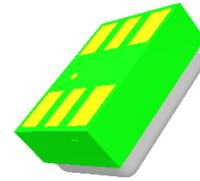




PUI audio



Data Sheet

VMM-1627L-R

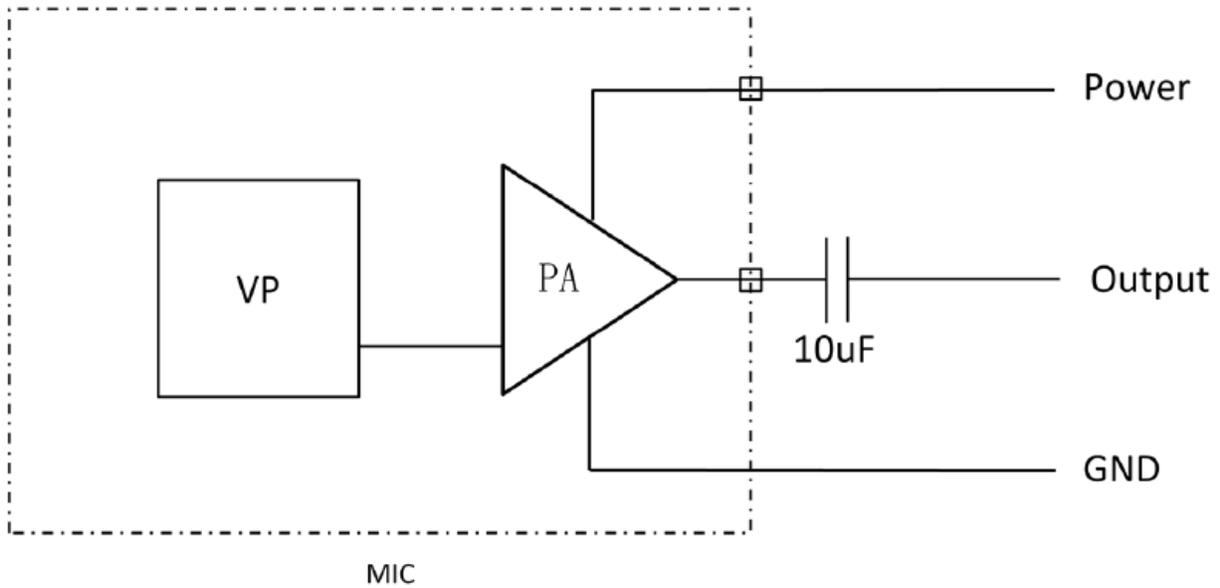
Bone Conduction Mems Microphone: Patented surface mount vibration sensor that gathers signals transmitted through bone to achieve exceptional noise reduction. Available in a 3.5 X 2.6 X 1.5 mm small package.

- Key applications include wearable products, such as smart wristbands, TWS headphones, Mobile phones, Speech Therapy to monitor and analyze speech patterns, Medical Diagnostics tools to assess hearing and other auditory functions, Assistive Devices that address hearing impairments, and heart rate detection systems.

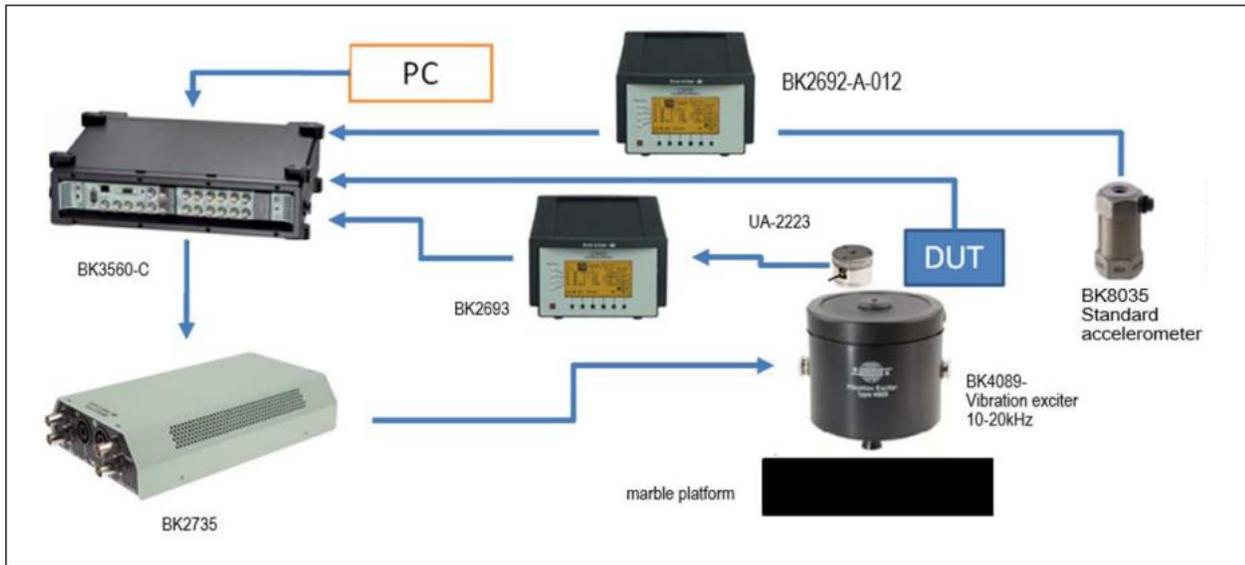
Specifications

Parameters		Values	Units
Sensitivity Range(1 kHz) 0dB = 1V when accelerated at 1g Z axis	Minimum	-31	dB
	Typical	-29	
	Maximum	-26	
Operating Voltage Range	Minimum	1.5	V _{DC}
	Maximum	3.6	
DC output		0.6	V
Max Current consumption		150	μA
Signal to Noise (S/N) Ratio		73	dB(A)
Acceleration THD < 1% f = 1kHz		±4	g
Output Impedance		300	Ω
Air Conduction Noise Suppression f = 1kHz		>40	dB
Noise Density	250 Hz	-94	dBV/√Hz
	1 kHz	-101	
	2 kHz	-101	
Peak Frequency		5	kHz
Environmental Compliances		RoHS/REACH	-
Operating Temperature		-30 ≤ T _O ≤ 70	°C
Storage Temperature		-30 ≤ T _S ≤ 85	°C
MSL (moisture sensitivity Level)		Class 1	

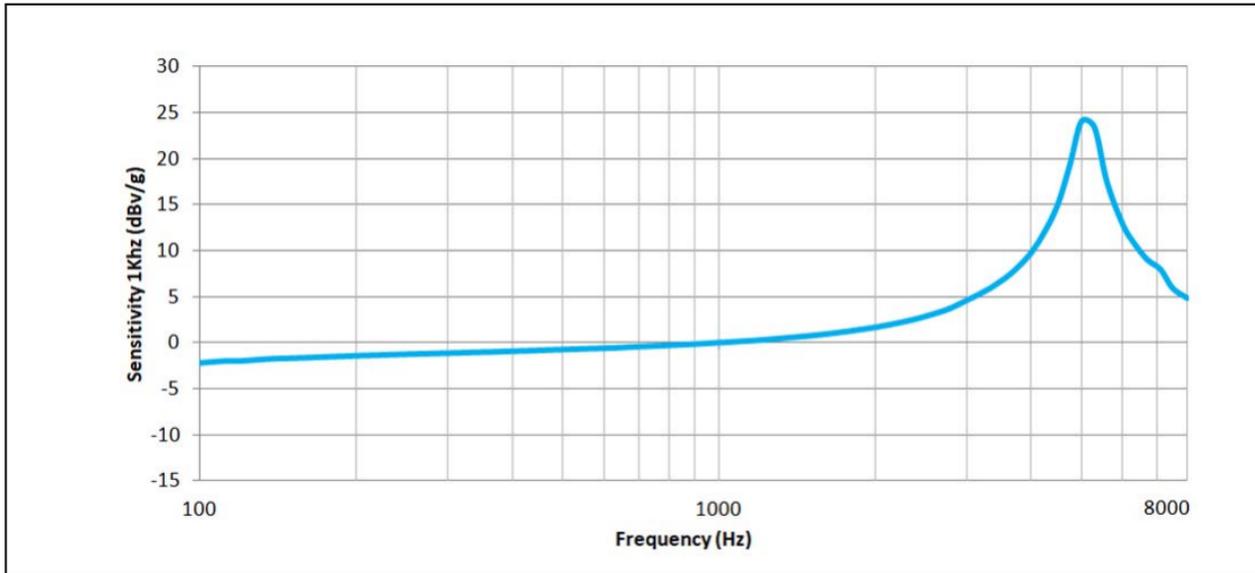
Test Circuit



Measurement Method

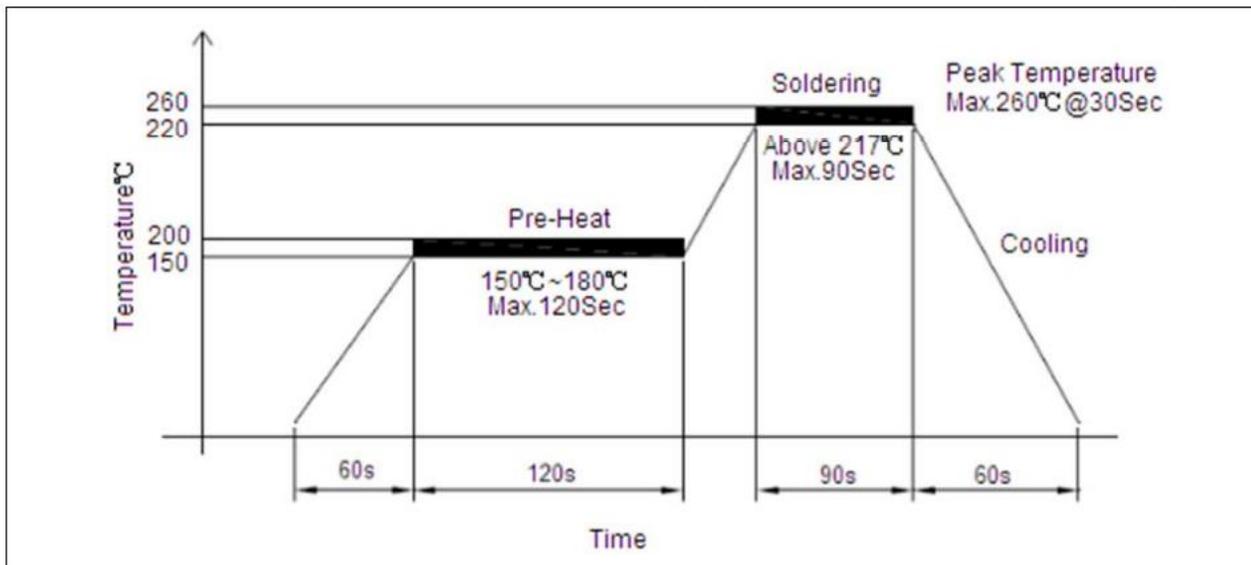


Typical Frequency Response



Recommended Soldering Procedure

Recommend reflow profile, solder reflow $\leq 260^{\circ}\text{C}$ (for 30s Max of peak temperature)



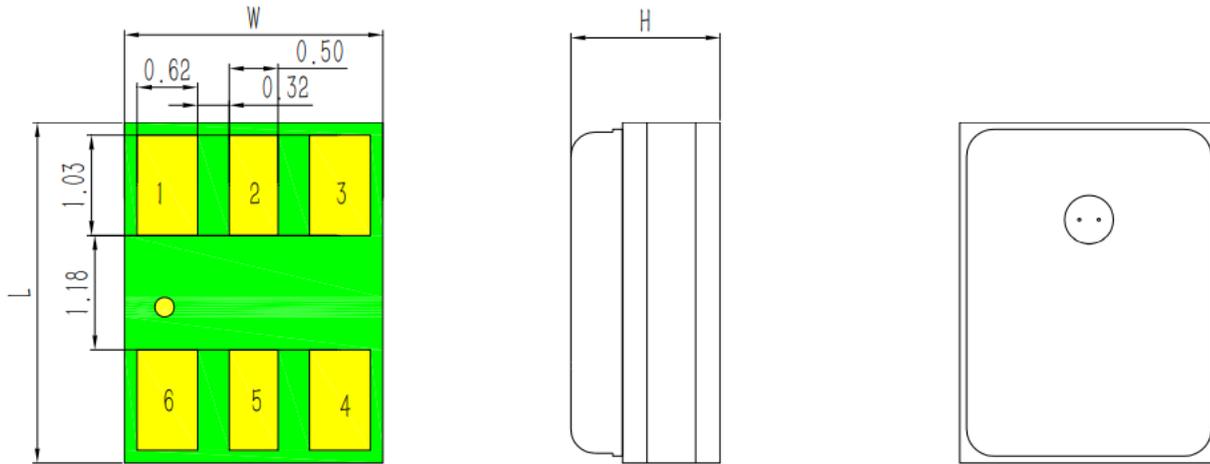
Important Notes In order to minimize device damage:

1. Times of reflow ≤ 3
2. Pressure relief hole can't be covered.
3. Pressure relief hole can't be blown by strong wind.
4. Do not wash or clean the boards after the reflow process.
5. In the process of reflux, there can be no atomizing solvent or liquid

Reliability Testing (Note: after each test, the part shall be within ± 3 dB of specification after 2 hours of rest at standard room conditions.)

Type of Test	Test Specifications
High Temperature Humidity Test	1000 hours at 85 °C with relative humidity at 85%
Thermal Shocking	-30 °C for 30 minutes to 125 °C for 30 minutes with 5 minutes temperature changing time
Vibration Test	30 minutes in each x, y, and z axis from 10 Hz to 55 Hz
Mechanical Shock Test	Subject samples to half sine shock pulses (3000 g \pm 15% for 0.3 ms) in each direction, total of 18 shocks
Operation Life	Subject samples to +125 °C for 168 hours with full maximum rated voltage
Drop Test	Drop from a height of 1.5 m on to marble floor 4 times on 6 surfaces.

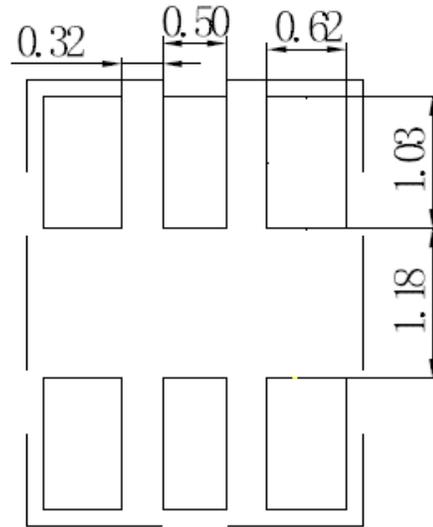
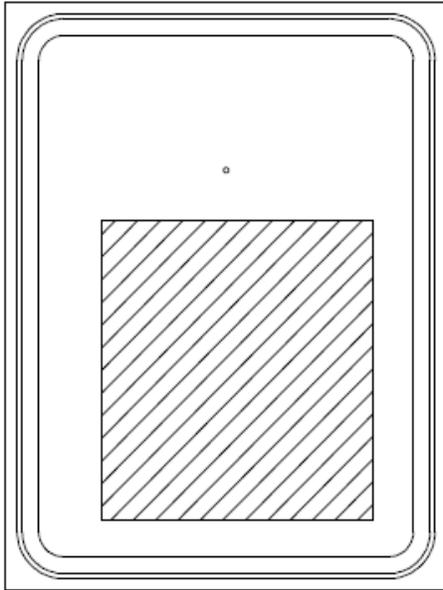
Dimensions (Note: All dimensions are in millimeter (mm) and tolerance is $\pm 0.15\text{mm}$ unless otherwise specified.)



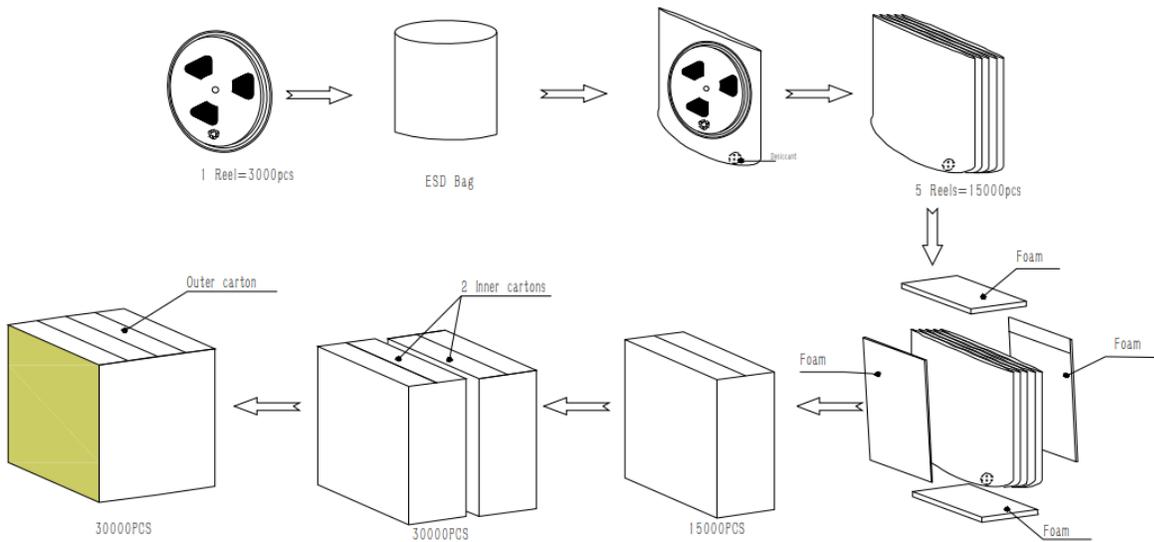
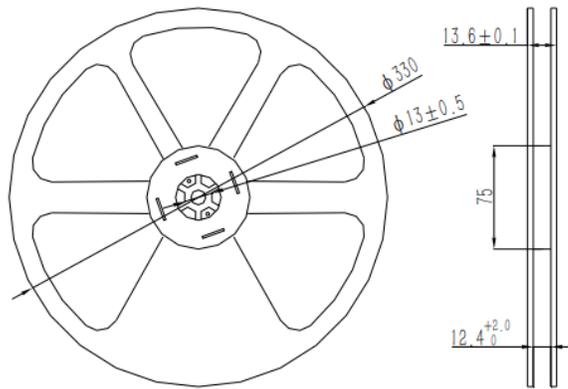
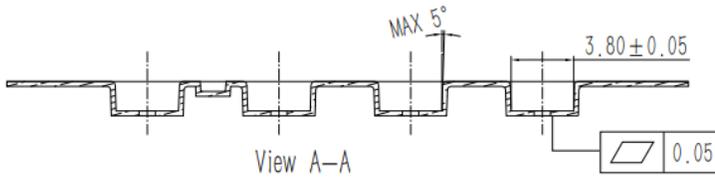
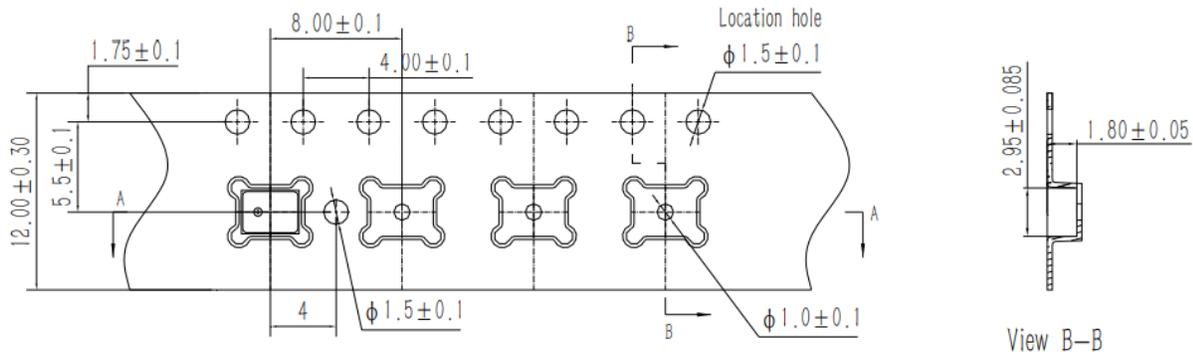
Item	Dimension	Tolerance(+/-)	Units
Length(L)	3.5	0.10	mm
Width(W)	2.65	0.10	mm
Height(H)	1.55	0.10	mm

PIN	Signal	Description
1	GND	Ground
2	GND	Ground
3	VDD	Power Suply
4	GND	Ground
5	GND	Ground
6	OUT	Output signal

Suggested Land Pattern (Note: 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



Specifications Revisions

Revision	Description	Date	Approved
A	Released from Engineering	10/24/2022	
B	Revised Specification Table and Document Formatting	04/17/2025	KH

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.