



# PUIaudio



Data Sheet

SMT-0540-T-2-R

## Features:

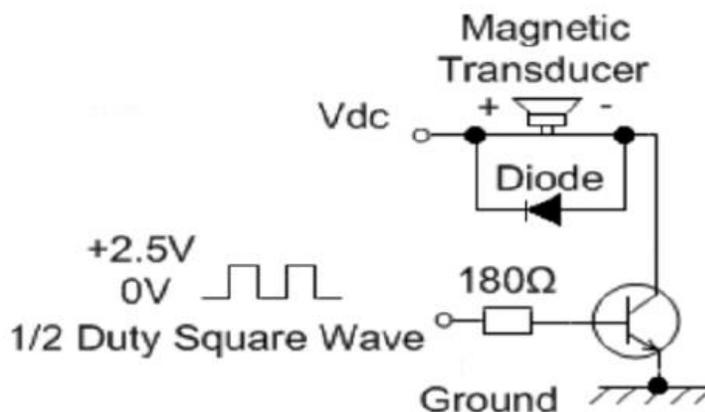
- 5x5mm SMT magnetic transducer
- 3V0-p, 4kHz

## Specifications

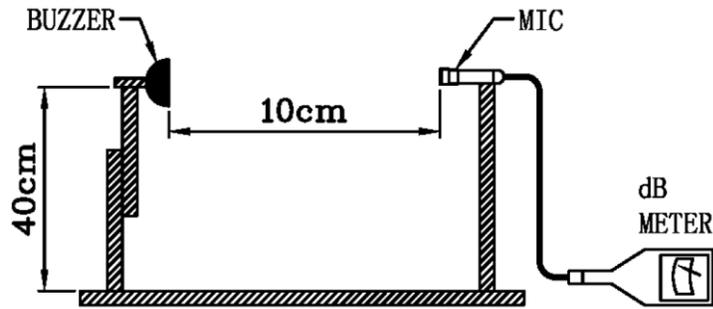
Parameters	Values	Units
Rated Voltage	3	V0-p
Operating Voltage Range	2 ~ 4	V0-p
Current Draw at Rated Voltage*	100	mA
Coil Resistance	12 ± 3	Ohms
Minimum SPL @ 10cm*	78	dBa
Resonant Frequency	4,000 ± 500	Hz
Housing Material	LCP	-
Terminal Material	Tin-Plated Brass	-
Weight	0.16	Grams
Acceptable Soldering Methods	See following pages for details	-
Environmental Compliances	RoHS/REACH	-
Moisture Sensitivity Level (MSL)	2	-
Operating Temperature	-30 ~ +70	°C
Storage Temperature	-40 ~ +85	°C

\*At rated voltage with 50% duty cycle 4 kHz positive biased square-wave

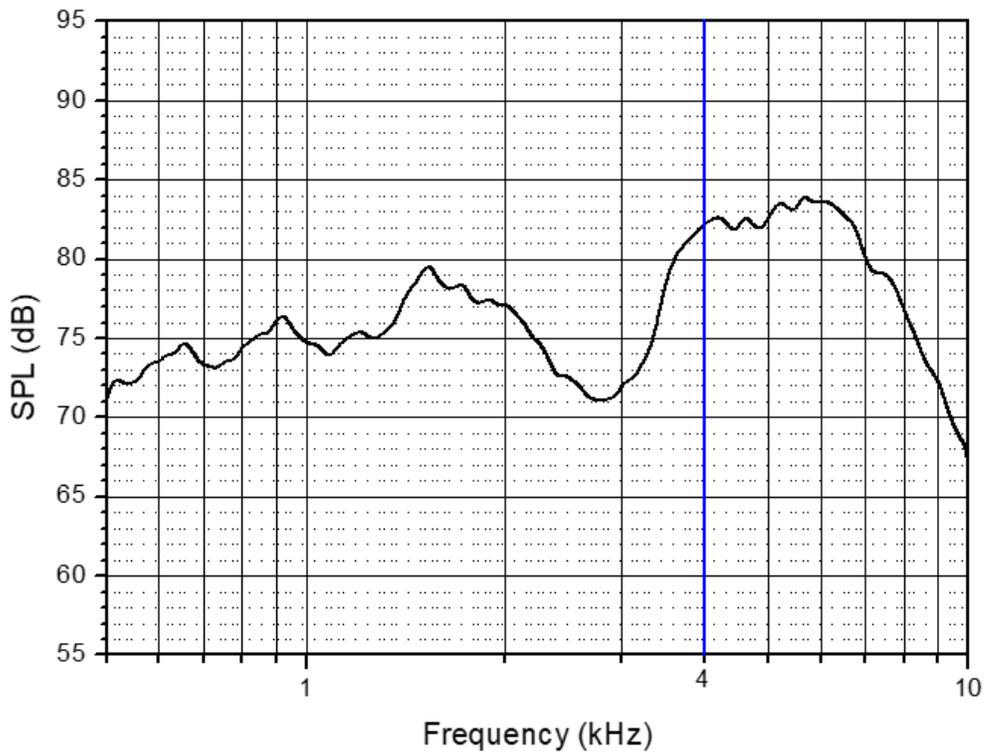
## Recommended Drive Circuit (Transistor should have a $V_{ce} \leq 0.15V$ and $h_{FE} \geq 200$ )



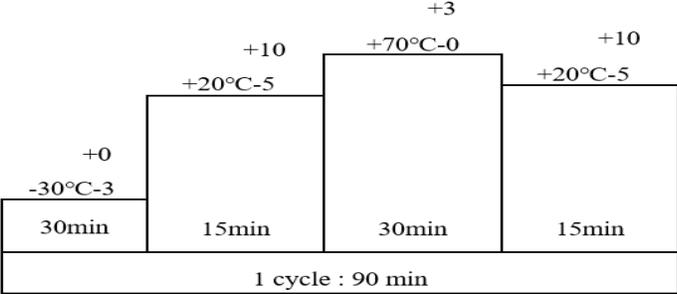
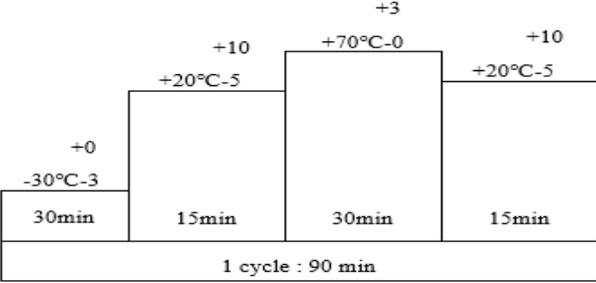
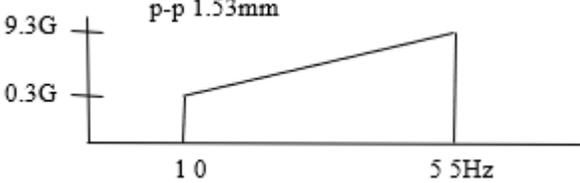
## Test Condition



## Typical Frequency Response (3Vpk square wave sweep @ 10cm)

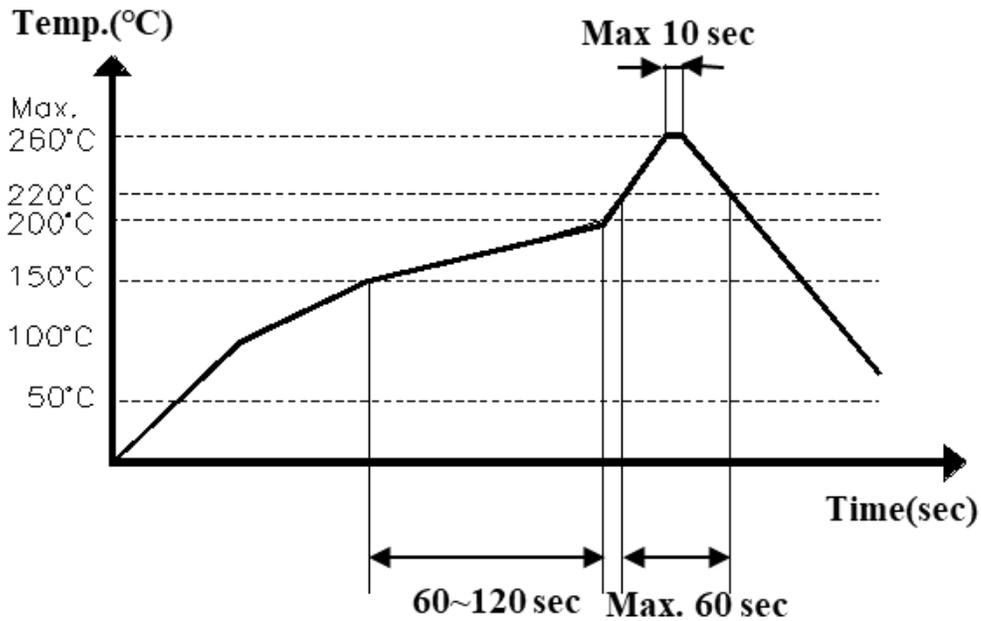


## Reliability Testing

Type of Test	Test Specifications
High Temperature Test	The part shall be capable of withstanding a temperature +85°C for 96 hours. Test after 2 hours at room temperature.
Low Temperature Test	The part shall be capable of withstanding a temperature -40°C for 96 hours. Test after 2 hours at room temperature.
Humidity Cycle Test	 <p>1 cycle : 90 min</p> <p>Make this test for 5 cycle without applying power, then expose to the room temperature for 2 hours.</p>
Life Test	Continuous operation for 1000hrs, 3Vpk, 4kHz square wave using drive circuit.
Temperature Cycle Testing	<p>Total 5 cycles of the following without power.</p>  <p>1 cycle : 90 min</p>
Vibration Test	 <p>Test for direction of X, Y, Z for 2 hours each (6hrs total).</p>
Drop Test	Affix transducer on PCB to weight of 100g. Drop 120cm to direction of 6 surfaces for 3 cycles.

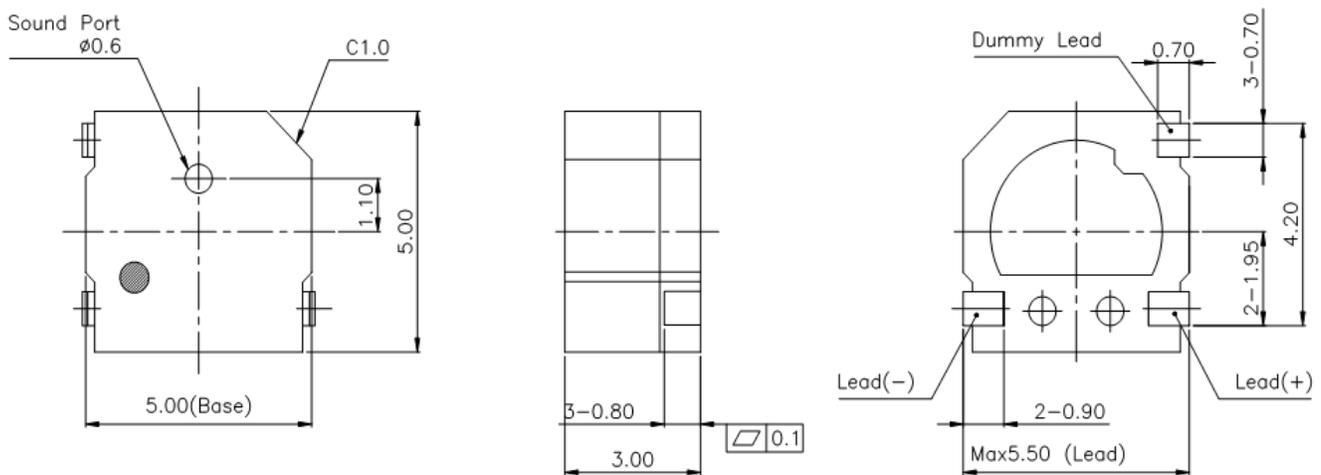
**After each test, part shall meet specifications with an SPL variance that of specification tolerance.**

## Recommended Reflow Soldering Procedure

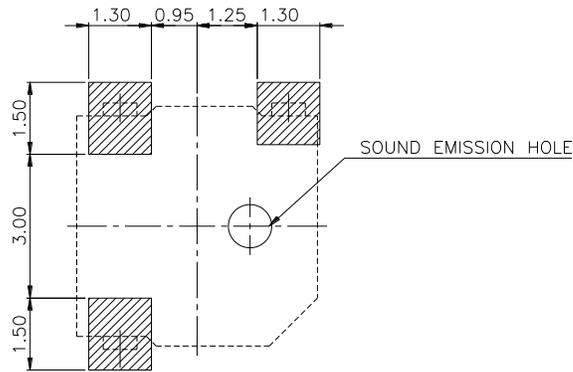


**\*Manual Soldering Iron Temperature 350C within 2-3 second per terminal**

## Dimensions (Tolerances $\pm 0.2$ unless otherwise specified)



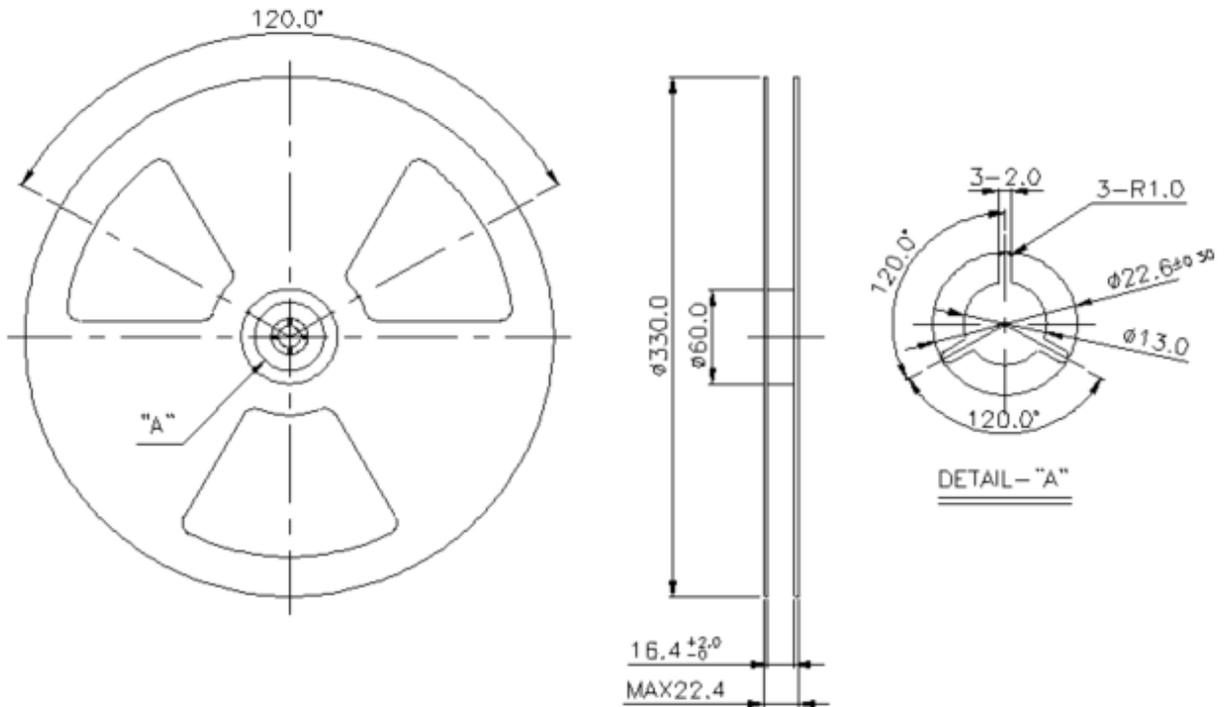
## Suggested Land Pattern\*

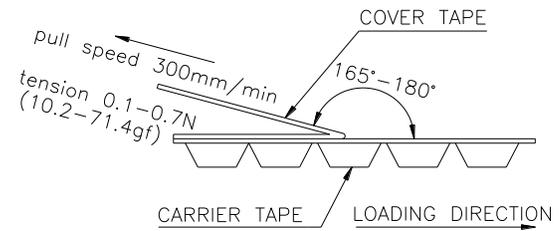
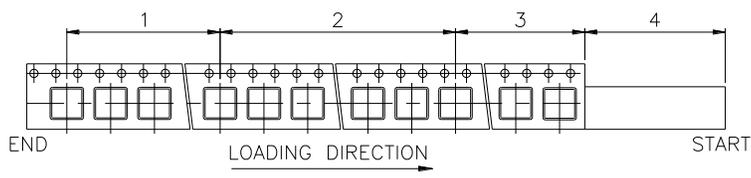
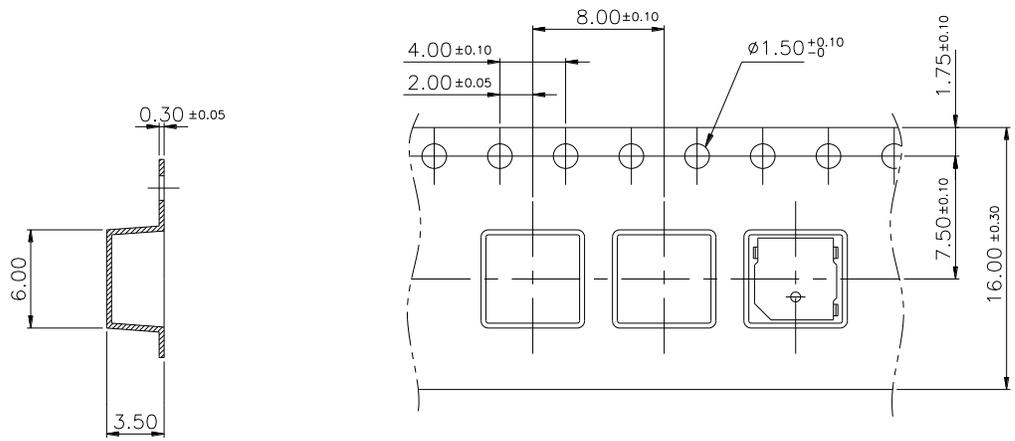


\*This land pattern is advisory only and its use or adaptation is entirely voluntary. PUI Audio disclaims all liability of any kind associated with the use, application, or adaptation of this land pattern.

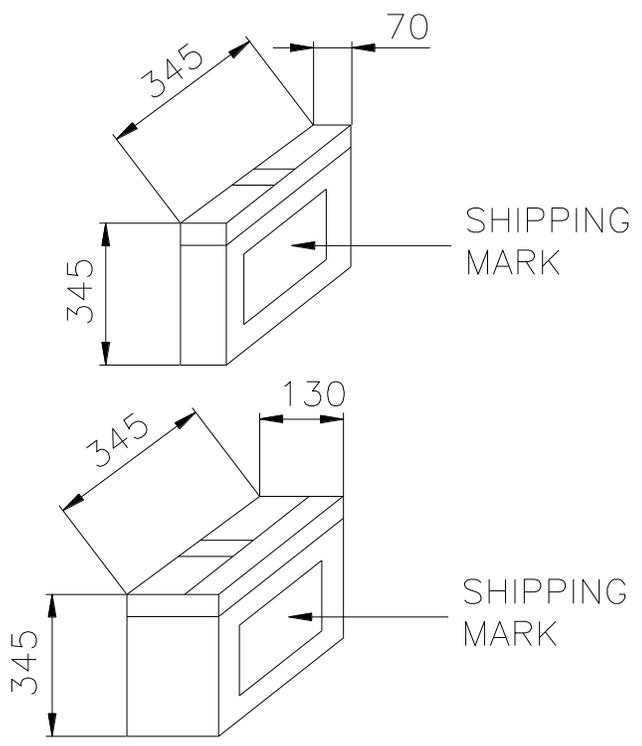
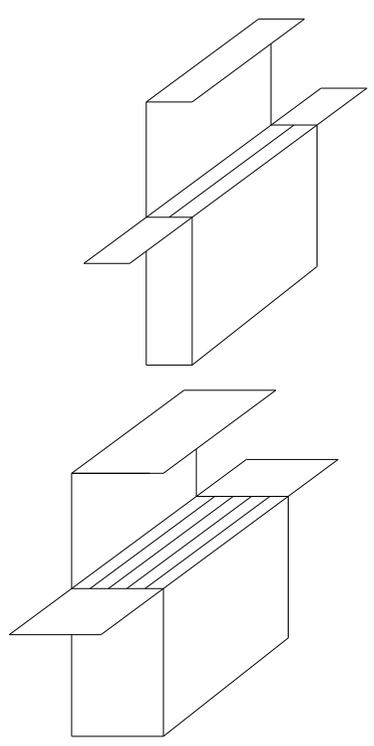
## Packaging

2000pcs/Reel





1. BARE EMBOSS AREA : 400mm OVER(45PCS OVER)
2. CHIP MOUNT AREA : 2,000PCS
3. BARE EMBOSS AREA : 400mmOVER(45PCS OVER)
4. LEADER AREA : 100mm OVER



### Specifications Revisions

Revision	Description	Date	Approved
-	Released from Engineering	12/06/2004	-
A	Added Terminal Plating Material	01/18/2005	RW
B	Updated ROHS and Tolerances	05/09/2005	RW
C	Updated Terminal Dimensions	05/18/2005	BR
D	Added Reflow Temperature Note	01/09/2006	BR
E	Revised Reflow Temperature	06/05/2006	BR
F	Revised to 3D Template	06/04/2010	BR
G	Revised Terminal Material	05/11/2012	ML
H	Update Spec Format, Add details for Packaging, Reliability, etc. Add MSL 2. Remove note 4 and 5.	01/23/2025	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 or changes may not be made without prior customer notification and approval.
3. Date Code:
  - a. First digit represents number of the year
  - b. Last digit represents the month (A-Jan, B-Feb, etc.)