5 °C reflow solder profiles. 2 hours of setting time is required between each reflow profile test.
Static Humidity	Precondition at +25°C for 1 hour. Expose to +85°C with 85% relative humidity for 1000 hours. Finally, dry at room ambient for 3±1 hour before taking final measurement.
Temperature Shock	Each cycle shall consist of 30 minutes at -40°C, 30 minutes at +125°C with 5 minutes transition time. The test duration is for 30 cycles, starting from cold to hot temperature.
ESD Sensitivity	Perform ESD sensitivity threshold measurements for each contact according to MIL-STD-883G, Method 3015.7 for Human Body Model. Identify the ESD threshold levels indicating passage of 8000V Human Body Model.
Vibration Test	Vibrate randomly along three perpendicular directions for 30 minutes in each direction, 4 cycles from 20~2000 Hz with a peak acceleration of 20 Gs.
Shock Test	Subject samples to half-sine shock pulses (3000±15% Gs for 0.3ms) in each direction, for a total of 18 shocks.
Drop Test	Drop samples from 1.5m height onto a steel surface, total 18 times and inspected for mechanical damage.
Operation Life	Subject samples to +125°C for 168 hours under full maximum rated voltage.

Microphone frequency response and sensitivity shall not deviate more than ±3 dB.

Dimensions and Pin Configuration and Function



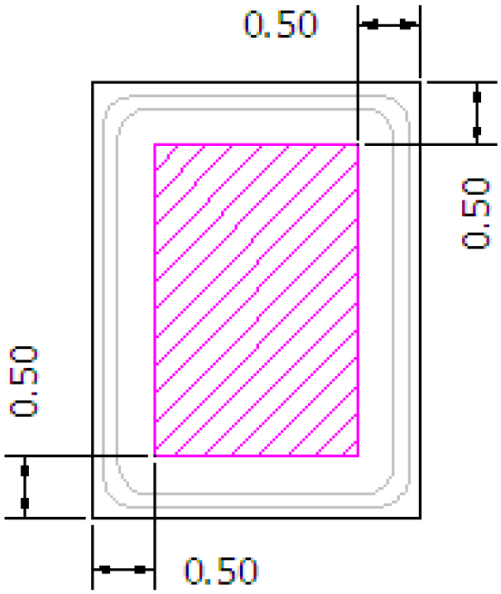
TOP VIEW SIDE VIEW BOTTOM VIEW

Laser Mark	Description
XXXXX XXXXX	Date Code

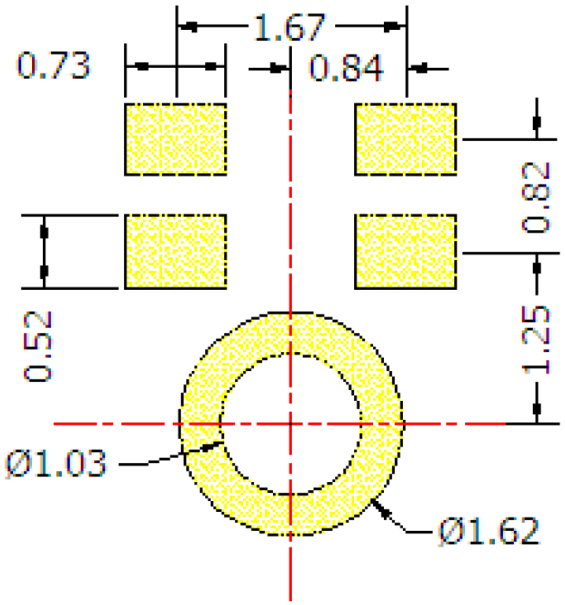
Item	Dimension	Tolerance(+/-)	Units
Length(L)	3.50	0.10	mm
Width(W)	2.65	0.10	mm
Height(H)	1.05	0.10	mm
Acoustic Port(AP)	Ø0.45	0.05	mm

Pin #	Pin Name	Type	Description
1	Output	Signal	Output Signal
2	GND	Ground	Ground
3	GND	Ground	Ground
4	V_{DD}	Power	Power Supply
5	GND	Ground	Ground

Suggested Pickup Tool Location and Land Pattern*



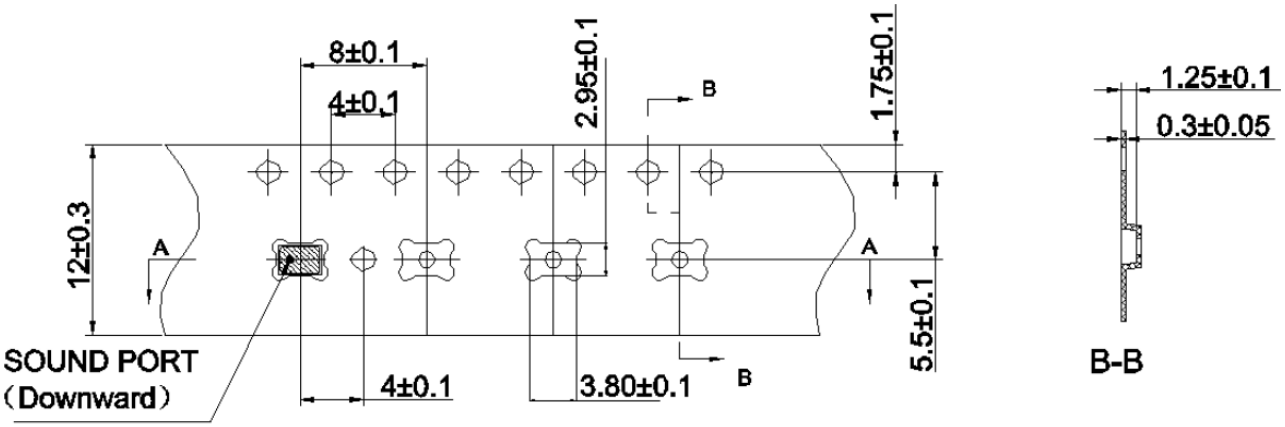
Recommended Pickup Location

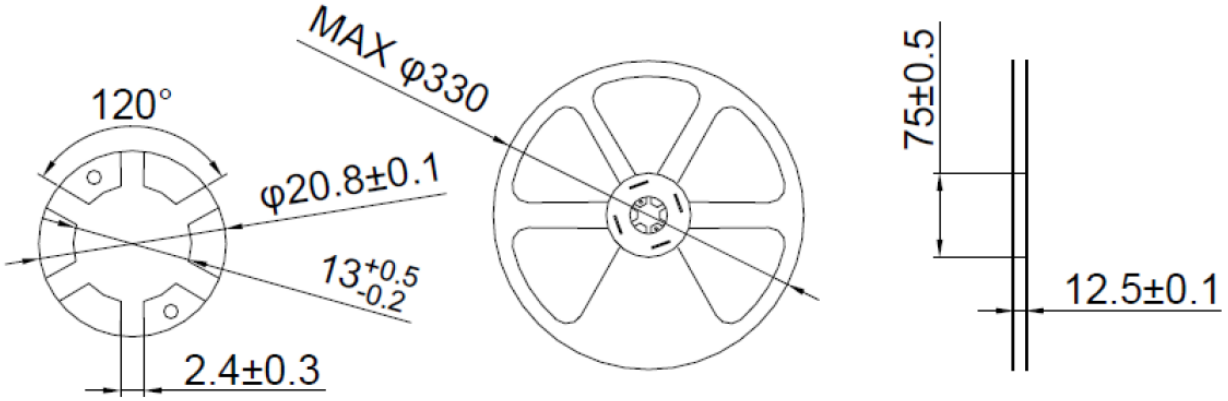


Recommended Solder Pad Layout

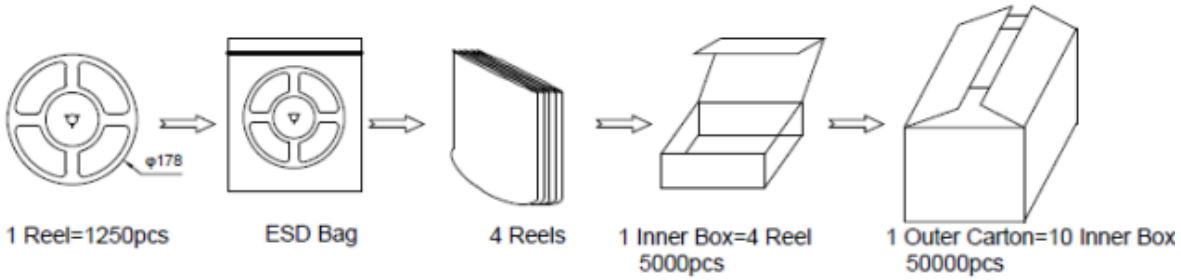
*This land pattern is advisory only and its use or adaptation is entirely voluntary. PUI Audio disclaims all liability of any kind associated with the use, application, or adaptation of this land pattern.

Tape & Reel Specifications (All dimensions in millimeter (mm).)





Packaging



1 reel =1250pcs
1 Inner Carton = 4 Reels = 5000pcs
1 Outer Carton =10 Inner Cartons = 50000pcs

Specifications Revisions

Revision	Description	Date	Approve
A	Released from engineering	8/19/2025	JL

Note:
1. Unless otherwise specified:
   A. All dimensions are in millimeters.
   B. Default tolerances are ±0.5mm and angles are ±3°.
2. Specifications subject to change or withdrawal without notice.