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PUIaudio

Data Sheet SMT-0820-S-R

Features:

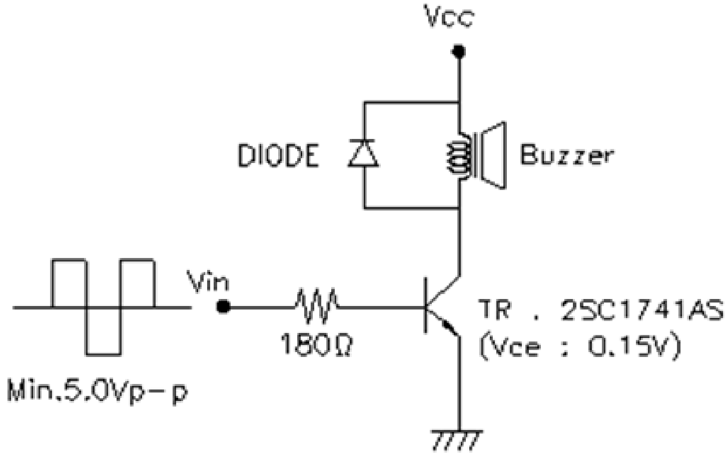
- 8.5x8.5mm SMT magnetic transducer
- 5V0-p, 2.0kHz

Specifications

Parameters	Values	Units
Rated Voltage	5	V0-p
Operating Voltage Range	4 ~ 6	V0-p
Current Draw at Rated Voltage*	100	mA
Coil Resistance	32 ± 4	Ohms
Minimum SPL @ 10cm*	85	dBA
Resonant Frequency	2,000 ± 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 ~ +70	°C
Storage Temperature	-40 ~ +85	°C

*At rated voltage with 50% duty cycle 2.0kHz positive biased square-wave

Recommended Drive Circuit **(Transistor should have a Vce ≤ 0.15V and hFE ≥ 200)**



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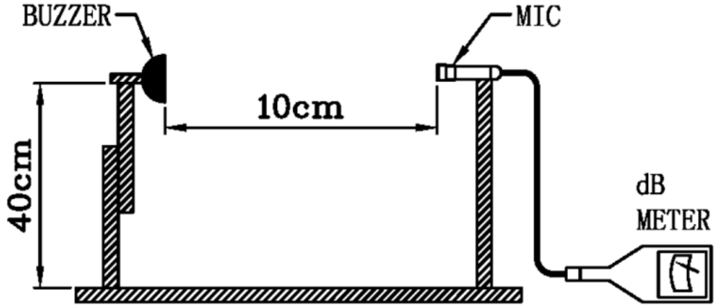
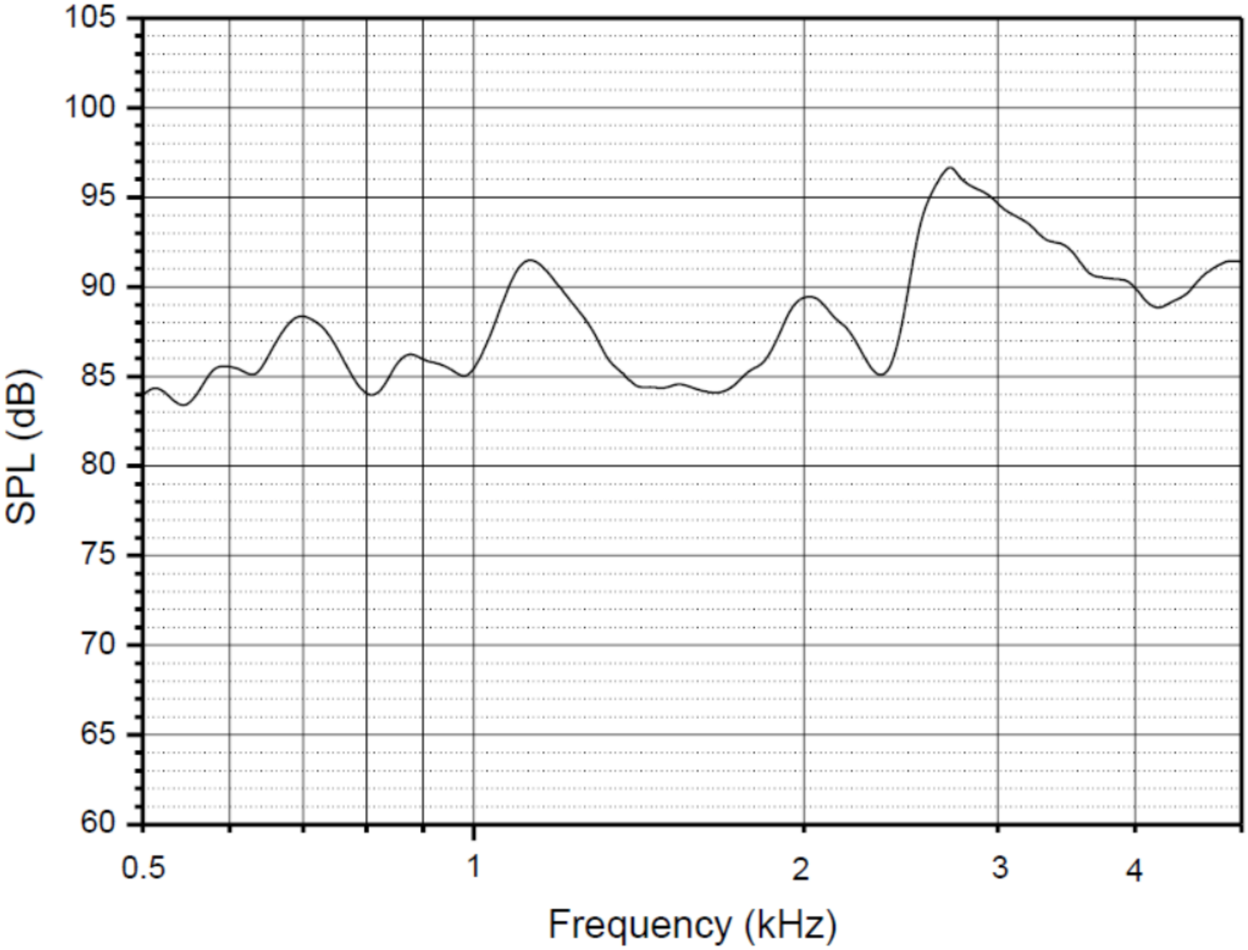
Test Condition (5V0-p, 2kHz)



Typical Frequency Response (Square Wave Sweep at 10cm)



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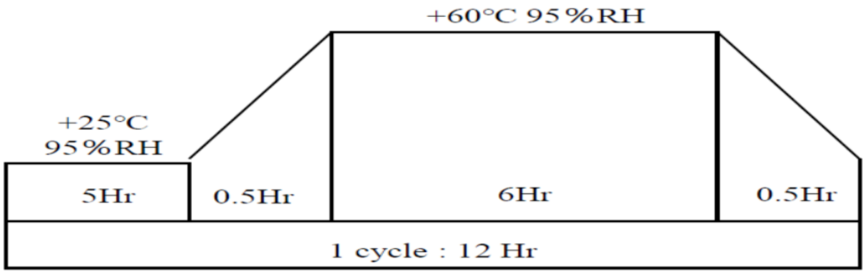
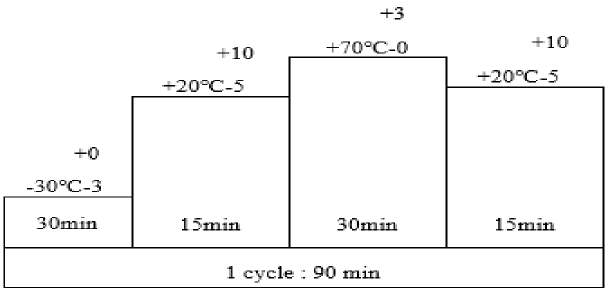
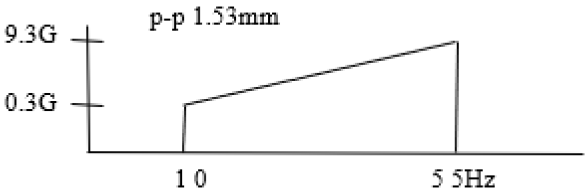
Reliability Testing

Type of Test	Test Specifications
High Temperature Test	The part shall be capable of withstanding a temperature +85°C for 96 hours, then expose to room temperature for 2 hours
Low Temperature Test	The part shall be capable of withstanding a temperature -40°C for 96 hours, then expose to room temperature for 2 hours
Humidity Test	10 cycles followed by exposure to room temperature for 2 hours. 
Temperature Cycle Testing	Total 5 cycles of the following without power. Then rest at room temperature for 2 hours. 
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 235°C ± 5°C, time 2 ± 0.5 sec

After each test, part shall meet specifications.

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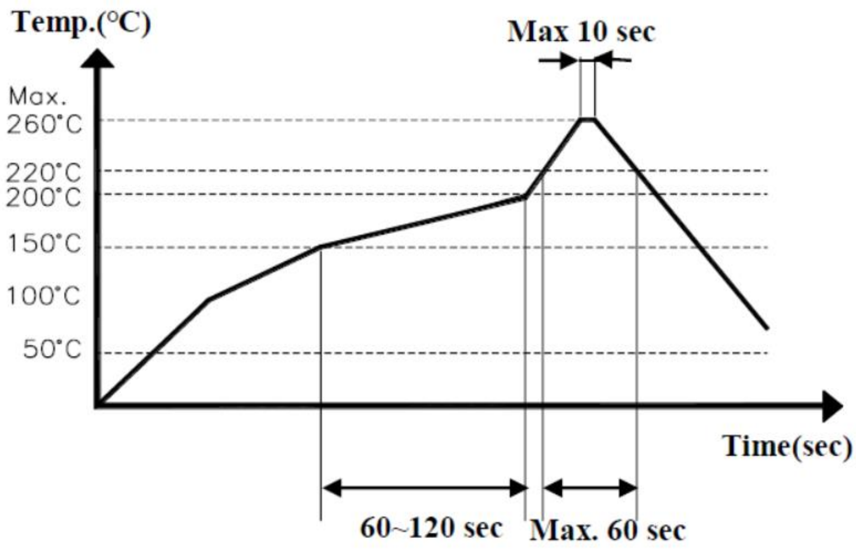
Recommended Reflow Soldering Procedure

- 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.

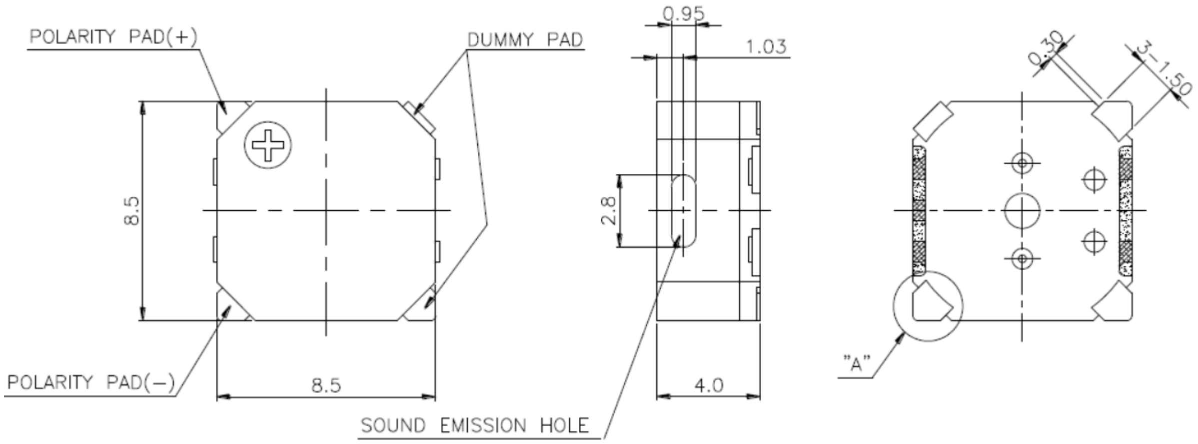
Note 2; Peak reflow temperature of 260°C, with a maximum duration of 60 sec. between 220°C and 260°C

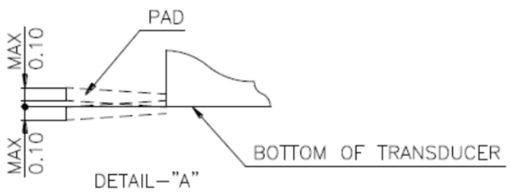


* Reflow profile of lead-free

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

Dimensions (Tolerance ±0.2mm unless otherwise specified)





DETAIL−"A"

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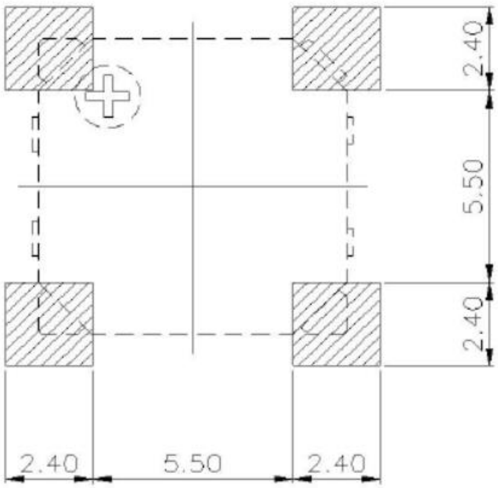
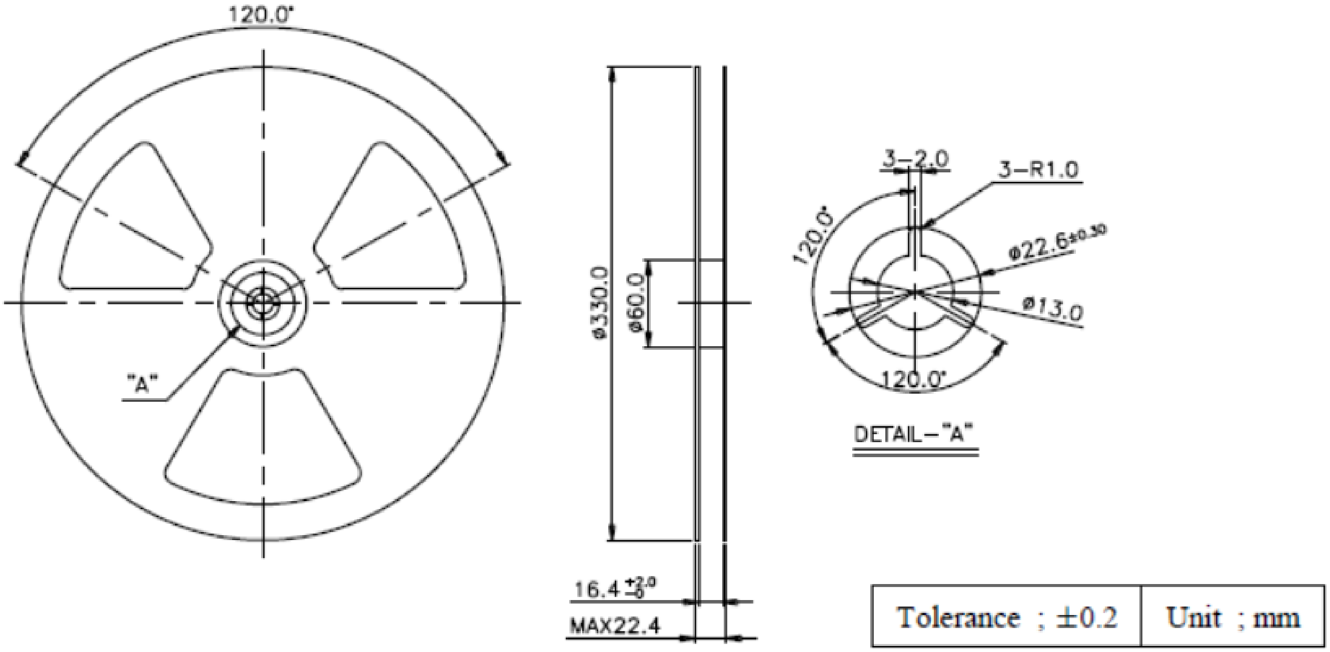
Suggested Land Pattern



Packaging



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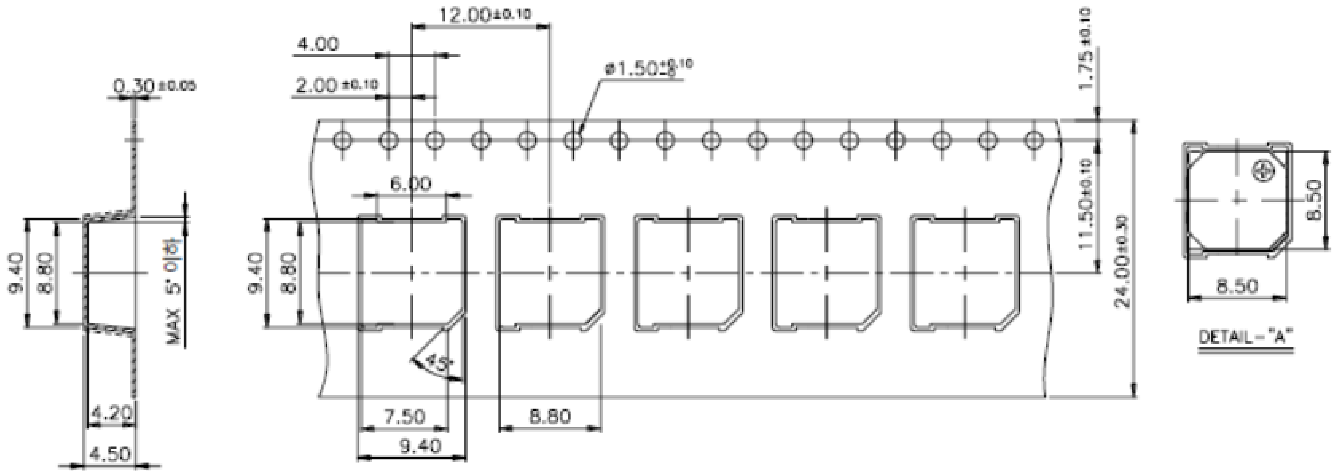
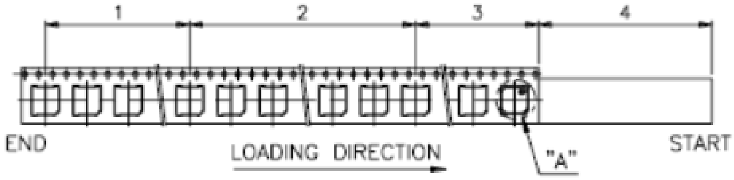
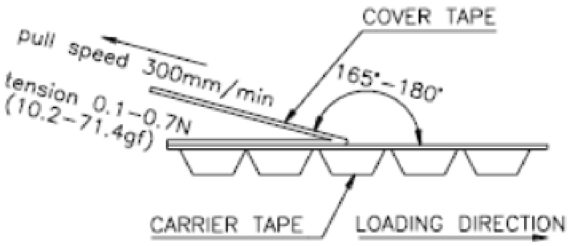
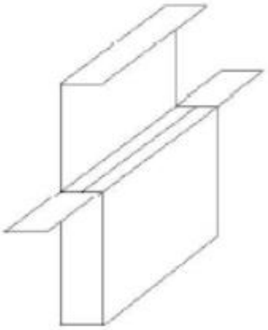


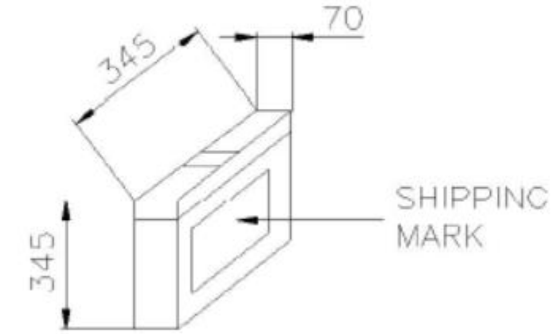


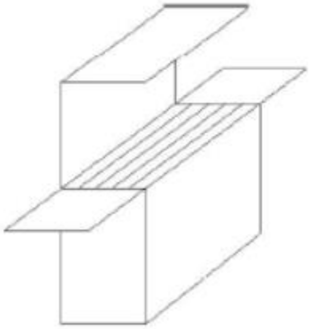


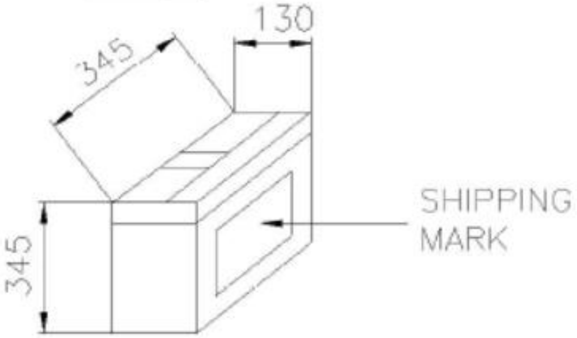
1. BARE EMBOSS AREA : 400mm OVER(35PCS OVER)
2. CHIP MOUNT AREA : 1,000PCS
3. BARE EMBOSS AREA : 400mmOVER(35PCS OVER)
4. LEADER AREA : 100mm OVER

Tolerance ; ±0.2	Unit ; mm









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Specifications Revisions

Revision	Description	Date	Approved
-	Released from Engineering	04/01/2005	-
A	Added ROHS Compliance Note	08/10/2005	-
B	Revised to 3D Template	04/27/2010	BR
C	Update Spec Format, Add details for Reliability, Packaging, etc. Add MSL 2, Revised Rated Current Draw to 100mA, Revised Resistance Tolerance to ± 4	02/05/2025	ML

Note:

1. Unless otherwise specified:
   - A. All dimensions are in millimeters.
   - B. Default tolerances are ±0.5mm and angles are ±3°.
2. Specifications subject to change or withdraw without notice.