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Document Number : 9907-41
Revision : A12
Total Pages : 6
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Date : 14 July, 2015

SoniCrest Brand Acoustic Componentswww.jlsonicrest.com

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HC0901D/157

A5 - Updated format & layout by Leo Sin on 15 Jan., 2005	A9 - Updated electrical spec. by Leo Sin on 8 Sept., 2006	
A6 - Updated RoHS version by Leo Sin on 15 Aug., 2005	A10 - Updated electrical spec. by Leo Sin on 8 Sept., 2006	
A7 - Updated electrical spec. by Leo Sin on 8 Mar., 2006	A11 - Updated electrical spec. by Leo Sin on 5 Feb., 2008	
A8 - Updated electrical spec. by Leo Sin on 29 Aug., 2006	A12 - Updated section 4 - 7 by Loki Lo on 14 Jul., 2015	

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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

Ø9.5mm electro-magnetic sound generator with pin length 1.7mm, pin location at 0.8mm from center line and SPL \geq 90dB at 30cm, 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 | : -20°C to +70°C |
| 4.1.2. Storage Temperature Range | : -30°C to +80°C |
| 4.1.3. Weight | : Approx. 1g |

4.2. Electrical Requirement

- | | |
|---|----------------------|
| 4.2.1. Rated Voltage | : 1.5V |
| 4.2.2. Operating Voltage | : 1 ~ 2 V |
| 4.2.3. Rated Current | : \leq 80mA |
| 4.2.4. Coil Resistance | : $5.5 \pm 1 \Omega$ |
| 4.2.5. Coil Impedance | : 10 ohm |
| 4.2.6. Inductance | : $< 380\mu\text{H}$ |
| 4.2.7. Sound Pressure Level at 30cm
(Applying rated voltage) | : \geq 90dB |
| 4.2.8. Rated Frequency | : 2731Hz |

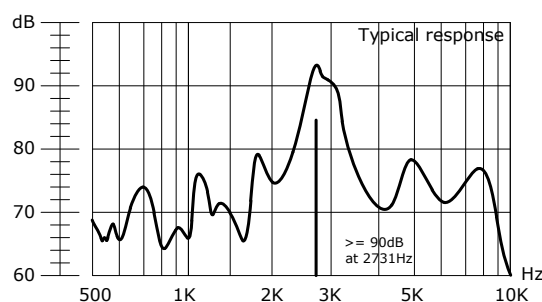


Figure 1. Frequency Response

4.3. Mechanical Requirement

- | | |
|-----------------------------|---------------------------|
| 4.3.1. Layout and Dimension | : See Section 6, Figure 3 |
|-----------------------------|---------------------------|

4.4. Test Setup

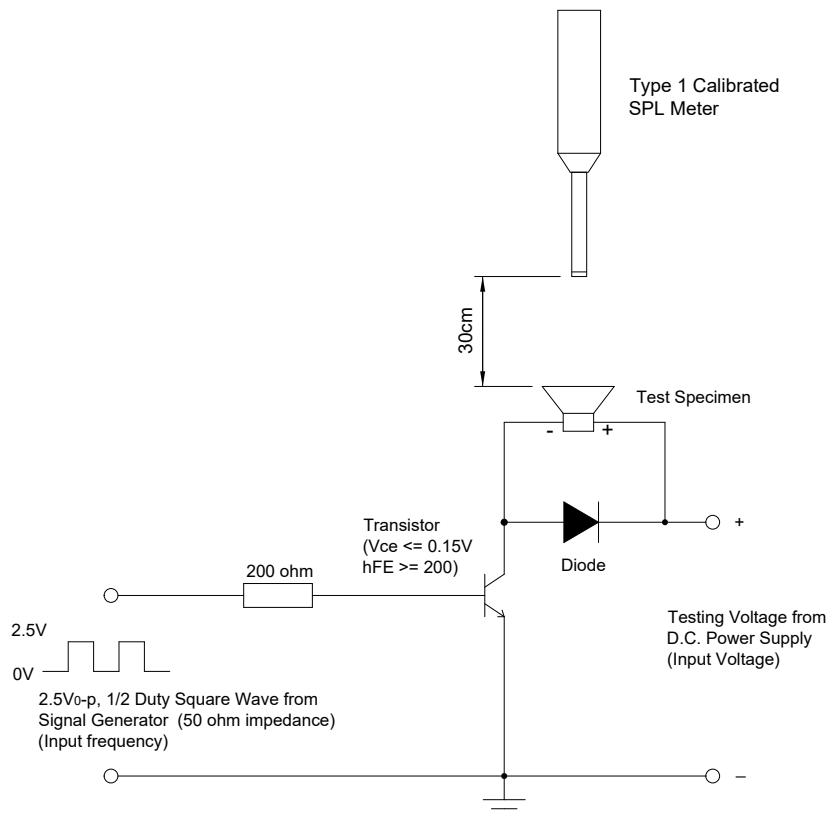


Figure 2. Test Setup

Notes : Apply 2.5V_{0-p} from Signal Generator, set 2731Hz 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.

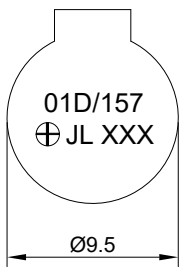
5. Reliability Test

- 5.1. Load Test** : Subject samples to room condition for 1000 hours under rated input. Components must be fully stabilized before data is taken, which may require up to a 2 hours soak.
- 5.2. High Temperature** : Subject samples to $+70 \pm 2^{\circ}\text{C}$ 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 $-20 \pm 2^{\circ}\text{C}$ 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 -20°C , 30 minutes at $+20^{\circ}\text{C}$, 30 minutes at $+70^{\circ}\text{C}$ and 30 minutes at $+20^{\circ}\text{C}$. Test duration is for 5 cycles.
- 5.5. Humidity Cycle** : Each cycle shall consist of 10 hours at $+20^{\circ}\text{C}$ with 90-95% relative humidity for 12 hours and $+65^{\circ}\text{C}$ with 90-95% relative humidity. Test duration is for 5 cycles. Finally dry at room ambient for 2 hours before taking final measurement.
- 5.6. Drop Test** : Drop samples naturally from the height of 70cm onto a 10mm thickness wooden board for 3 times.

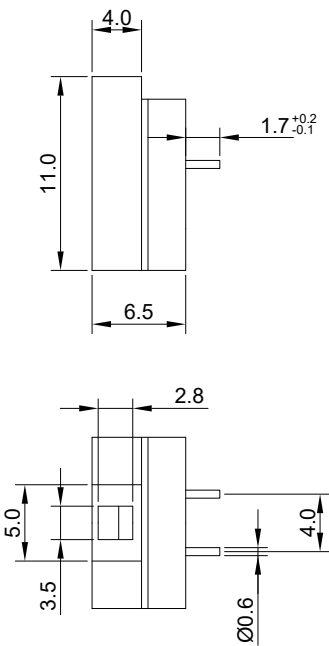
6. Mechanical Layout

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

Top View



Side View



Bottom View

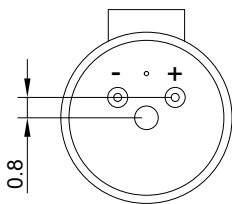


Figure 3. HC0901D/157 Mechanical Layout

7. Standard Packing Requirements

7.1. Packing Quantity : 100 pieces per tray, 10 trays per unit, 3 units per carton
(Total 3000 pieces)

7.2. Carton Layout

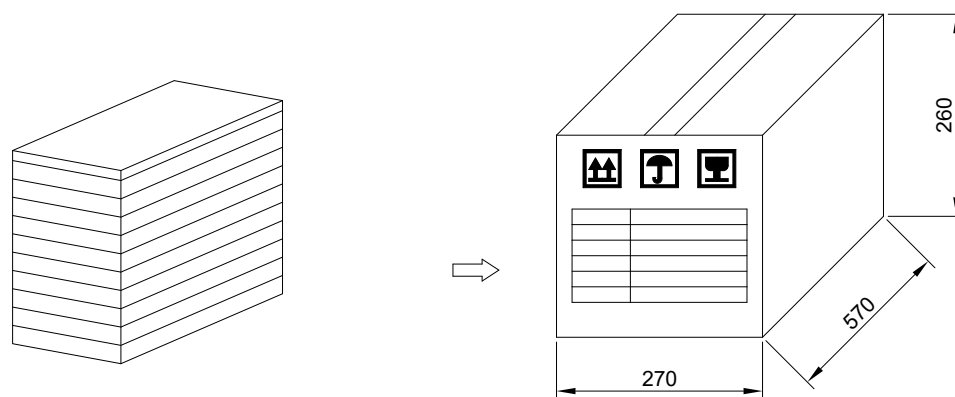


Figure 4. Tray and Carton Layout