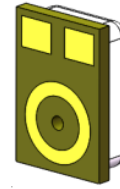




PUIaudio



Data Sheet

AMM-2742-B

The AMM-2742-B analog MEMS microphone features a specialized pre-amplification ASIC that provides high sensitivity and high SNR output from a capacitive audio sensor. It's packaged for surface mounting and high temperature reflow assembly.

Specifications

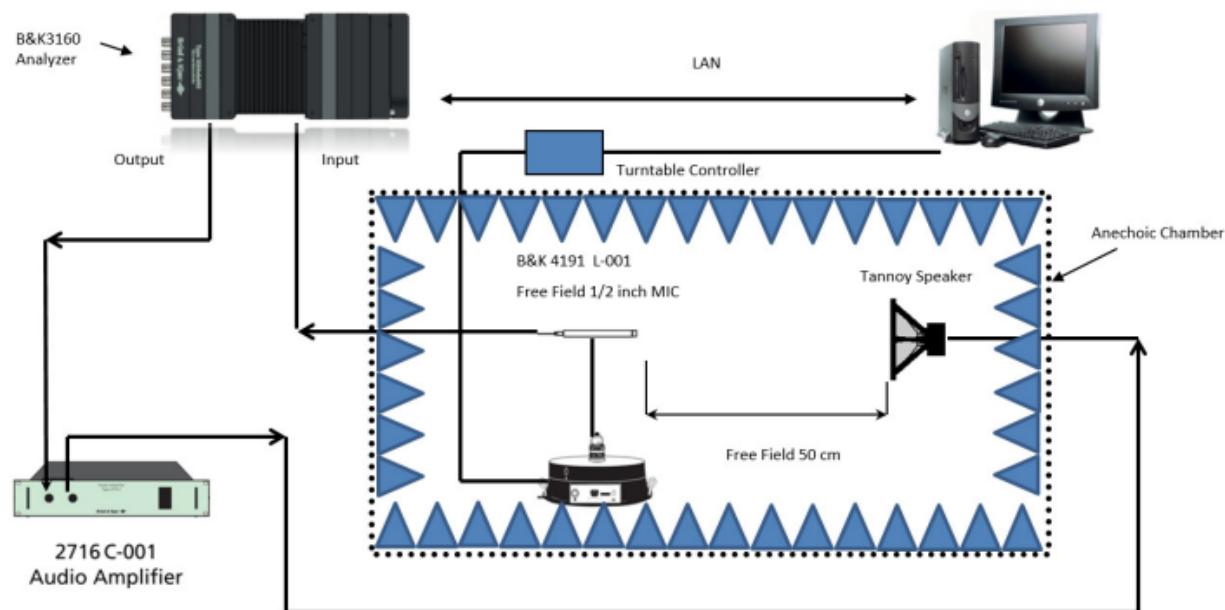
Parameters	Values	Units
Sensitivity (1 kHz @ 50cm) 0 dB=1V/Pa	-42±1	dB
Rated Voltage	2.7	VDC
Operating Voltage Range	2.4-3.3	VDC
Output Impedance (@ 1 kHz)	130	Ω
Typ. Current consumption (@ 2.7V)	105	μA
Signal-to-Noise Ratio (1kHz, 94 dB input, A-weighted)	63	dB
Sensitivity Change (0 dB=1V/Pa, 3.3 to 2.4 VDC)	0.5	dB
Frequency Range	20Hz~10KHz	Hz
Total Harmonic Distortion (94 dB @1 kHz)	0.1%	-
Acoustic Overload Point (AOP) (50cm, 1kHz, 10% THD)	133	dB
Directivity	Omni-directional	
Acceptable Soldering Methods	Reflow Solder	See page 5 for soldering information
Environmental Compliances	RoHS/Halogen Free	
Power Supply Rejection (PSR, 100 mVpp Square Wave @ 217 Hz, A-weighted)	-100	dB
Weight	<0.1g	Grams
Operating Temperature	-40~+85°C	°C
Storage Temperature	-40~+100°C	°C
MSL (Moisture Sensitivity Level)*	1	-

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

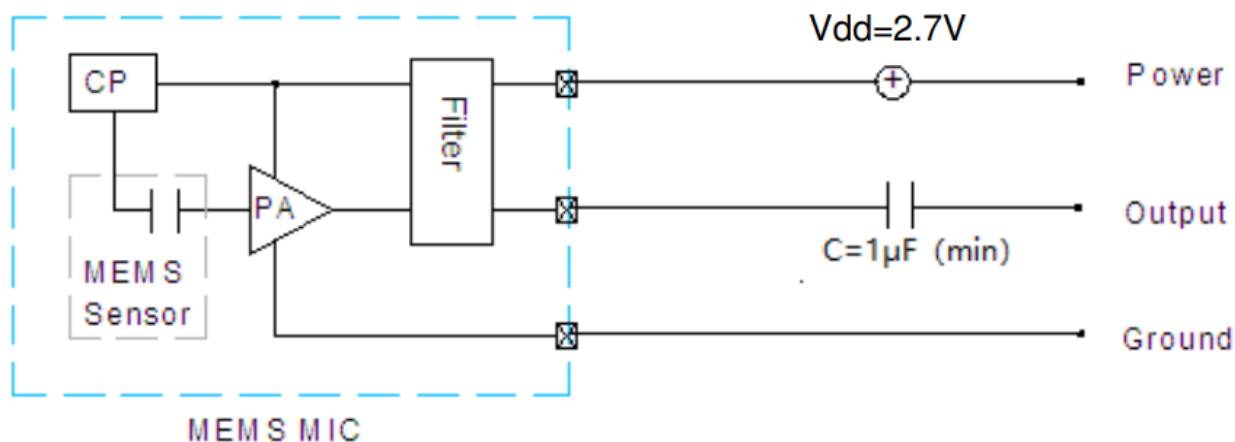
Absolute Maximum Ratings

Parameters	Values	Units
Max Supply Voltage	3.6	V _{DC}
Max Voltage on Any Pin	0.3	V _{DC}
Max Sound Pressure Level	160	dB
Max Mechanical Shock	10000	Gs
Max Vibration	Pre-MIL-STD-883 Method 2007, Test Condition A	

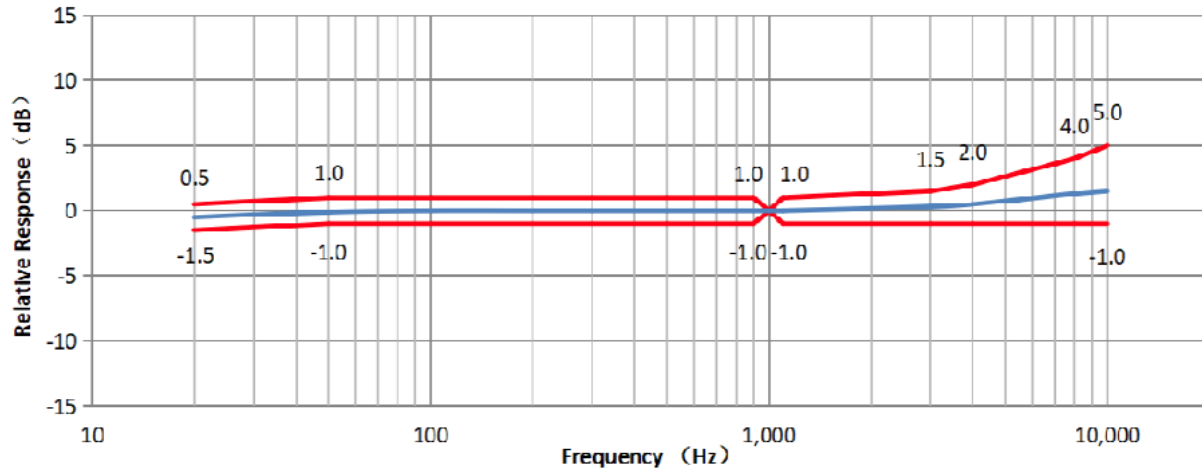
Measurement Method (with speaker spaced 50cm from microphone)



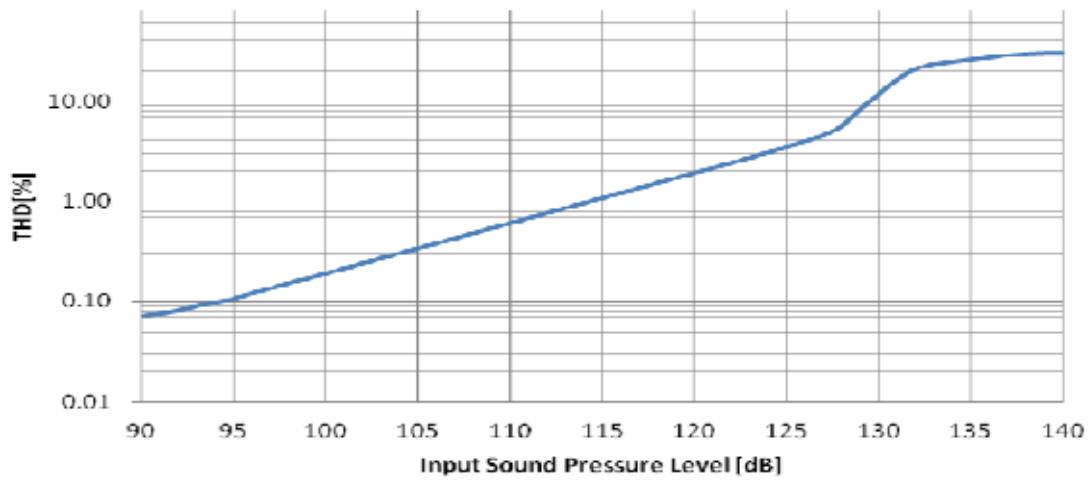
Recommended Drive Circuit



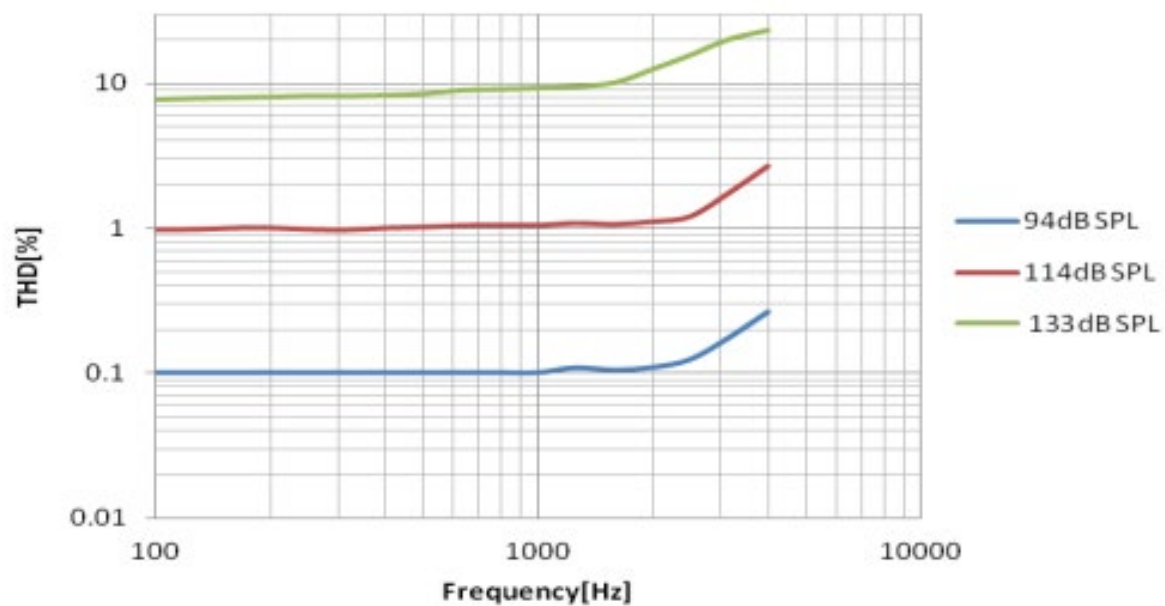
Typical Frequency Response



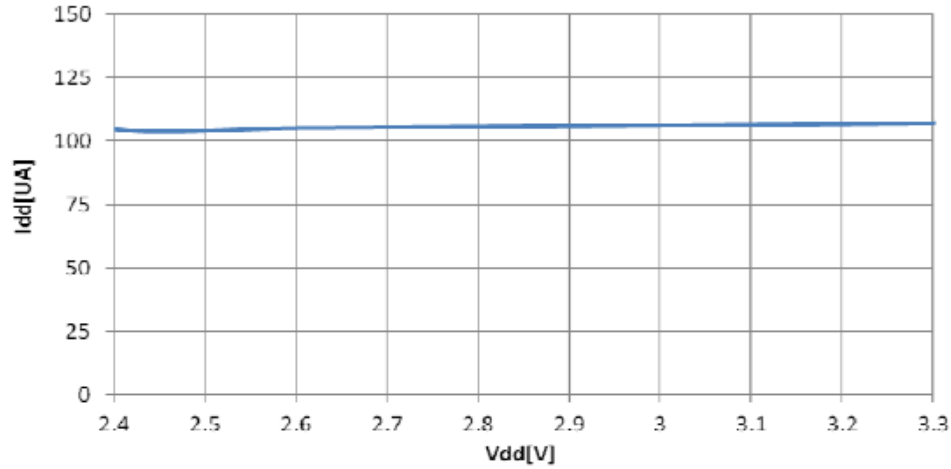
Total Harmonic Distortion vs SPL Input



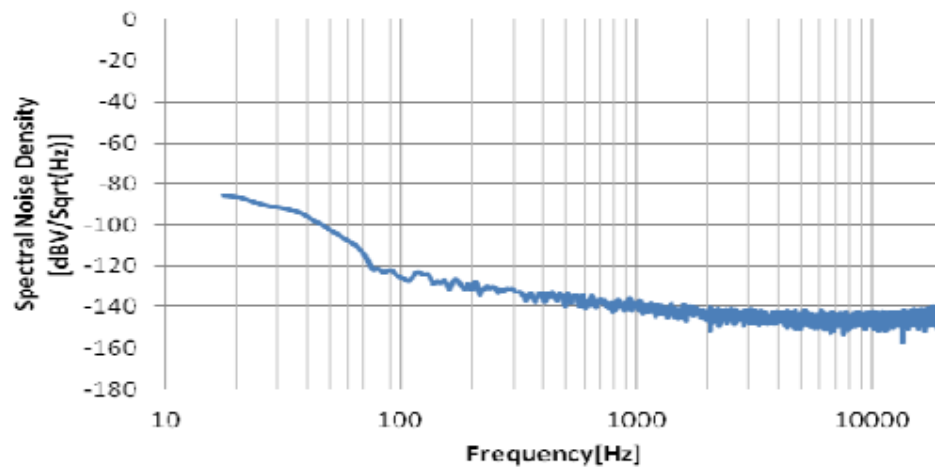
Typical THD Vs Frequency



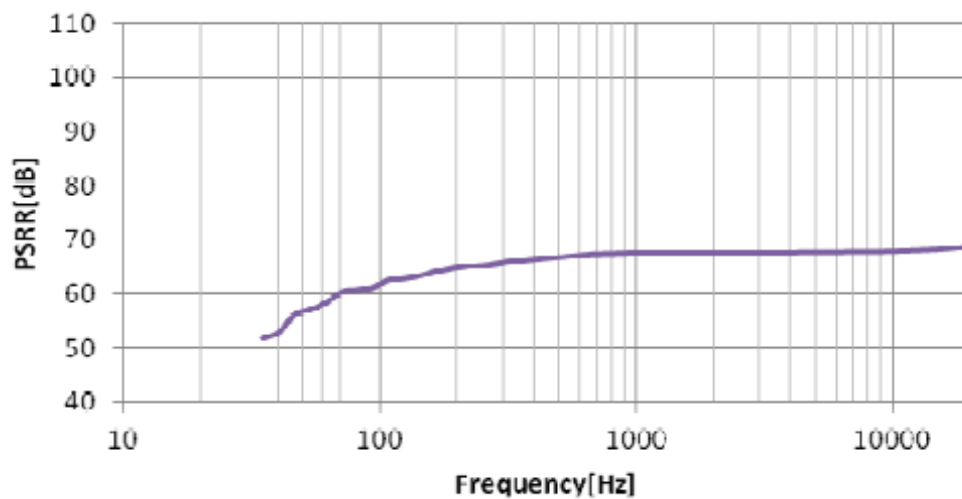
Current Consumption Vs Voltage



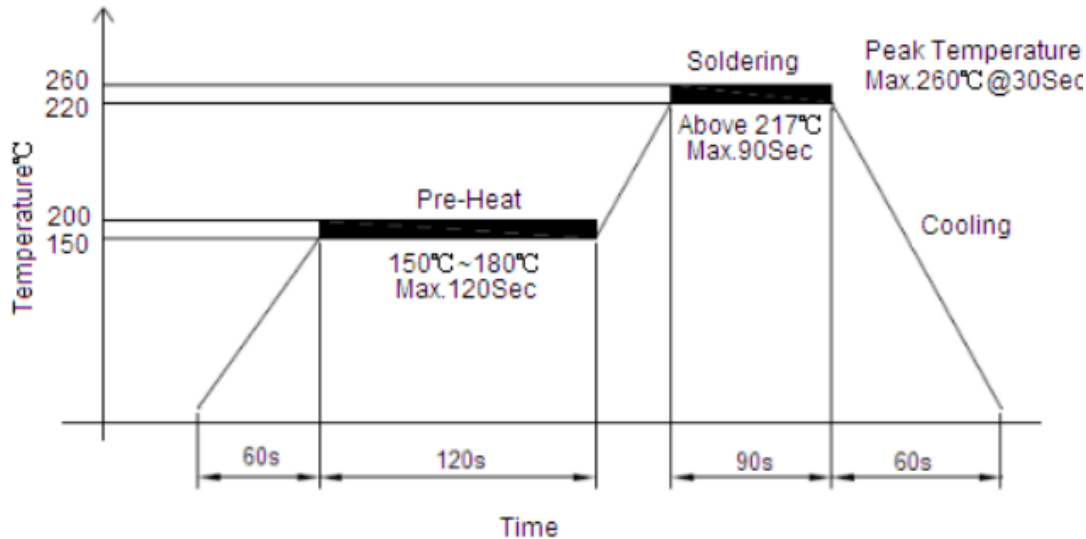
Typical Noise Floor



Typical PSRR Vs Frequency



Recommended Soldering Procedure



Important notes to minimize device damage:

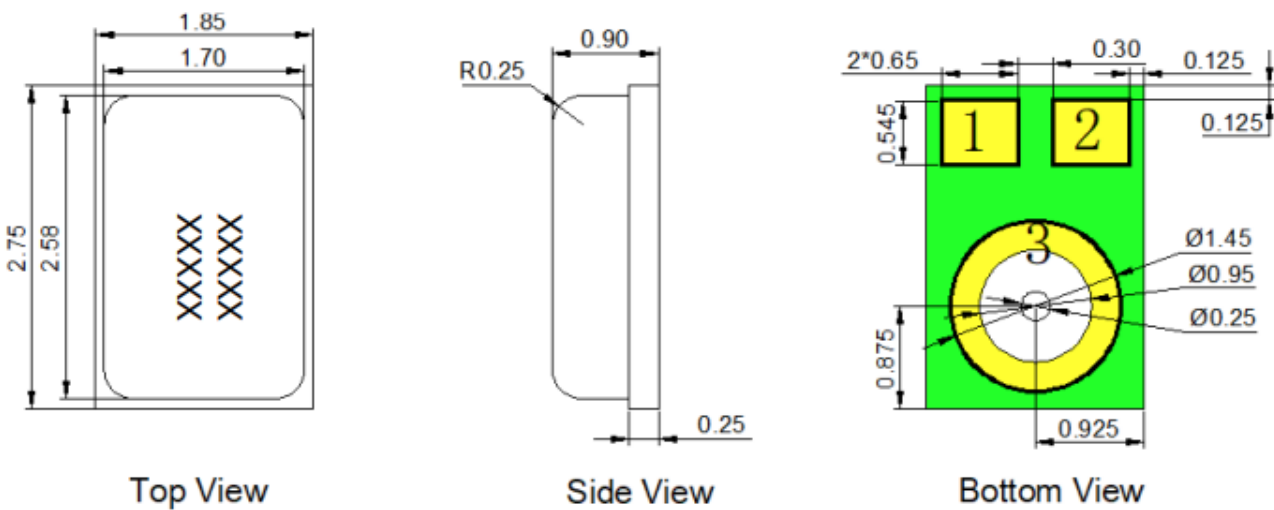
1. Do not wash or clean the boards after the reflow process.
2. Do not apply over 0.3MPa of air pressure into the port hole
3. Do not exposed to ultrasonic processing or cleaning.
4. Do not pull a vacuum over the port hole of the microphone

Reliability Testing

Type of Test	Test Specifications
High Temperature Test	1000 hours at 105±3°C, then room temperature for 2 hours.
Low Temperature Test	1000 hours at -40±3°C, then room temperature for 2 hours.
Humidity Test	1000 hours at 85±3°C with relative humidity at 85% under upper limit voltage, then room temperature for 12 hours.
Temperature Shock	Each cycle shall consist of 15 minutes at -40°C, 15 minutes at +125°C. Test duration is for 100 cycles, starting from cold to hot temperature. Then, room temperature for 2 hours.
Vibration Test	Vibrate randomly along three perpendicular directions for 12 minutes in each direction, 4 cycles from 20~2000 Hz with a peak acceleration of 20 Gs.
Structure Shock Test	10000g, 0.1ms pulse width, in x, y, z direction, 3 times in each direction.
Drop Test	Drop samples from 1.5m height, in a fixture of 150g (Sound Hole Diameter in the fixture is ≥0.8mm) onto a slippery marble floor, 4 times in 4 corners, and 4 times in 6 faces.
ESD Sensitivity Test	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.

Microphone frequency response and sensitivity shall not deviate more than ±1 dB.

Dimensions



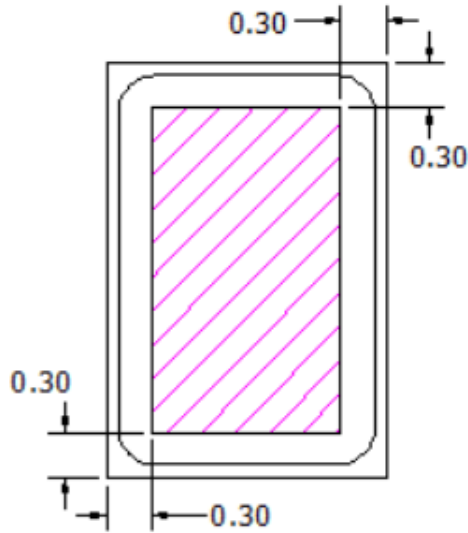
Laser Mark	Description
XXXXXX	Date Code
XXXXXX	

Item	Dimension	Tolerance(+/-)	Units
Length(L)	2.75	0.10	mm
Width(W)	1.85	0.10	mm
Height(H)	0.9	0.10	mm
Acoustic Port(AP)	Ø0.25	0.05	mm

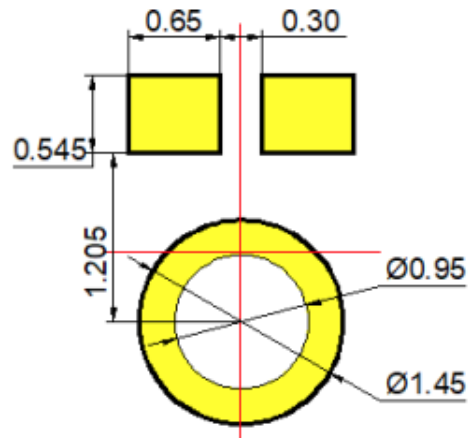
Pin #	Pin Name	Type	Description
1	V _{DD}	Power	Power Supply
2	Output	Signal	Output Signal
3	GND	Ground	Ground

Notes:
All dimensions are millimeters (mm)
Tolerance ±0.15mm unless otherwise specified

Suggested Pickup Tool Location and Land Pattern*



Recommended Pickup Location

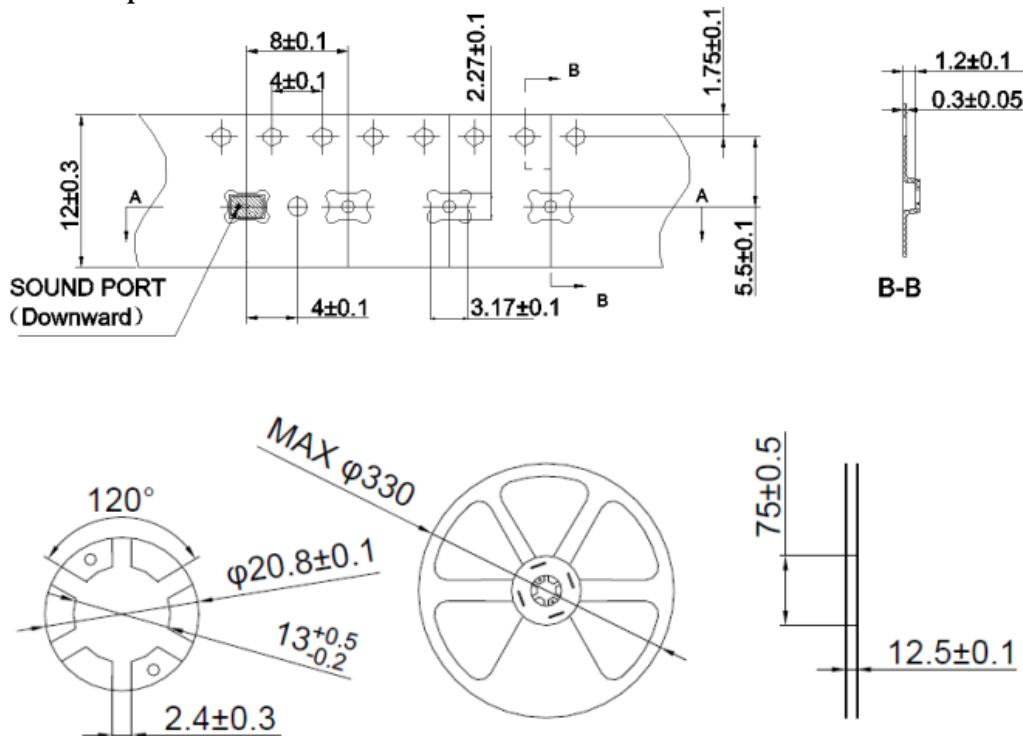


Recommended Solder Pad Layout

*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.

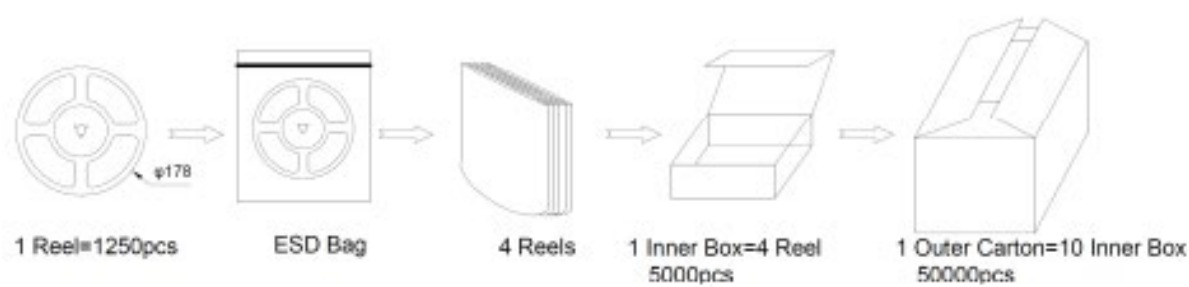
Packaging

Tape and Reel Specification



All dimensions are in millimeters (mm).

Packing Specification



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

Specifications Revisions			
Revision	Description	Date	Approved
A	Released from Engineering	6/30/2025	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.