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SoniCrest Acoustic Components

Document Type : Specification
Product Type : Speaker Sound Generator Component
Part Number : HSP50E-50

A1 - New issue created by Ting Lok, Ngan on 17 Sept., 2013		

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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

ø50mm speaker sound generator, RoHS compliant.

3. Application

Telecommunication Equipment, Computers and Peripherals, 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

4.2. Electrical Requirement

4.2.1.	Coil Impedance	: 50 ± 7.5 ohm
4.2.2.	Rated Power	: 0.5W
4.2.3.	Maximum Input Power	: 1.0W
4.2.4.	Resonance Frequency	: 360Hz ± 20%
4.2.5.	Frequency Range	: f_0 - 3400Hz
4.2.6.	Sound Pressure Level at 1KHz (1m 1W)	: 83 ± 3dB

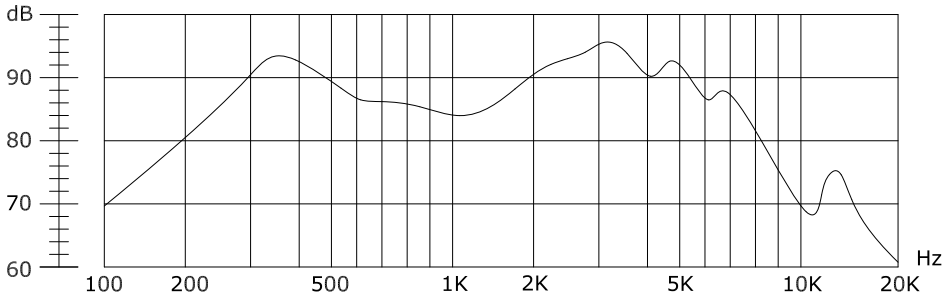

Figure 1. Frequency Response

4.3. Mechanical Requirement

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

4.4. Test Setup

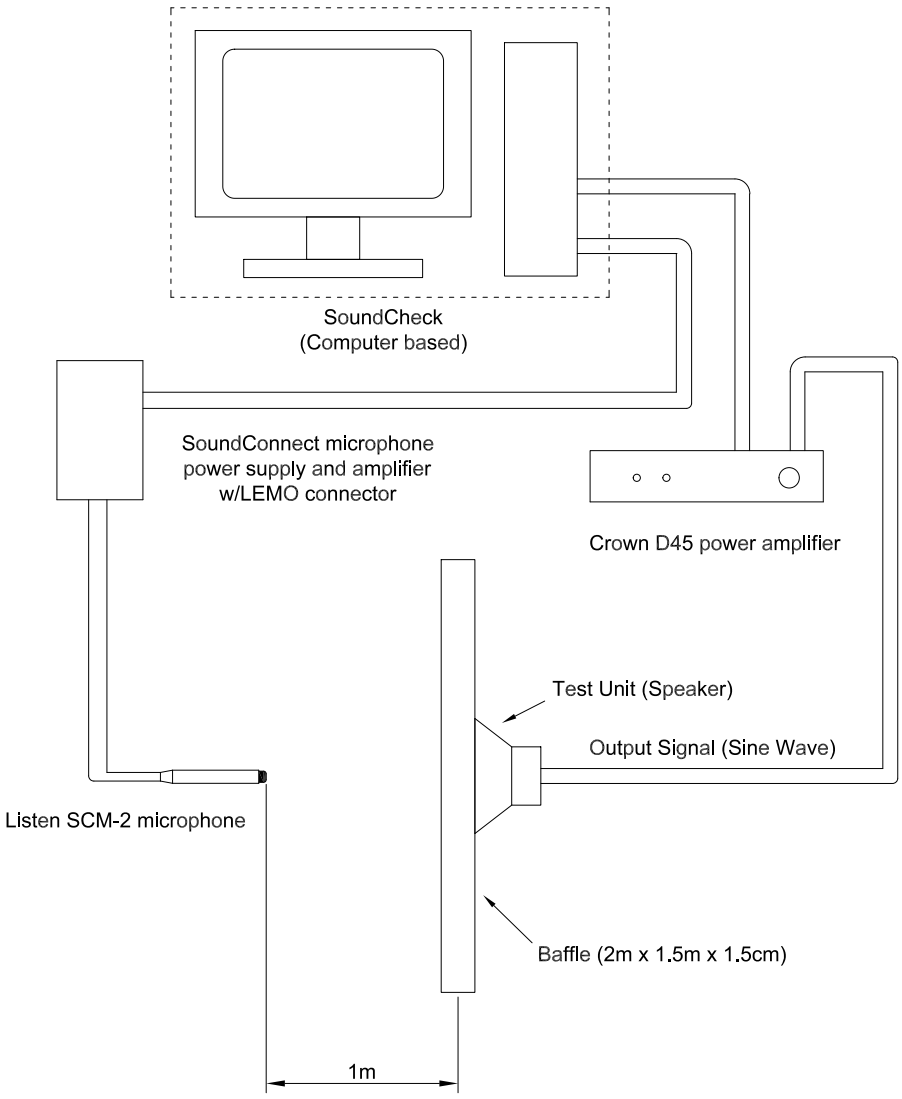

Figure 2. Test Setup

Notes : Apply rated signal from Crown D45 Power Amplifier. Measure SPL with microphone 1m 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. Operating Life : Subject samples to room condition for 100 hours under rated power.

5.2. High Temperature : Subject samples to +55°C and operate for 48 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 -10°C and operate for 48 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

5.4. Static Humidity : Precondition at room temperature for 1 hour. Then expose to +40°C±2°C with 90 to 95% relative humidity for 48 hours. Finally dry at room ambient for 2 hours before taking final measurement.

5.5. Drop Test : Drop samples naturally from the height of 0.75m onto a 1cm thick wooden board in three directions (x, y and z).

6. Mechanical Layout

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

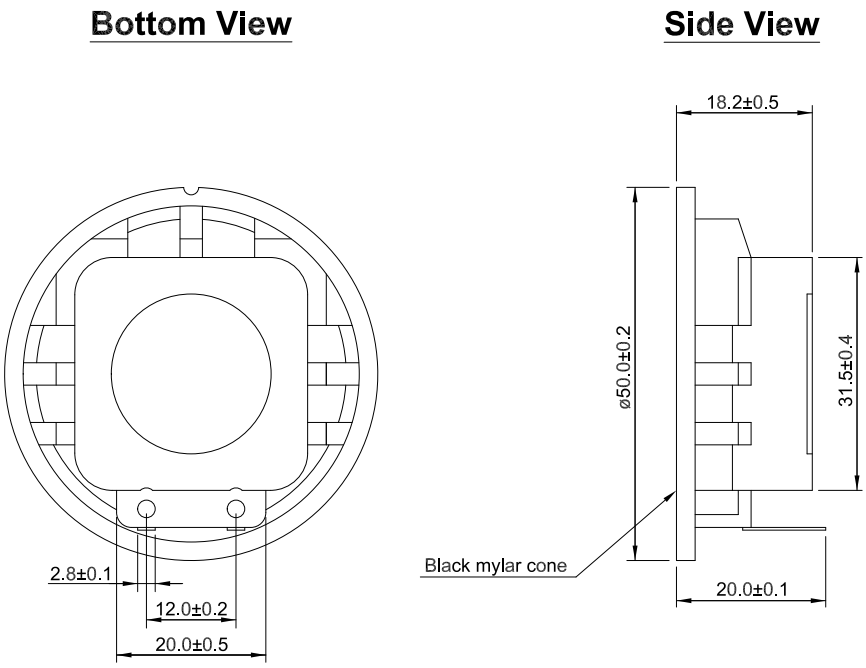

Figure 3. HSP50E-50 Mechanical Layout