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SoniCrest Acoustic Components

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HC0905T/208

A1 - New issue created by Hermes, Shum on 14 Nov., 2019		
A2 - Updated section 6 by Hermes, Shum on 26 Nov., 2019		

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 rated frequency at 3200Hz, 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. 0.8g

4.2. Electrical Requirement

4.2.1.	Rated Voltage	: 5V
4.2.2.	Operating Voltage	: 4 ~ 6 V
4.2.3.	Rated Current	: <=80mA
4.2.4.	Coil Resistance	: 40 ± 4 Ω
4.2.5.	Rated Frequency	: 3200Hz
4.2.6.	Sound Pressure Level at 10cm (Applying rated voltage and signal)	: >=85dB

4.3. Mechanical Requirement

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

4.4. Test Setup

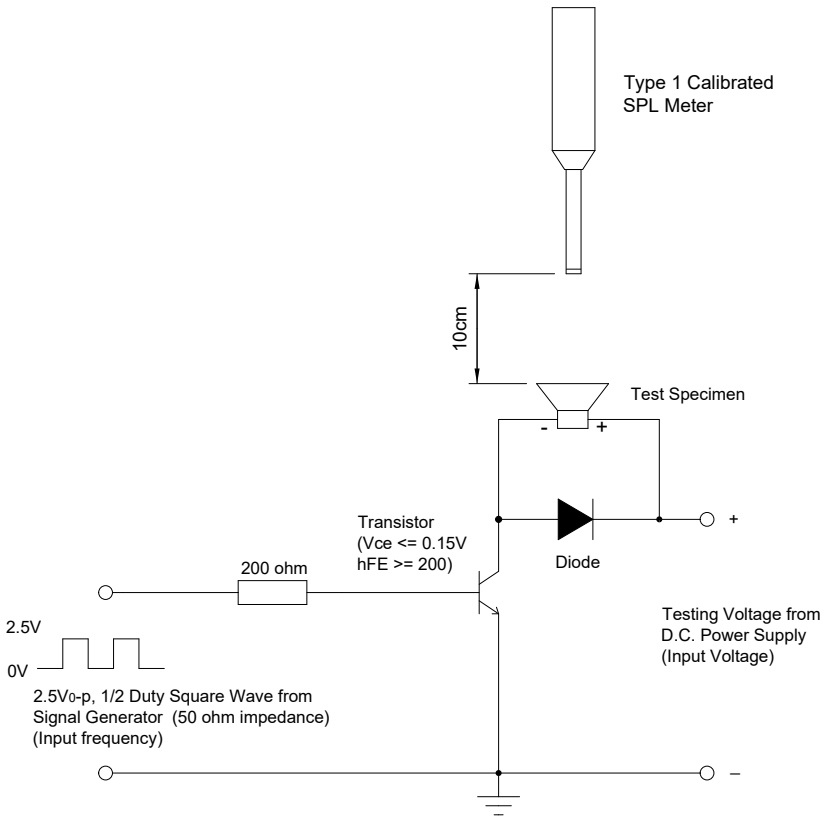

Figure 1. Test Setup

Notes : Apply 2.5V0-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 +80°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 -30°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 48 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 +70°C, 3 hours at +25°C, 1 hour at -30°C and 3 hours at +25°C. Test duration is for 10 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. Vibrate 1000 cycles per minute with 1.5mm peak amplitude in 3 directions (x, y and z). The test duration is 1 hour per plane.

5.6. Drop Test : Drop samples naturally from the height of 75cm onto a 5cm thickness wooden board in 6 directions (x, y and z).

6. Mechanical Layout

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

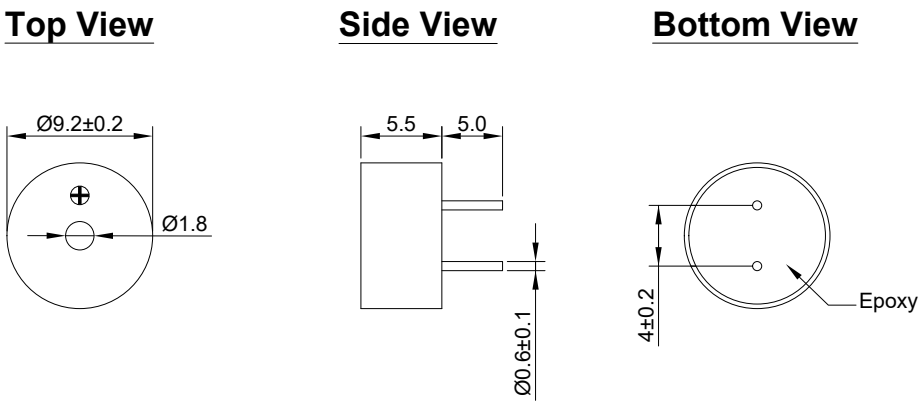

Figure 2. HC0905T/208 Mechanical Layout

7. Standard Packing Requirements

7.1. Packing Quantity : 100 pieces per tray 20 trays per unit, 4 units per carton (Total 8000 pieces)

7.2. Tray and Carton Layout

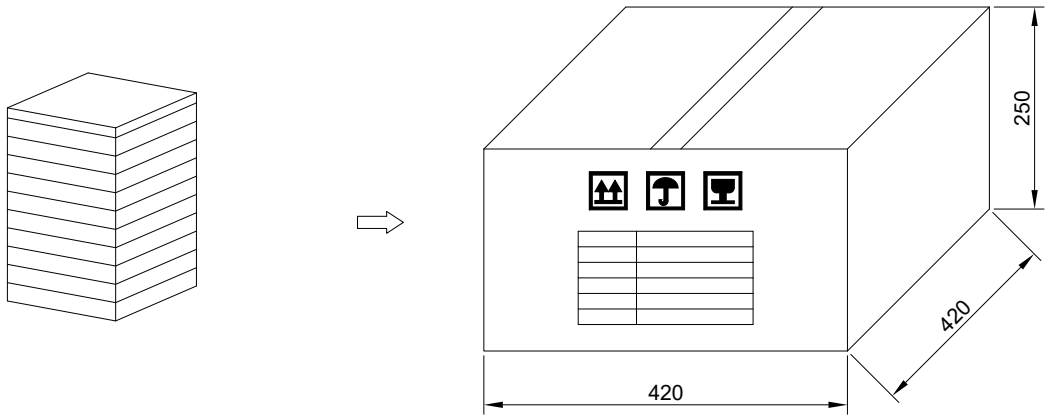

Figure 3. Tray and Carton Layout