



# PUIaudio



Data Sheet

AI-4228-TWT-R

## Features:

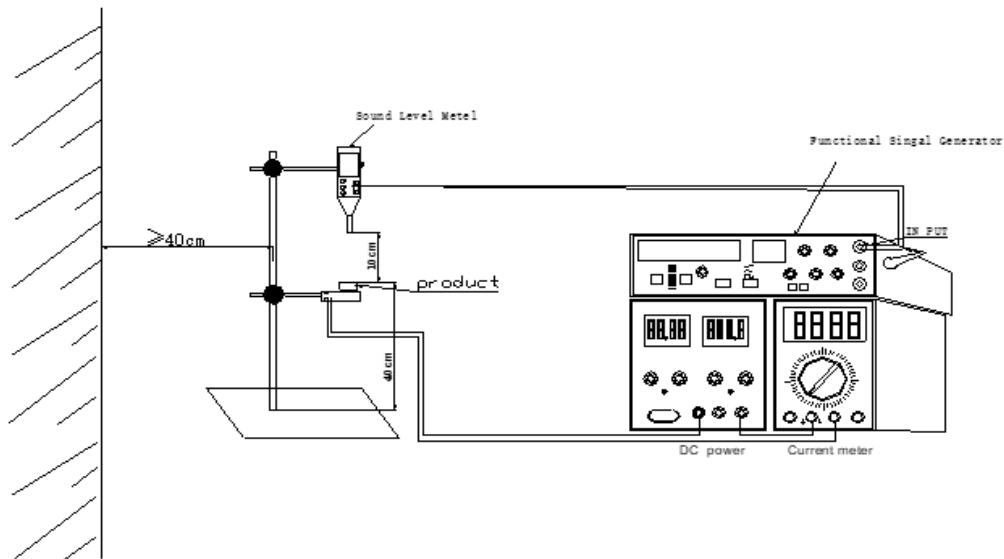
- Piezo Indicator
- 12VDC rated, 2800Hz
- Top-Firing Thru-Hole Type
- Wave Solder and Wash allowed

## Specifications

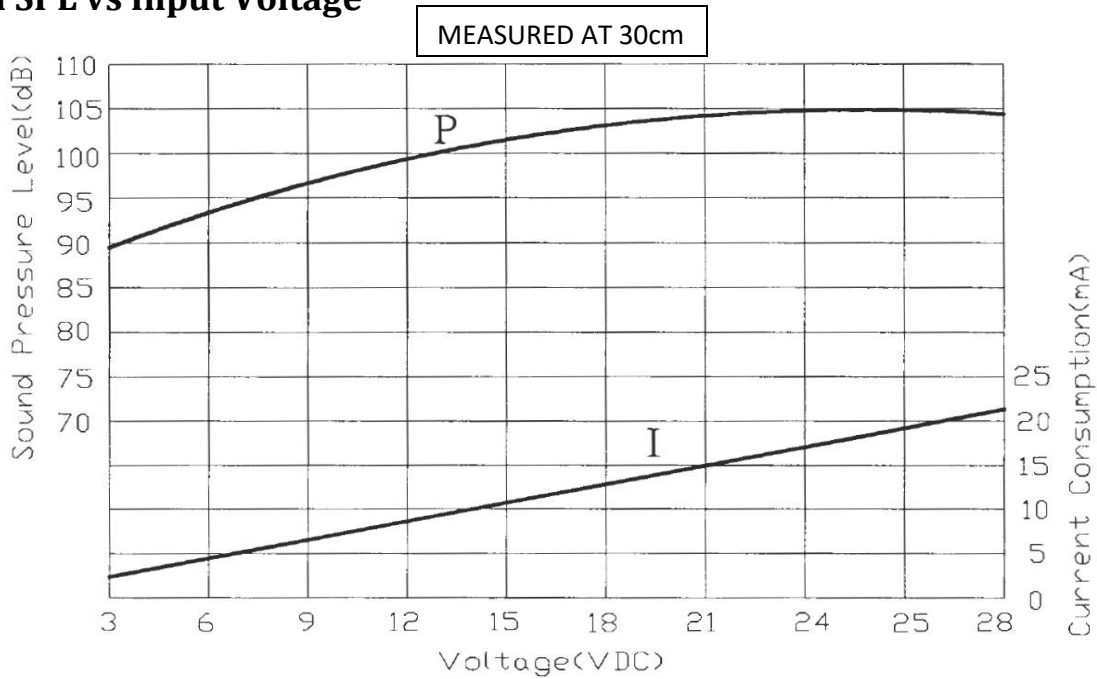
Parameters	Values	Units
Rated Voltage	12	VDC
Operating Voltage Range	3 ~ 28	VDC
Current Draw at Rated Voltage	10	mA
Minimum SPL @ 10cm	99	dBA
Resonant Frequency	2,800 ± 500	Hz
Tone or Pulse Rate	Continuous	-
Housing Material	ABS	-
Terminal Material	Au Plated Phosphor Bronze	-
Weight	12	Grams
Acceptable Soldering Methods	Hand Solder, Wave Solder	-
Environmental Compliances	RoHS/REACH	7c-1
Storage Temperature	-40 ~ +95	°C
Operating Temperature	-30 ~ +85	°C

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

Standard Test Fixture (Distance: 10cm, 12VDC)



## Typical SPL vs Input Voltage

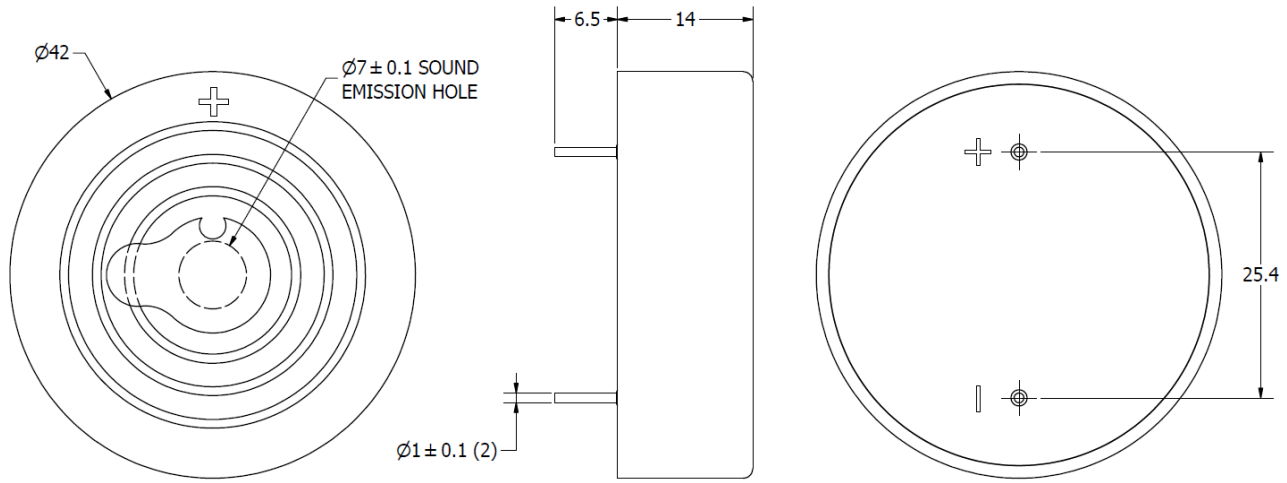


## Reliability Testing

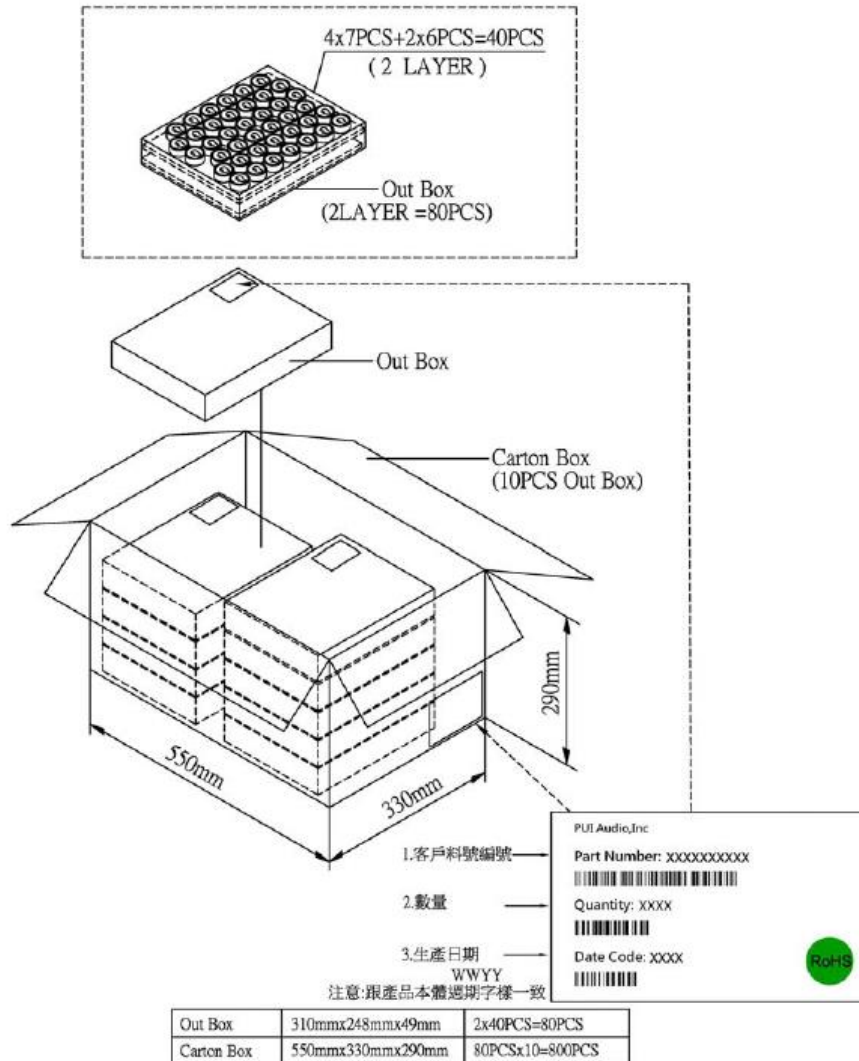
Type of Test	Test Specifications
High Temperature Test	Test chamber for 240 hours at +95°C, then rested at room temperature for 4 hours.
Low Temperature Test	Test chamber for 240 hours at -40°C, then rested at room temperature for 4 hours.
Humidity Test	Test chamber for 240 hours at +40°C with relative humidity at 90±5%, then rested at room temperature for 4 hours.
Temperature Cycle Testing	<p>Test repeated 5 times, then rest at room temperature for 4 hours.</p>
Vibration Test	1.5mm amplitude vibration with 10~55Hz band of vibration frequency for 2 hours. Repeat test in X, Y, Z directions (total 6 hours).
Solderability Test	Lead terminals immersed in rosin for 5 seconds, then in solder bath of +270±5°C for 3±1 seconds.
Soldering Heat Resistance	Lead terminals immersed up to 1.5mm from indicator body in solder bath of +260±5°C for 3±0.5 seconds.
Drop Test	Free drop a unit from the height 75cm to the surface of 40mm thick board, three times. Repeat test in X, Y, Z directions (total 9 times).
Load Test	Apply rated voltage for 48 hours continuously at +70°C. Apply a duty cycle of 1 minute on, 1 minute off 5000 times minimum, at rated voltage and room temperature (+25±3°C).

**Measurements should be ±10% compared with initial after testing. SPL should be ±10 dB.**

## Dimensions



## Packaging



**Specifications Revisions**

<b>Revision</b>	<b>Description</b>	<b>Date</b>
-	RELEASED FROM ENGINEERING	09/12/2005
A	REVISED TO INVENTOR 3D DRAWING TEMPLATE	03/06/2008

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.