



JL World Corporation Limited

Tel : (+852) 25650319 Fax : (+852) 25656979 Web : www.jlworld.com

Document Number : 9708-44
Revision : A9
Total Pages : 7
Prepare by : Holmes, Poon
Date : 30 December, 2011

SoniCrest Acoustic Components

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HCS1212A

A8 - Updated layout and format by Leo Sin on 30 Mar., 2001		
A9 - Updated section 4 by Holmes, Poon on 30 Dec., 2011		

This material is the property of JL World Corporation Limited.
Unauthorized copying or use of this material is prohibited.

1. Purpose and Scope

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

2. Description

12.8 x 12.8 mm SMD electro-magnetic sound generator, RoHS compliant.

3. Application

Telecommunication Equipment, Computers and Peripherals, Portable Equipment, Automobile Electronics, POS System, 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	: 3.5g

4.2 Electrical Requirement

4.2.1. Rated Voltage	: 12V
4.2.2. Operating Voltage	: 7 ~ 16 V
4.2.3. Rated Current	: <=60mA
4.2.4. Coil Resistance	: 140 ± 14 Ω
4.2.5. Rated Frequency	: 2400Hz
4.2.6. Sound Pressure level at 10cm (Applying rated voltage)	: >=85dB

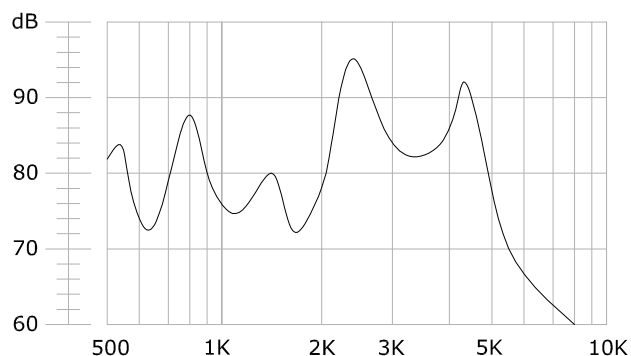


Figure 1. Frequency Response

4.3 Mechanical Requirement

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

4.4 Test Setup

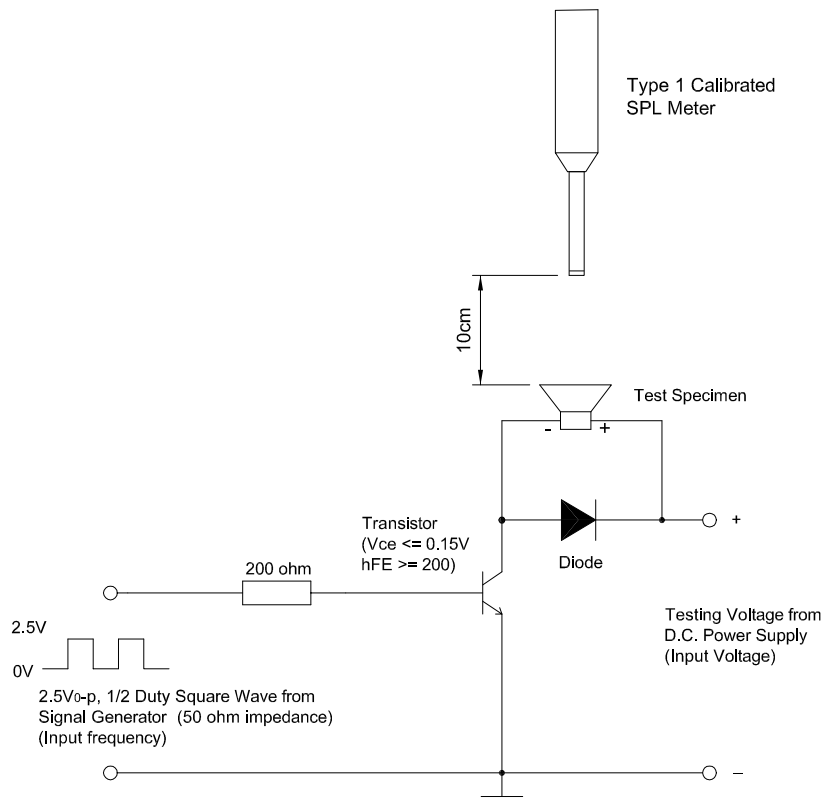


Figure 1. Test Setup

Notes : Apply 2.5V_{0-p} from Signal Generator, set 2400Hz from Signal Generator. Measure SPL using a calibrated SPL meter 30cm from the sound port. Sound level meter to be in accordance with IEC651 (1979) Type 1 and/or ANSI S1.4-1983. The meter must be checked on a daily basis using a calibrated acoustic calibrator recommended by the manufacturer. Measurement should be carried out in a free field environment or at least 40cm from any surface.

5. Reliability Test

- 5.1. Operating Life** : Subject samples to room condition for 1000 hours under rated voltage
- 5.2. High Temperature** : Subject samples to +85°C and operate for 96 hours.
Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.3. Low Temperature** : Subject samples to -40°C and operate for 96 hours.
Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.4. Temperature Shock** : Each temperature cycle shall consist of 30 minutes at -40°C, 15 minutes at +20°C, 30 minutes at +85°C and 15 minutes at +20°C. Test duration is for 5 cycles. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.5. Static Humidity** : Precondition at room temperature for 5 hour, increase to +65°C in 1 hour, remain +65°C for 12 hours, decrease to +25°C in 1 hour and remain for 10 hours with 90 ~ 95% relative humidity. Test duration is for 10 cycles.
- 5.6. Random Vibration** : Secure samples. Vibrated randomly 10 ~ 55Hz with 1.53mm peak amplitude in 3 directions (x, y and z). The test duration is 2 hours per plane.
- 5.7. Drop Test** : Drop samples naturally from the height of 70cm onto a 10mm thickness wooden board in 3 directions (x, y and z).
- 5.8. Solderability** : Immerse solder pads into molten solder at 255 ± 5 °C for 3 ± 0.5 seconds. After testing covered area of pins should be $\geq 95\%$ with a continuous coating of bright solder.

6. Recommended Reflow Process Condition

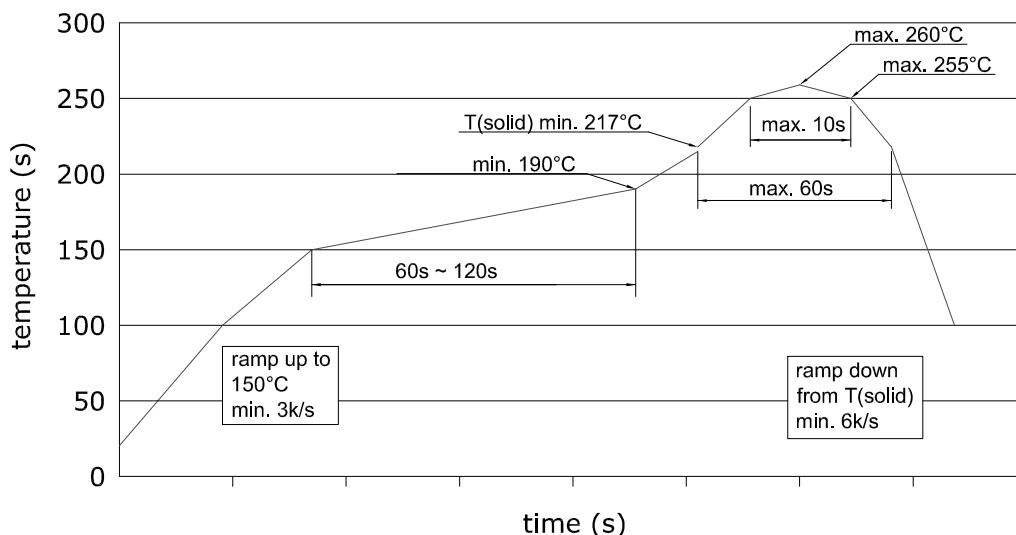


Figure 3. Recommended reflow oven temperature profile

7. Mechanical Layout

Unit : mm

Tolerance : Linear XX.X = ±0.3
 XX.XX = ±0.05
 Angular = ±0.25°
 (unless otherwise specified)

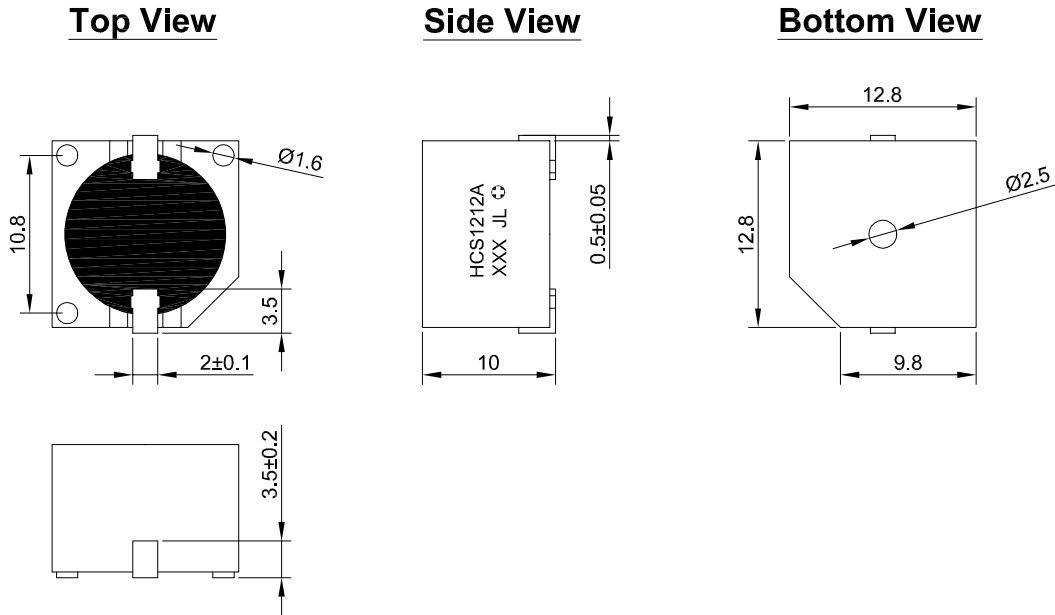


Figure 4. HCS1212A Mechanical Layout

8. Standard Packing Layout

8.1 Tape Layout

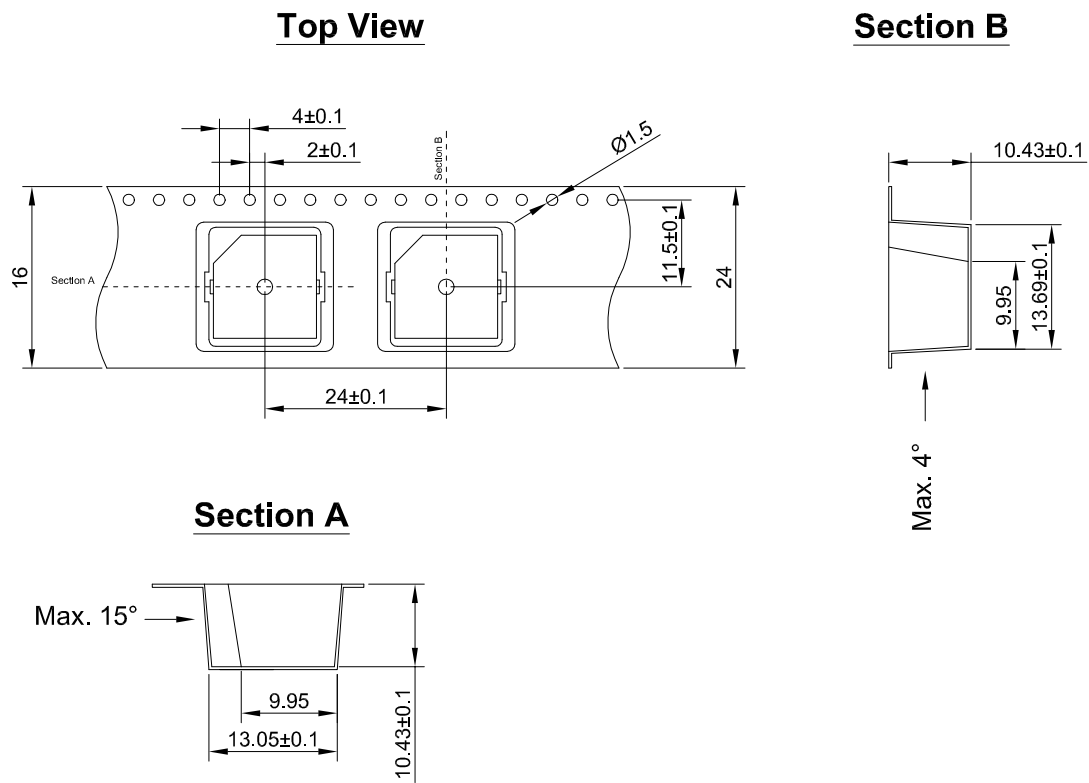


Figure 5. Tape Layout

8.2 Reel Layout

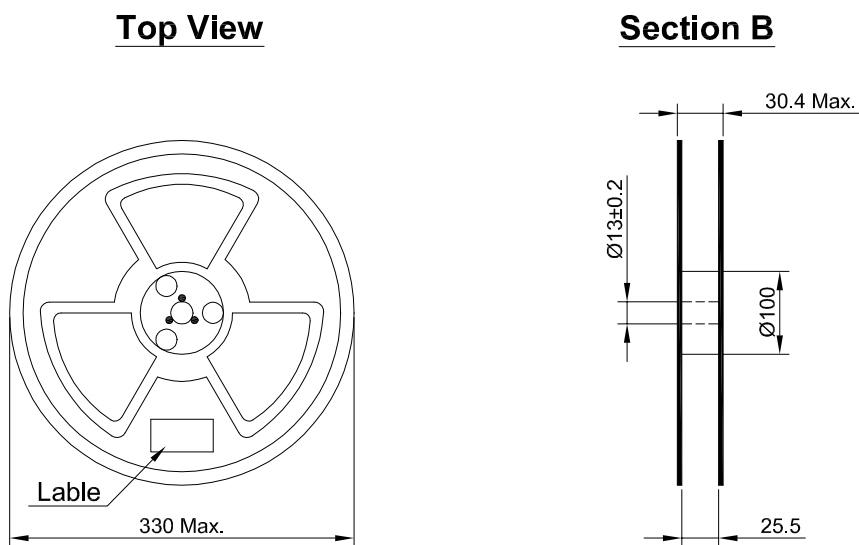


Figure 6. Reel Layout

8.3. Packing Quantity : 250 pieces per reel, 4 reels per carton. (Total 1000 pieces)

8.4. Carton Size : 38 x 28 x 37 cm

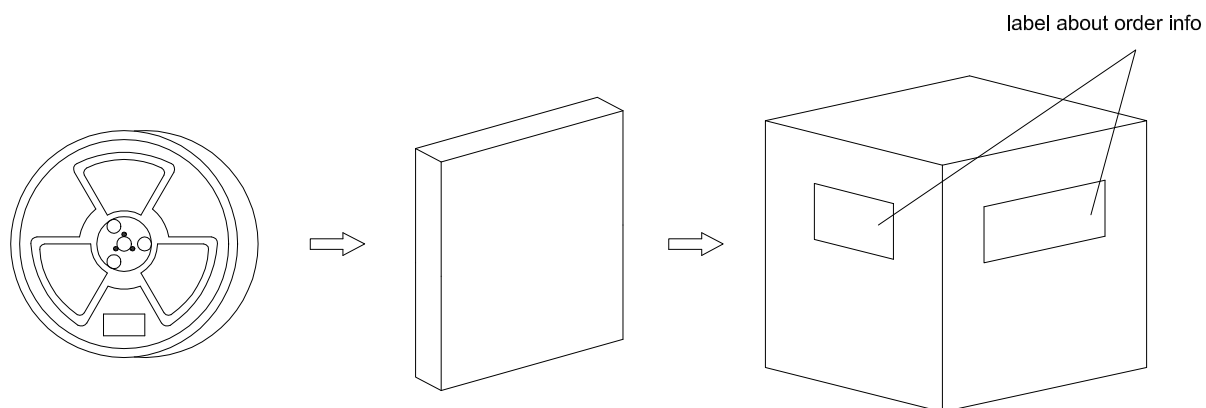


Figure 7. Reels Installation