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SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Speaker Sound Generator Component
Part Number : HSS1313B-8

A1 - New issue created by Loki, Lo on 7 Jun., 2018		

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1. Purpose and Scope

This document contains both general requirements, qualification requirements, and those specific electrical, mechanical requirements for this part.

2. Description

13 x 13 mm SMD speaker sound generator, RoHS compliant.

3. Application

Telecommunication Equipment, Computers and Peripherals, Portable Equipment, etc.

4. Component Requirement

4.1. General Requirement

4.1.1. Operating Temperature Range : -40°C to +85°C

4.1.2. Storage Temperature Range : -40°C to +85°C

4.1.3. Weight : Approx. 1.4g

4.2. Electrical Requirement

4.2.1. Coil Impedance : 8 ± 20% Ω

4.2.2. Rated Power : 0.7W

4.2.3. Maximum Input Power : 1W

4.2.4. Resonance Fequency : 1100 ± 20% Hz

4.2.5. Frequency Range : f_0 ~ 20KHz

4.2.6. Sound Pressure Level at 10cm, 0.7W (1, 1.6, 2, 3.2 KHz average) : 87 ± 3 dB

4.2.7. Total Harmonics Distortion (0.1W, at 2KHz) : <=10%

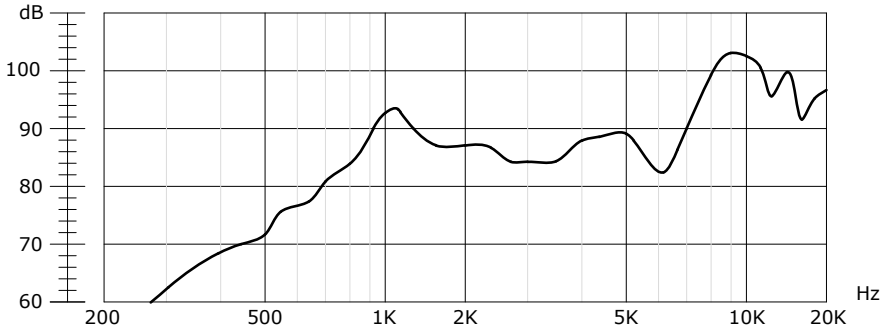


Figure 1. Frequency Response

4.3. Mechanical Requirement

4.3.1. Layout and Dimension : See Section 7, Figure 4

4.4. Test Setup

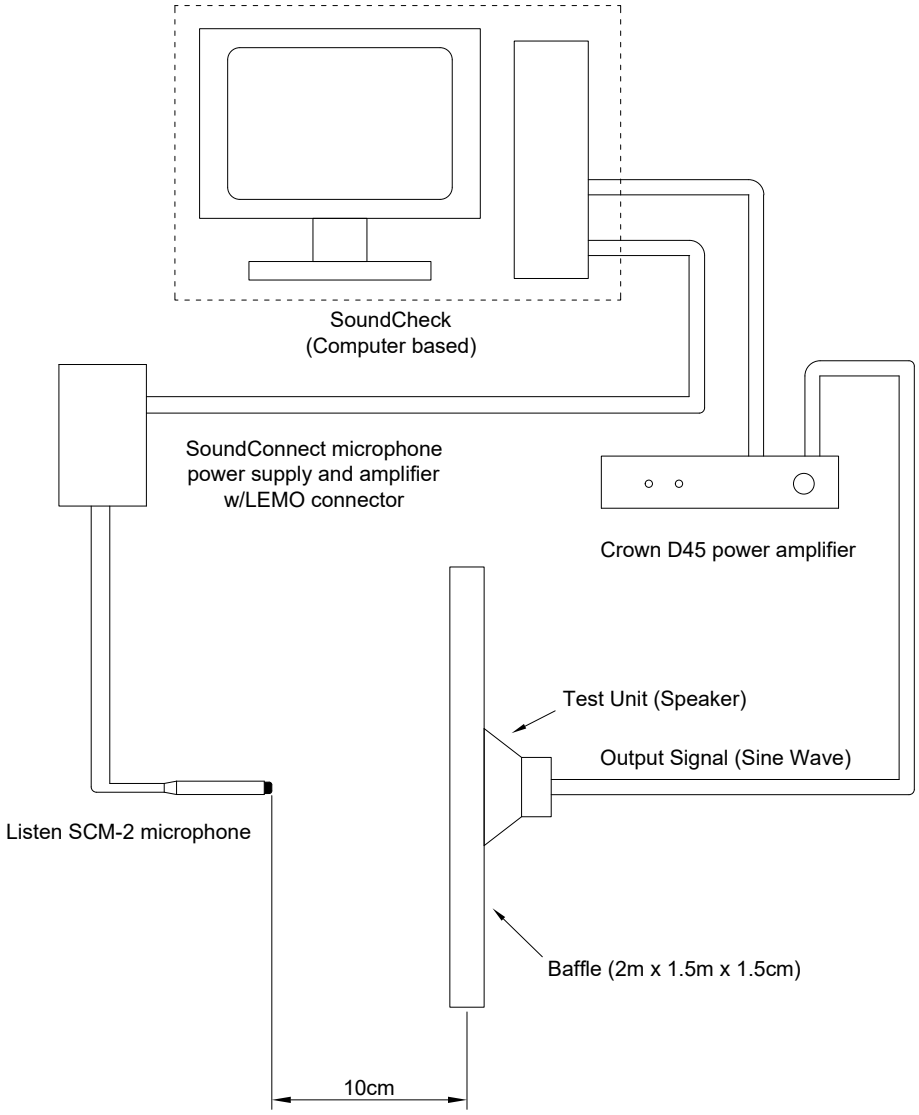


Figure 2. Test setup

Notes : Apply rated signal from Crown D45 Power Amplifier. Measure SPL with microphone 10 cm from the test unit with baffle (2m x 1.5m x 1.5cm). Microphone to be in accordance with Listen SCM-2 Microphone. The microphone should be calibrated on a daily basis using an acoustic calibrator recommended by the manufacturer. Measurement should be carried out in a free field environment.

5. Reliability Test

5.1. High Temperature : Subject samples to +85°C for 96 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 6 hours soak.

5.2. Low Temperature : Subject samples to -40°C for 96 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 6 hours soak.

5.3. Static Humidity : Subject samples to +40°C with 92%~95% relative humidity for 96 hours. Finally dry at room ambient for 6 hours before taking final measurement.

5.4. Temperature Shock : Each temperature cycle shall consist of 1 hour at +85°C followed by 1 hour at -40°C with 15 seconds transition time between temperature extremes. Test duration is for 5 cycles. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 6 hours soak.

5.5. Load Test : Subject samples to room condition for 96 hours under rated power white noise.

5.6. Terminal Strength : Applied 1kg load to the terminals for 30 seconds.

5.7. High Temperature with Humidity : Each temperature cycle shall consist of 6 hours at +65°C and 5 hours at +25°C with 30 minutes transition time between temperature extremes with 90 ~ 95% relative humidity. Test duration is for 5 cycles.

5.8. Random Vibration : Secure samples. Vibrated randomly 10 ~ 55 ~ 10Hz with 1.5mm peak amplitude in 3 directions (x, y and z). The test duration is 2 hours per plane.

5.9. Fix Drop Test : Fix samples on jig, then drop from the height of 1.52m onto concrete floor 5 times in each directions (x, y, z), total of 30 times.

5.10. Free Drop Test : Drop samples naturally from the height of 1m onto concrete floor 1 time in each directions (x, y, z), total of 6 times.

6. Recommended Soldering Process Condition

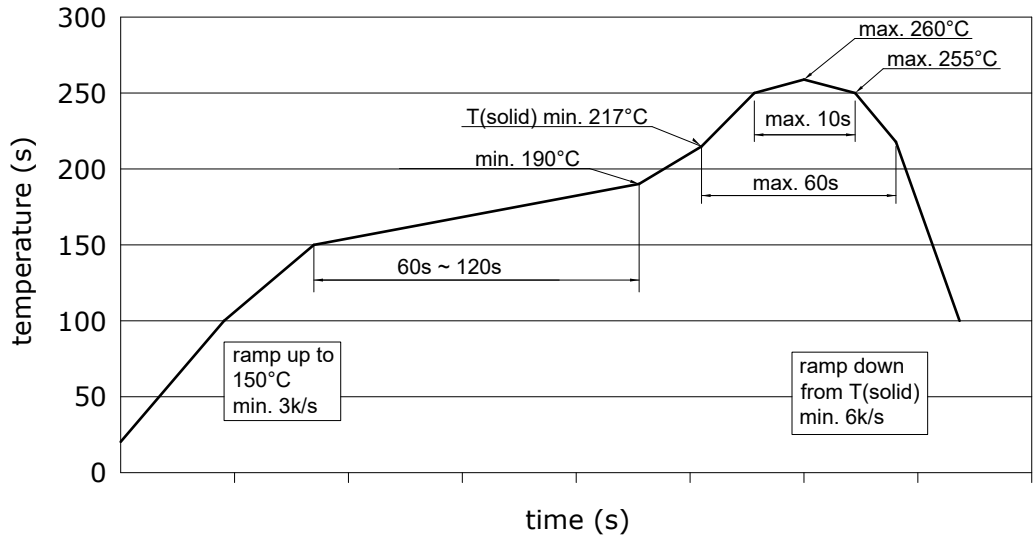


Figure 3. Recommended reflow oven temperature profile

7. Mechanical Layout

Unit : mm
Tolerance : Linear XX.X = ±0.5
XX.XX = ±0.05
Angular = ±0.25°
(unless otherwise specified)

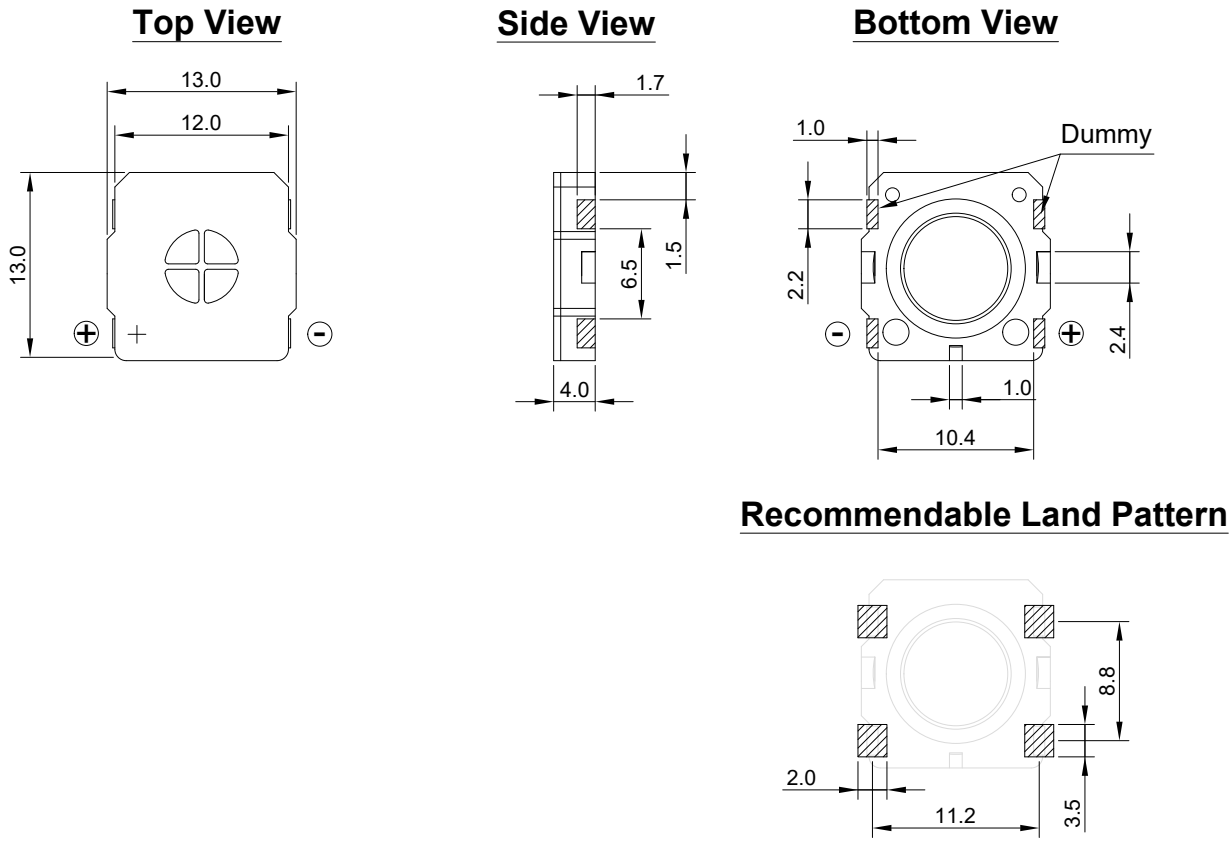


Figure 4. HSS1313B-8 Mechanical Layout

8. Standard Packing Layout

8.1. Tape Layout

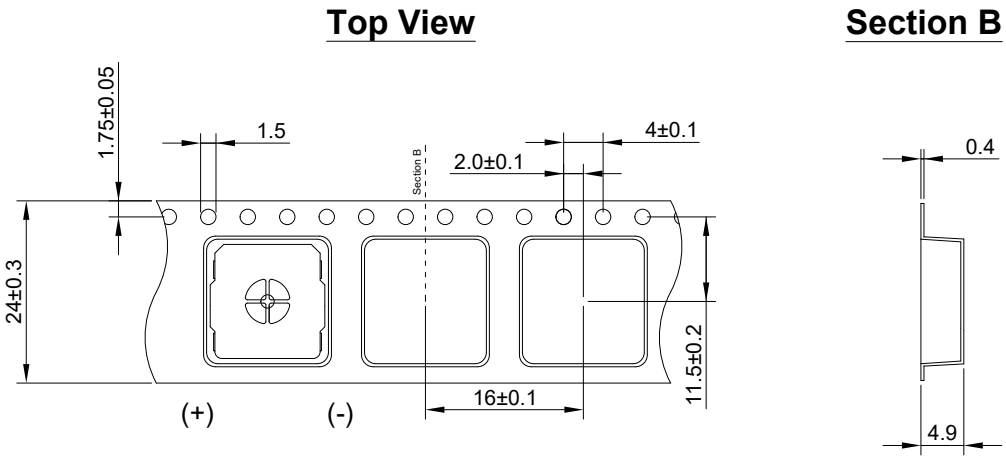


Figure 5. Tape Layout

8.2. Reel Layout

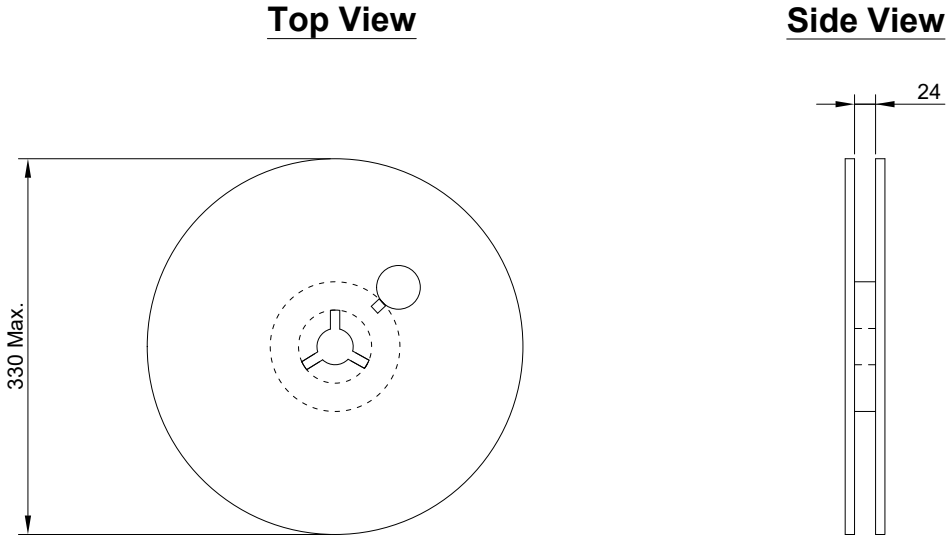


Figure 6. Reel Layout

8.3. Packing Quantity : 600 pieces per reel, 1 reel per inner box, 10 inner boxes per carton (Total 6000 pieces)

8.4. Carton Layout : 350 x 350 x 370mm

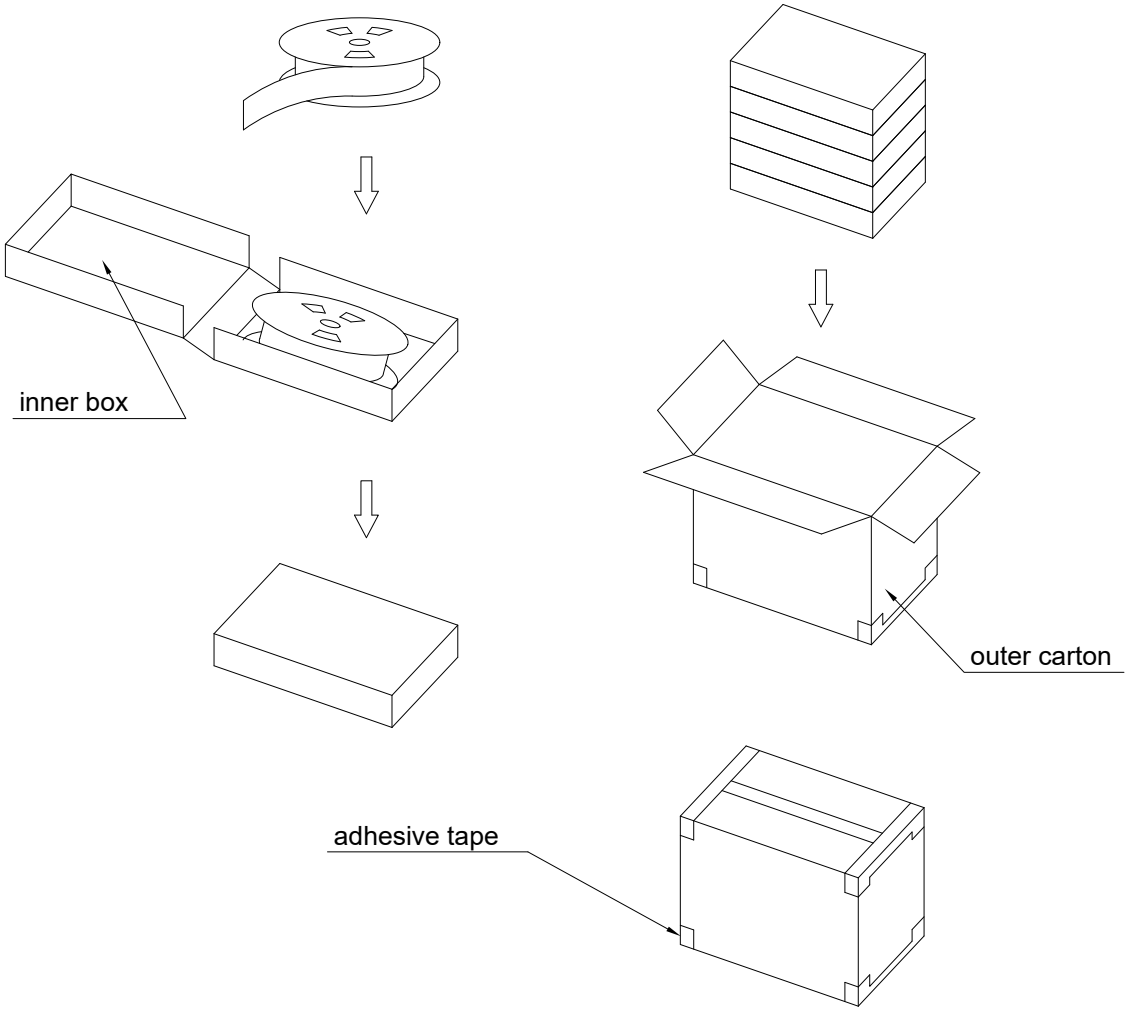


Figure 7. Reels Installation