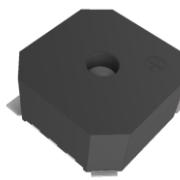




PUIaudio



Data Sheet

SMT-0821-T-R

Features:

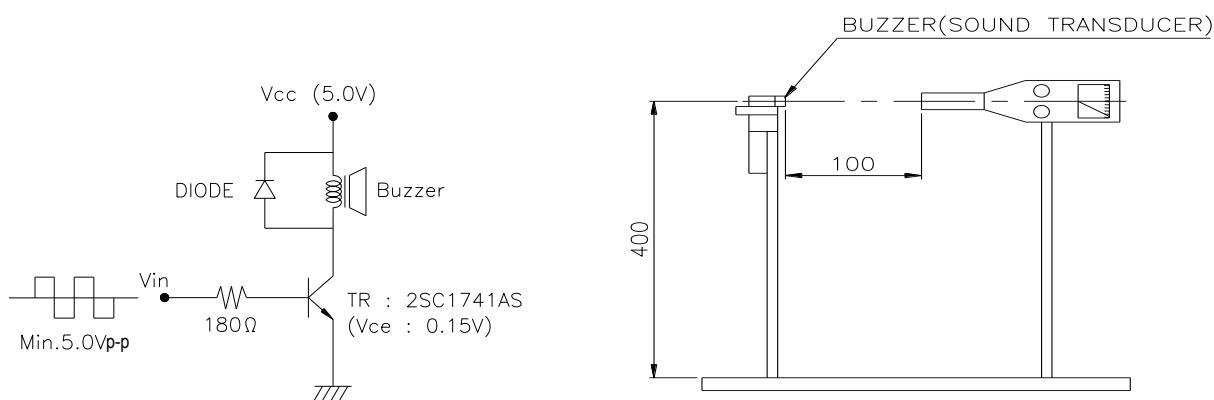
- 8.5x8.5mm SMT magnetic transducer
- 3.6V0-pk, 2100Hz, 16Ω

Specifications

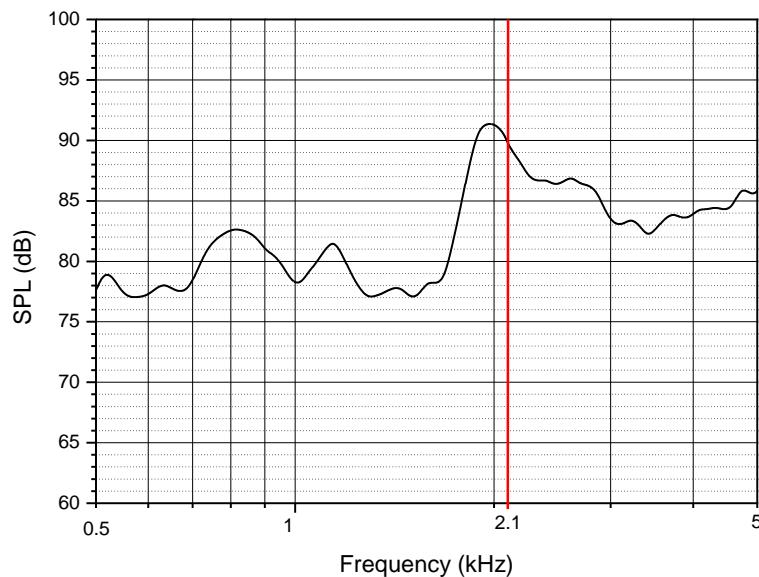
Parameters	Values	Units
Rated Voltage	3.6	V0-pk
Operating Voltage Range	2.5 ~ 4.5	V0-pk
Current Draw at Rated Voltage*	90	mA
Coil Resistance	16 ± 2.4	Ohms
Minimum SPL @ 10cm*	87	dBA
Resonant Frequency	2,100 ± 500	Hz
Housing Material	LCP	-
Terminal Material	Sn-Plated Phosphor Bronze	-
Weight	0.45	Grams
Acceptable Soldering Methods	See following pages	-
Environmental Compliances	RoHS/REACH	-
Moisture Sensitivity Level (MSL)	2	-
Operating Temperature	-30 ~ +80	°C
Storage Temperature	-40 ~ +85	°C

*At rated voltage with 50% duty cycle 2.7kHz positive biased square-wave

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

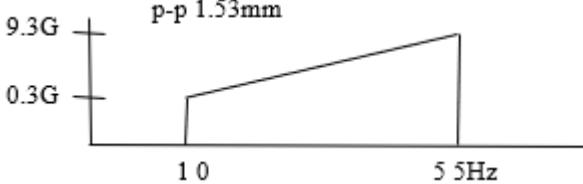


Typical Frequency Response (3.6Vpk square wave input measured at 10cm)



Reliability Testing

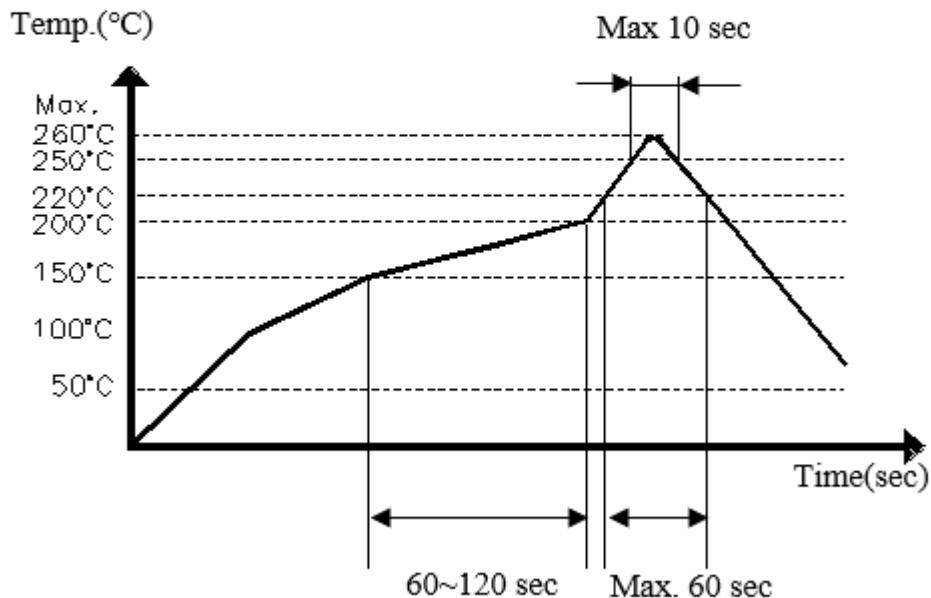
Type of Test	Test Specifications
High Temperature Test	The part shall be capable of withstanding a temperature +85°C for 96 hours.
Low Temperature Test	The part shall be capable of withstanding a temperature -40°C for 96 hours
Humidity Test	Place in chamber with 90-95%RH at 40C for 96 hours followed by ambient room conditions for 2 hours.
Temp/Humidity Cycle	<p>Perform 10 cycles of the following cycle.</p> <p>+25°C 95%RH 5Hr 0.5Hr +60°C 95%RH 6Hr 0.5Hr</p> <p>1 cycle : 12 Hr</p>
Temperature Cycle Testing	<p>Total 5 cycles of the following without power.</p> <p>+0/-30°C-3 30min +10/-20°C-5 15min +70°C-0/-70°C-0 30min +10/-20°C-5 15min</p> <p>1 cycle : 90 min</p>

	 <p>9.3G 0.3G p-p 1.53mm 1 0 5 5Hz</p>
Vibration Test	Test for direction of X, Y, Z for 2 hours each (6hrs total).
Drop Test	Drop onto 4cm hardwood board in x,y,z direction (6 times) from 75cm height.
Solderability	Solder bath temp $300^{\circ}\text{C} \pm 5^{\circ}\text{C}$, time 3 ± 1 sec

After each test, part shall meet specifications with an SPL variance of $\pm 10\text{dB}$

Recommended Reflow Soldering Procedure

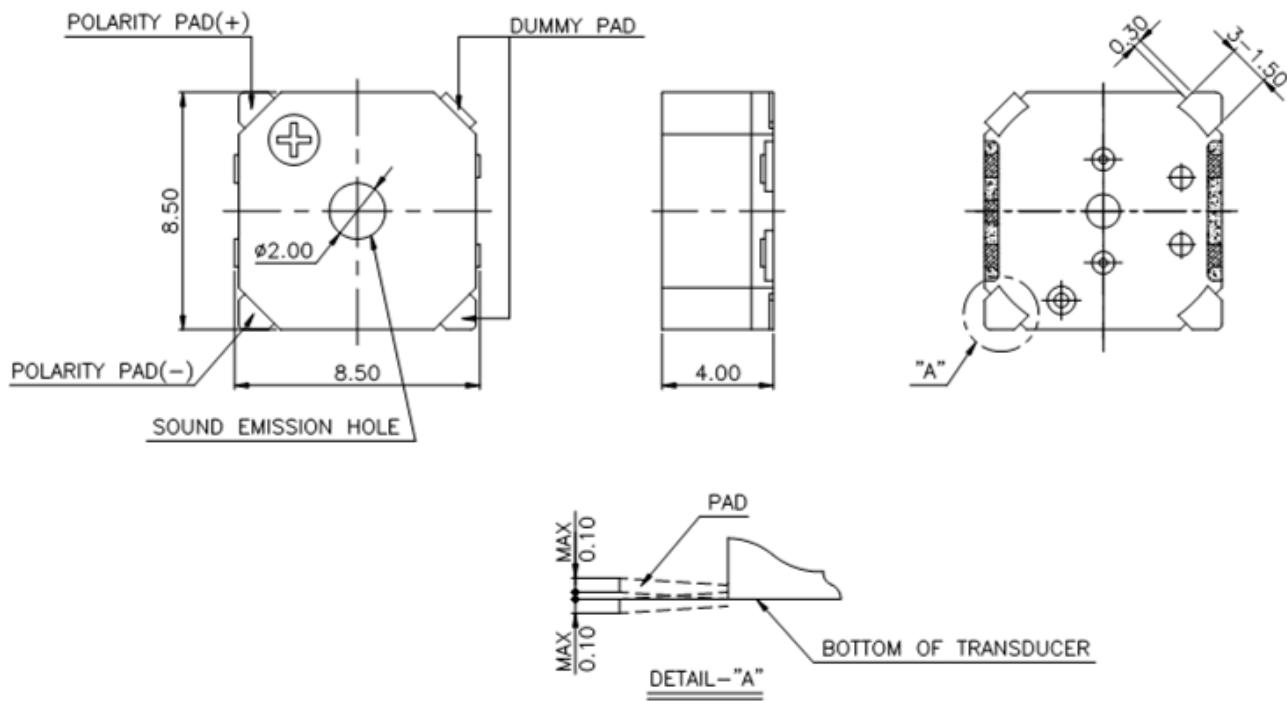
- Recommendable reflow soldering condition is as follows.
 - Note 1; It is requested that reflow soldering should be executed after heat of product goes down to normal temperature.
 - Note 2; Peak reflow temperature of 260°C , with a maximum duration of 60 sec. between 220°C and 260°C



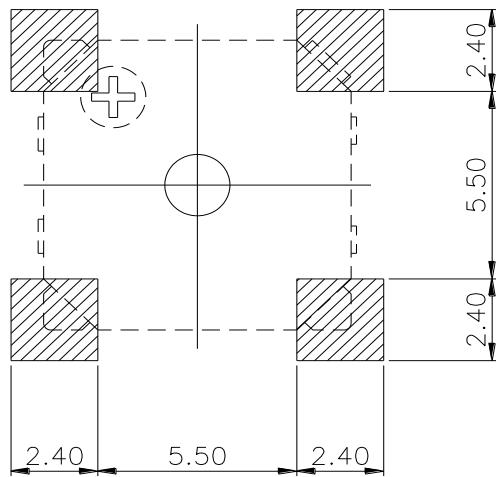
* Reflow profile of lead-free solder

*Manual soldering iron temperature 350C, soldering time less than 5 seconds.

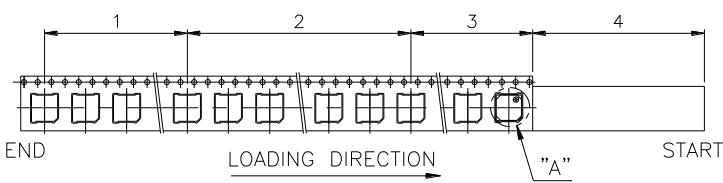
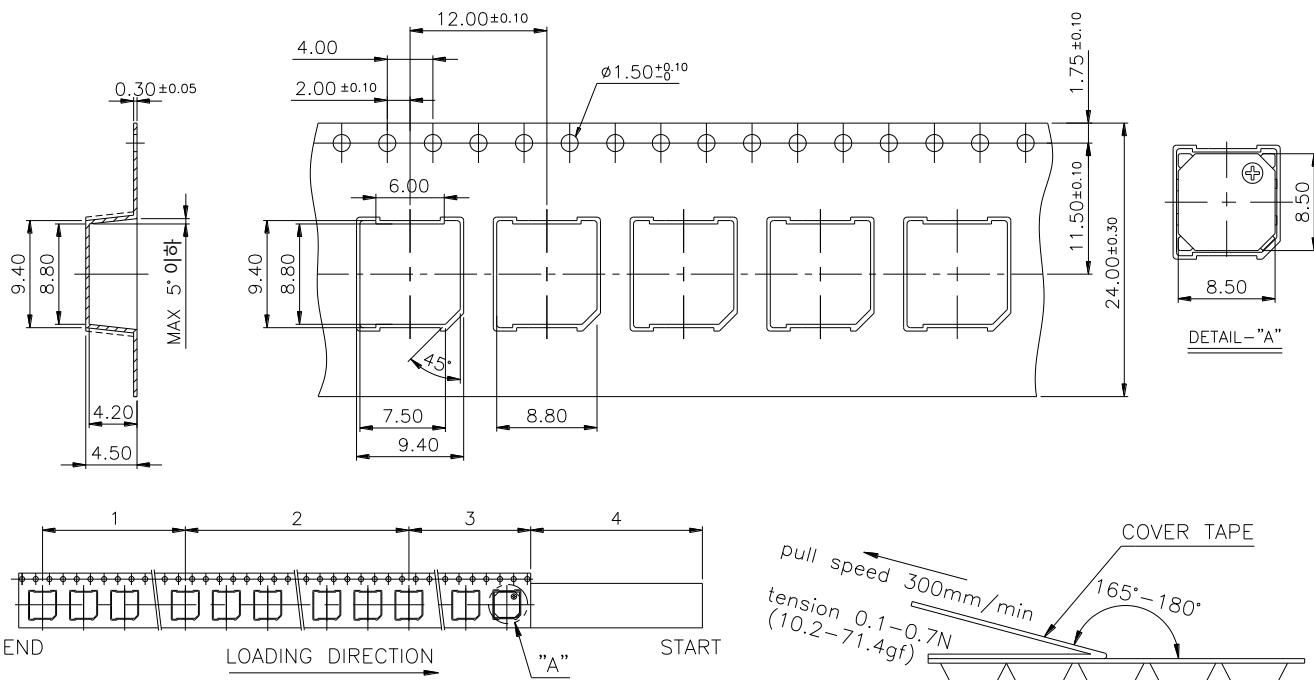
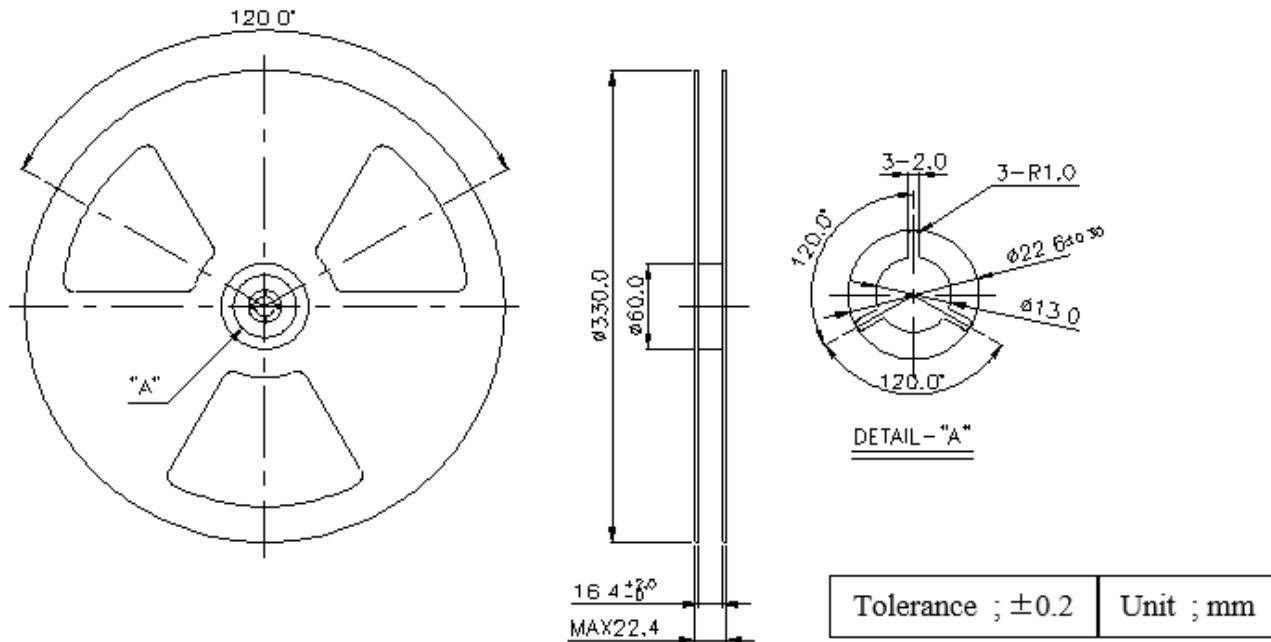
Dimensions



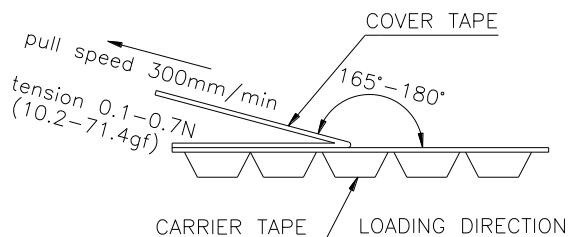
Suggested Land Pattern



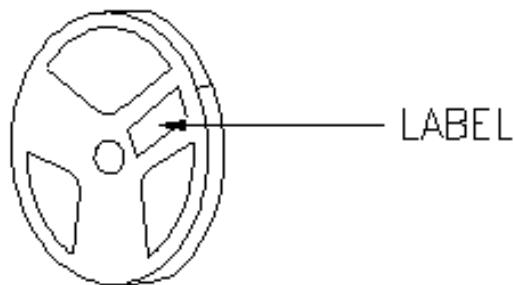
Packaging



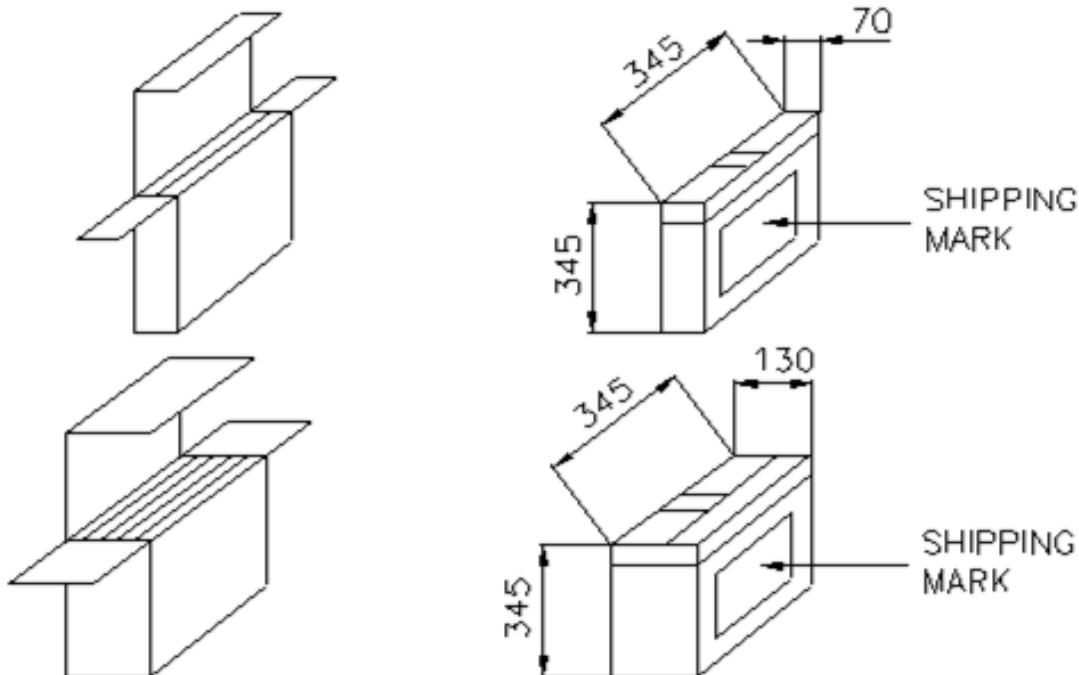
1. BARE EMBOSSED AREA : 400mm OVER(35PCS OVER)
2. CHIP MOUNT AREA : 1,000PCS
3. BARE EMBOSSED AREA : 400mm OVER(35PCS OVER)
4. LEADER AREA : 100mm OVER



1,000 PCS per 1 roll by using the tapping M/C.



2 rolls or 5 rolls per 1 double(thick) carton box packed by polypropylene tape.



Specifications Revisions

Revision	Description	Date	Approved
-	Released from Engineering	09/16/2005	-
A	Revised Lower Housing	10/08/2008	BR
B	Revised to Inventor 3D Drawing Template	10/26/2008	EP
C	Revised Voltage, Temperature, Coil Impedance, and Terminal Material	02/28/2020	MV
D	Update Spec Format, Add details for Reliability, Packaging, etc., Add MSL 2, Revised Voltage Range	02/05/2025	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 subject to change or withdraw without notice.

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