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SoniCrest Acoustic Components

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HC0903F/1325

A1 - New issue created by Loki, Lo on 29 Jul., 2019		

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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

Ø9mm electro-magnetic sound generator with epoxy seal and one part casing, 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 : -30°C to +70°C
- 4.1.2. Storage Temperature Range : -40°C to +85°C
- 4.1.3. Weight : Approx. 1g
- 4.1.4. Housing Material : Noryl

4.2. Electrical Requirement

- 4.2.1. Rated Voltage : 3V
- 4.2.2. Operating Voltage : 2 ~ 4 V
- 4.2.3. Rated Current : <=80mA
- 4.2.4. Coil Resistance : 25 ± 4 Ω
- 4.2.5. Rated Frequency : 3200Hz
- 4.2.6. Sound Pressure Level at 10cm : >=82dB
(Applying rated voltage and signal)

4.3. Mechanical Requirement

- 4.3.1. Layout and Dimension : See Section 6, Figure 2

4.4. Test Setup

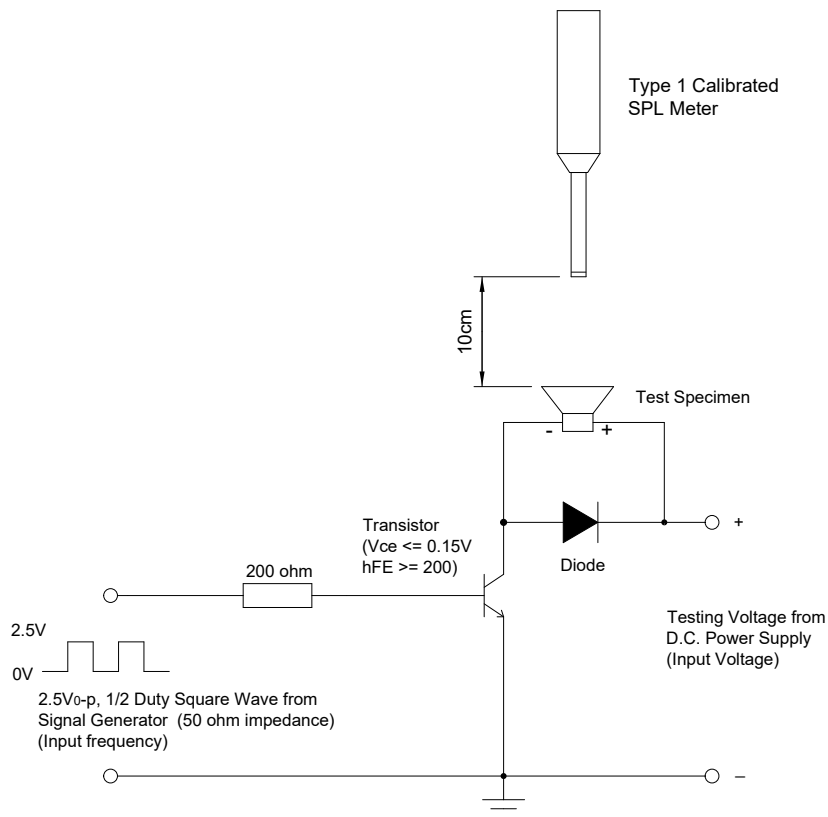


Figure 1. Test Setup

Notes : Apply 2.5V_{0-p} from Signal Generator, set rated frequency from Signal Generator. Measure SPL using a calibrated SPL meter 10cm 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. 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 2 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 2 hours soak.
- 5.3. Static Humidity** : Subject samples to +40°C with 90~95% relative humidity for 96 hours. Finally dry at room ambient for 2 hours before taking final measurement.
- 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. Random Vibration** : Secure samples. Vibrated randomly 10 ~ 55Hz with 1.5mm peak amplitude in 3 directions (x, y and z). The test duration is 2 hours per plane.
- 5.6. Drop Test** : Drop samples naturally from the height of 100cm onto a 10mm thickness wooden board in 3 directions (x, y and z).
- 5.7. Solderability** : Immerse solder pads into molten solder at 260 ± 5 °C for 3 ± 0.5 seconds.

6. Mechanical Layout

Unit : mm

Tolerance : Linear XX.X = ± 0.5
 XX.XX = ± 0.05
 Angular = $\pm 0.25^\circ$

(unless otherwise specified)

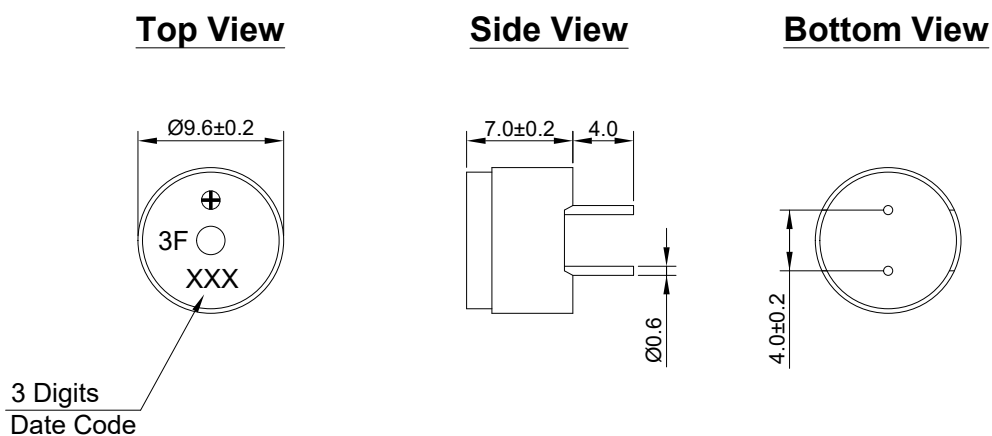


Figure 2. HC0903F/1325 Mechanical Layout

7. Standard Packing Requirements

7.1. Packing Quantity : 150 pieces per tray 10 trays per unit, 5 units per carton
(Total 7500 pieces)

7.2. Tray and Carton Layout

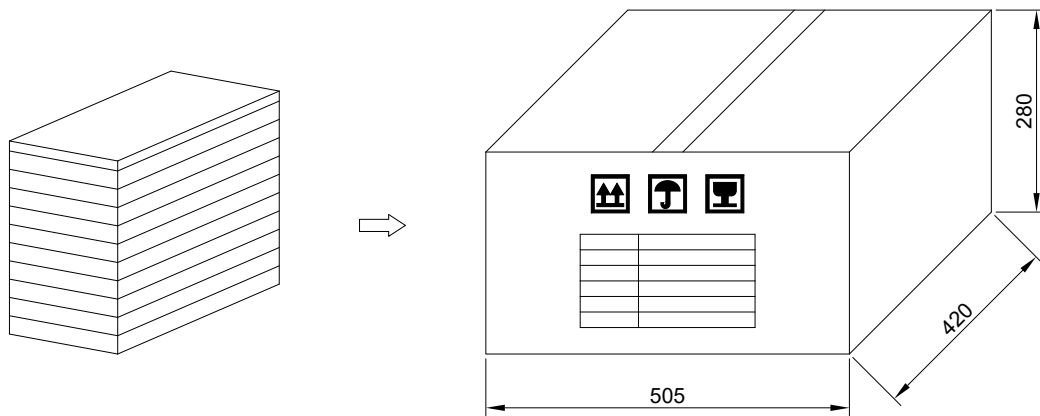


Figure 3. Tray and Carton Layout