



PUI audio



Data Sheet

AI-2331-TWT-R

Features:

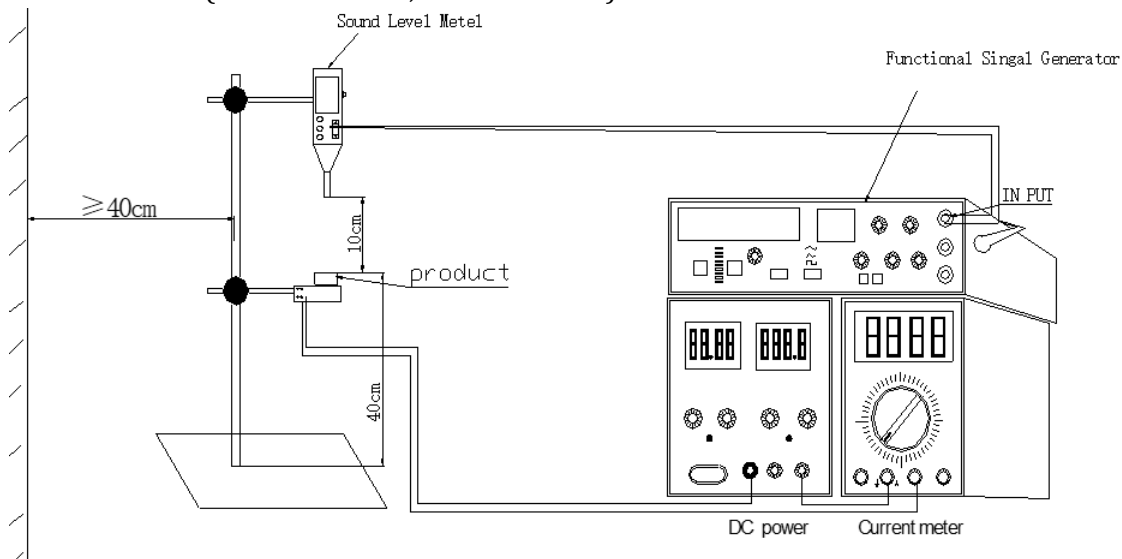
- Piezo Indicator
- 12VDC rated, 4000Hz
- Top-Firing Thru-Hole Type
- Wave Solder Allowed, Washing NOT Allowed

Specifications

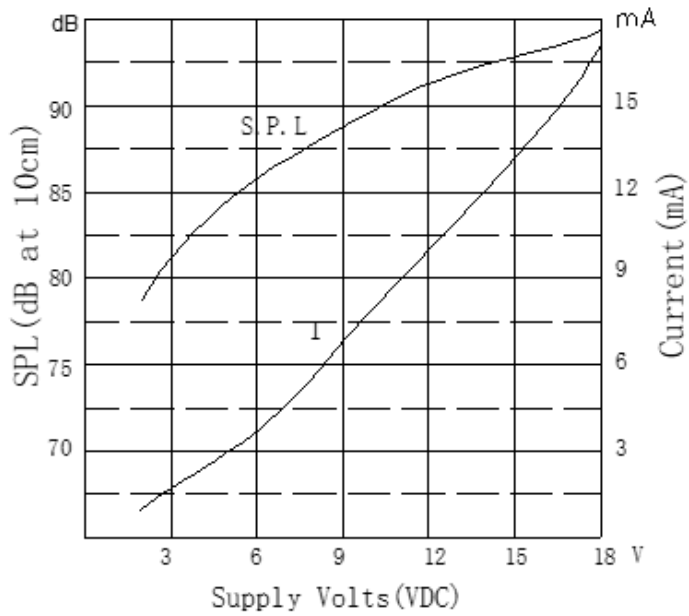
Parameters	Values	Units
Rated Voltage	12	VDC
Operating Voltage Range	3 ~ 20	VDC
Current Draw at Rated Voltage	15(Max.)	mA
Minimum SPL @ 10cm	85	dBA
Resonant Frequency	3,100 ± 500	Hz
Tone or Pulse Rate	Continuous	-
Housing Material	Noryl	-
Terminal Material	Sn Plated Red Copper(DSn)	-
Weight	3	Grams
Acceptable Soldering Methods	Hand Solder, Wave Solder	-
Environmental Compliances	RoHS/REACH	7c-1
Storage Temperature	-40 ~ +85	°C
Operating Temperature	-30 ~ +70	°C

Measurement Method (Temperature: 25±3°C; Relative Humidity: 60% ~ 70%)

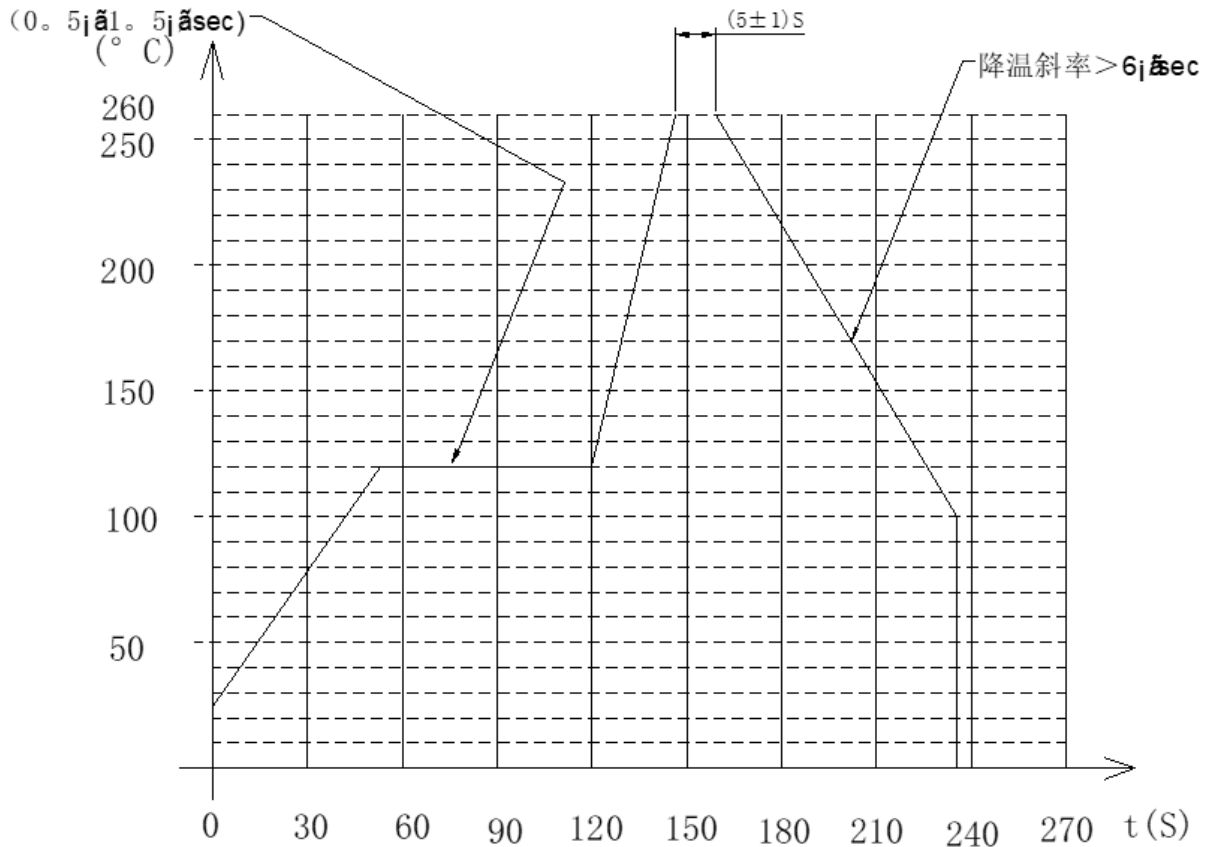
Standard Test Fixture (Distance=10cm, Power=12VDC)



Typical SPL vs Input Voltage



Recommended Wave Solder Process

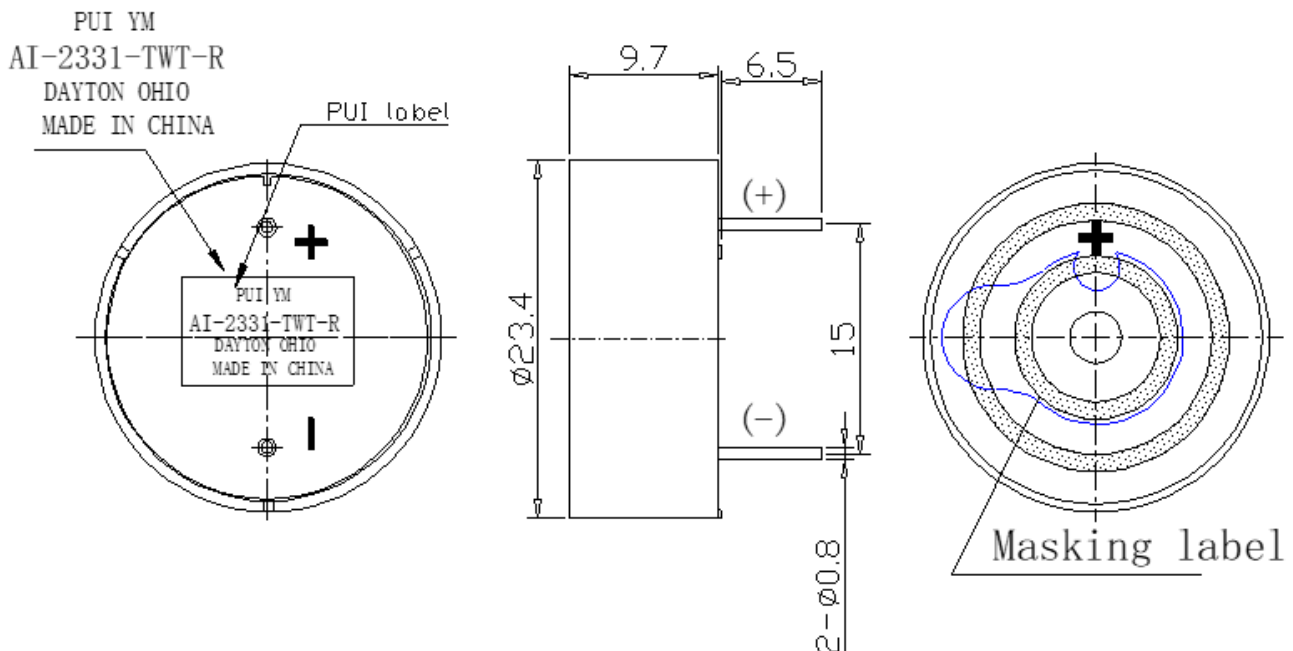


Reliability Testing

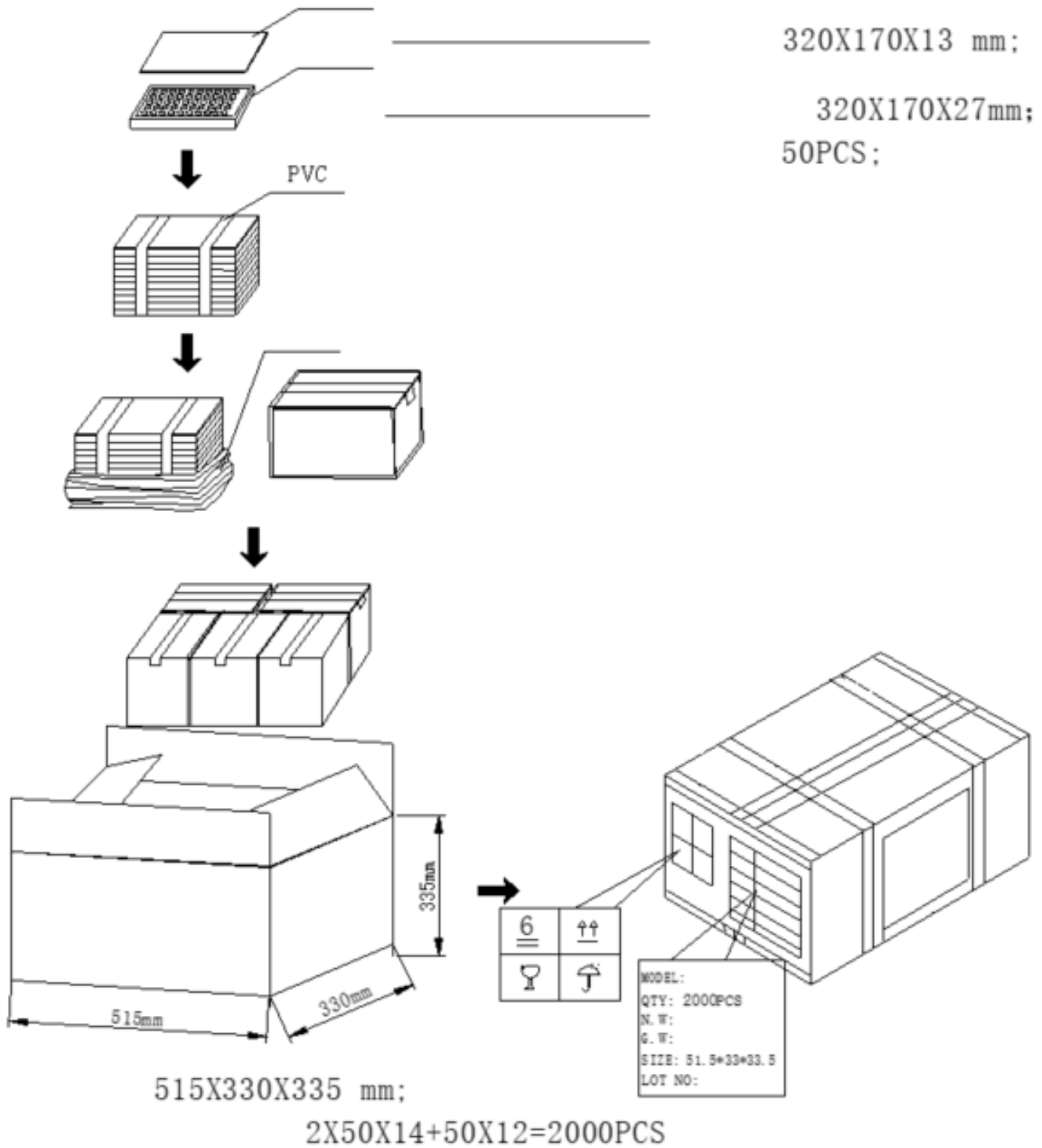
Type of Test	Test Specifications
High Temperature Test	Storage in $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ test box for 96 hours, then expose to the room temperature for 2 hours without applying power.
Low Temperature Test	Storage in $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ test box for 96 hours, then expose to the room temperature for 2 hours without applying power.
Humidity Test	Storage in $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 90-95%RH test box for 96 hours, then expose to the room temperature for 2 hours without applying power.
Temperature Cycle Testing	<p>Make this test for 5 cycles without applying power, then expose to the room temperature for 2 hours.</p>
Vibration Test	<p>Amplitude: 1.5mm Time: 1min/axis</p> <p>Make this test for the directions of X, Y, Z for 2 hours each (total 6 hours)</p>
Solderability Test	Solder Temp 260C for 3 seconds.
Drop Test	Free drop a unit from the height 70cm to the surface of 10mm thick board, three directions (X, Y, Z).

***After tests, part shall pass within SPL of $\pm 5\text{dB}$.**

Dimensions



Packaging



Specifications Revisions

Revision	Description	Date	Approved
-	RELEASED FROM ENGINEERING	08/23/2004	-
A	Added Dimension	08/27/2004	RW
B	Removed Lead Free Note, Added ROHS	08/10/2005	RW
C	Revised Terminal Material	11/28/2006	RW
D	Added Epoxy Seal Note	03/07/2007	BR
E	Revised Body Height Dimension	04/07/2008	BR
F	Revised to Inventor 3D Drawing Template	12/21/2008	BR
G	Added Note 4	02/27/2012	ML
H	Revised Temperature Ratings	02/24/2020	MV
I	Update Spec Format, Add details for Reliability, Packaging, etc.	06/28/2024	ML

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 compliant. (Exemption 7c-1 for piezo type).
4. Part is not washable.