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SoniCrest Acoustic Components

Document Type : Specification
 Product Type : Speaker Sound Generator Component
 Part Number : HSM23A-8

A2 - Updated layout and format by Leo, Sin on 16 May, 2002	A6 - Updated section 5 and 6 by Loki, Lo on 5 Oct., 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

Ø23mm 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 : -20°C to +85°C
- 4.1.2.** Storage Temperature Range : -40°C to +90°C
- 4.1.3.** Weight : Approx. 5g

4.2. Electrical Requirement

- 4.2.1.** Coil Impedance : $8 \pm 15\% \Omega$
- 4.2.2.** Rated Power : 0.08W
- 4.2.3.** Maximum Input Power : 0.15W
- 4.2.4.** Resonance Frequency : $1500 \pm 20\% \text{ Hz}$
- 4.2.5.** Frequency Range : 700 ~ 4KHz
- 4.2.6.** Sound Pressure Level at 0.1m, 0.1W, 1KHz : $73 \pm 3 \text{ dB}$

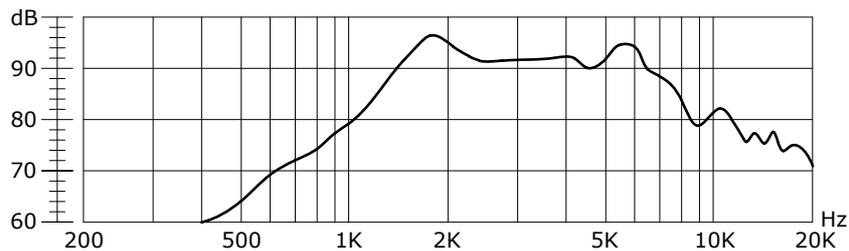


Figure 1. Frequency Response

4.3. Mechanical Requirement

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

4.4. Test Setup

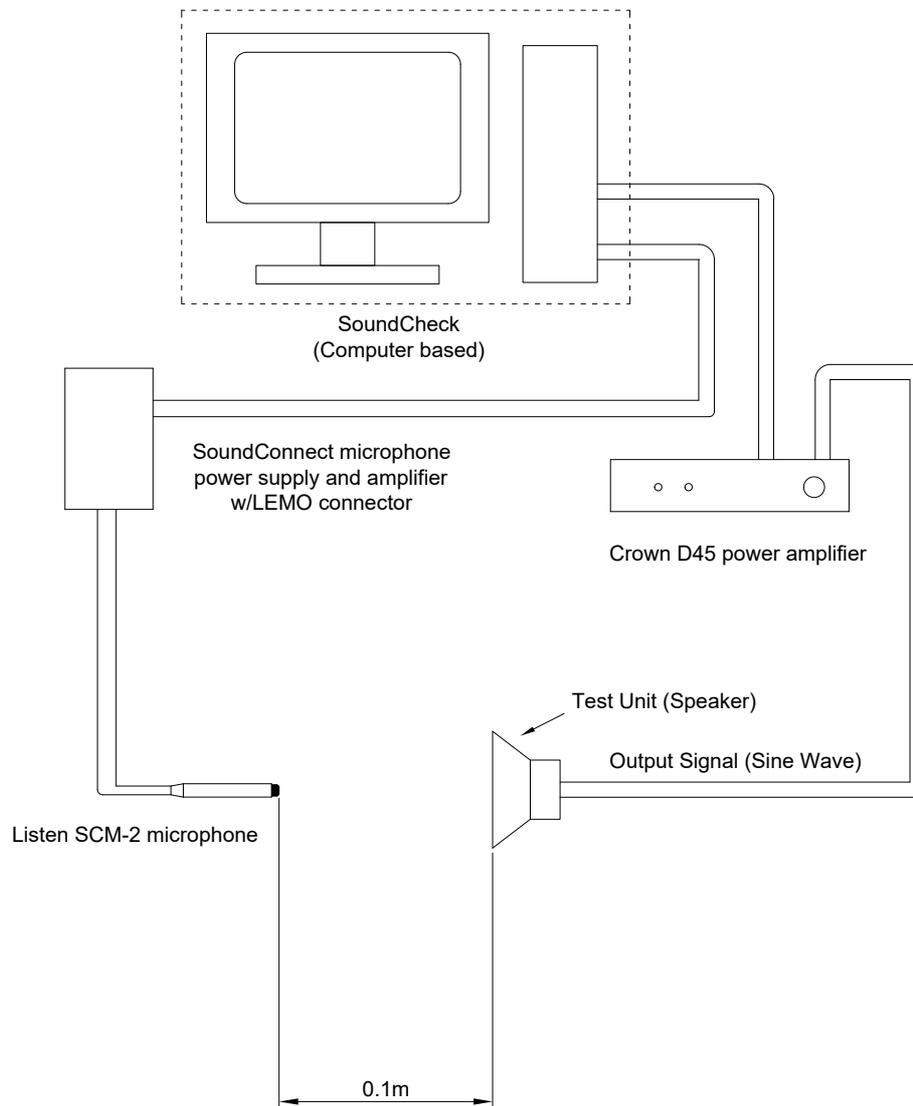


Figure 2. Test setup

Notes : Apply rated signal from Crown D45 Power Amplifier. Measure SPL with microphone 0.1m from the test unit. 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. High Temperature** : Subject samples to +90°C for 4 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 3 hours soak.
- 5.2. Low Temperature** : Subject samples to -40°C for 4 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 3 hours soak.
- 5.3. Temperature Shock** : Each temperature cycle shall consist of 30 minutes at -40±3°C and 30 minutes at +90±3°C. Test duration is for 5 cycles.
- 5.4. Static Humidity** : Subject samples to +40°C with 92%~95% relative humidity for 4 hours. Finally dry at room ambient for 3 hours before taking final measurement.

6. Mechanical Layout

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

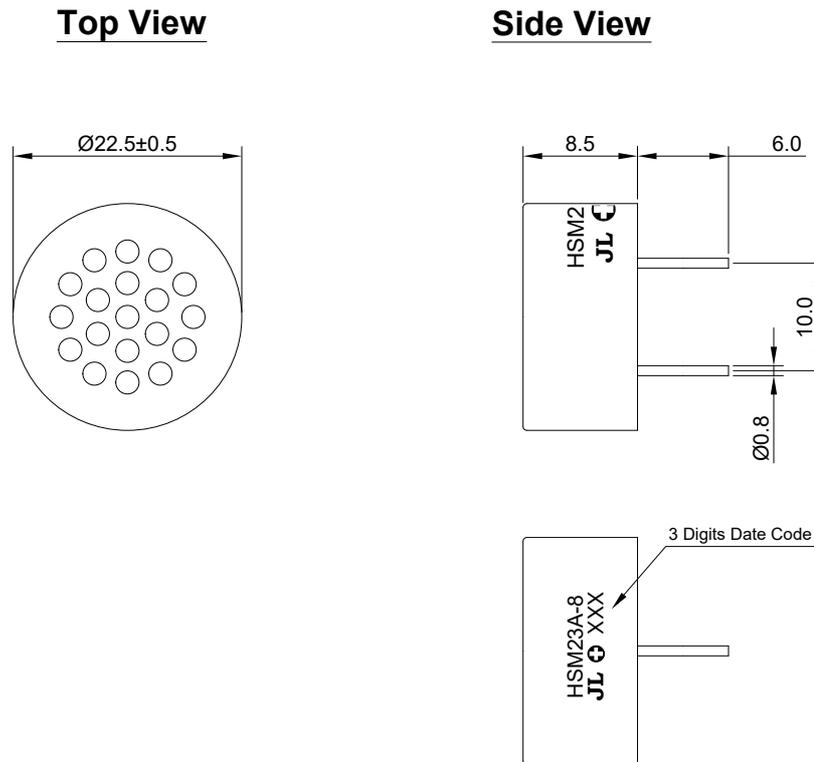


Figure 3. HSM23A-8 Mechanical Layout

7. Standard Packing Requirements

7.1. Packing Quantity : 50 pieces per tray, 10 trays per unit, 4 unit per carton
(Tota 2000 pieces)

7.2. Tray & Carton Layout

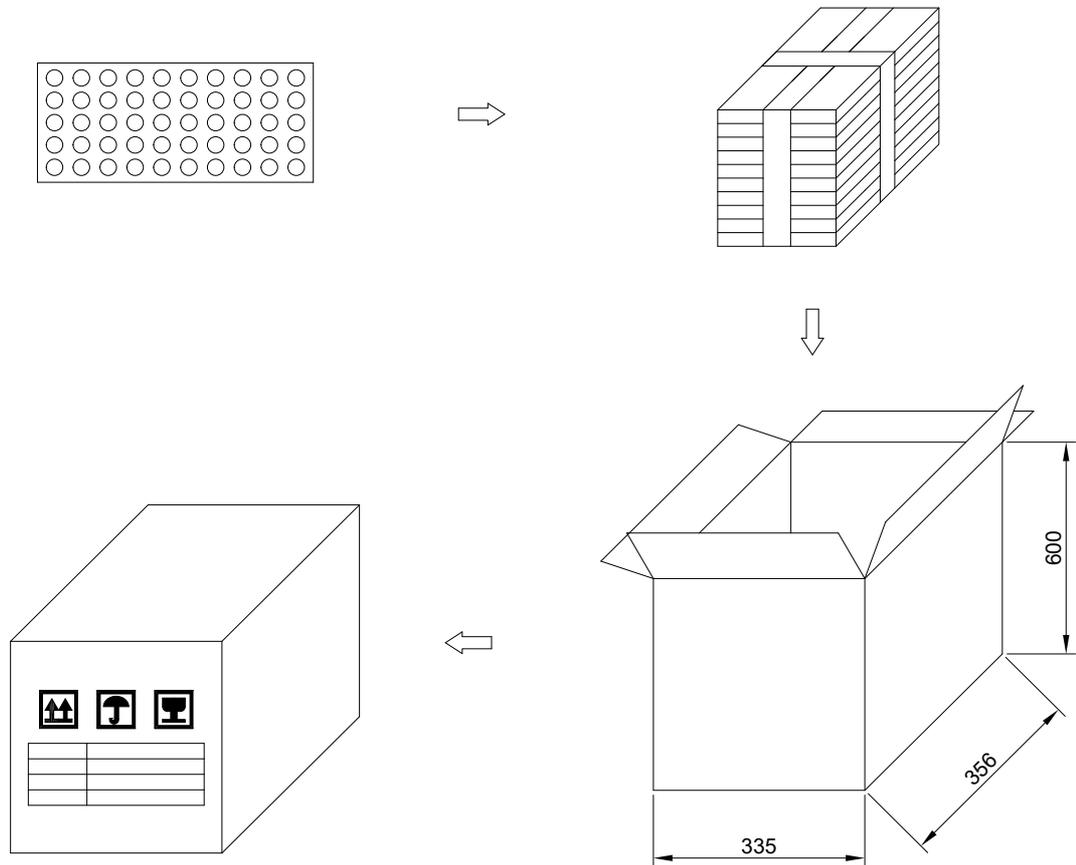


Figure 4. Tray and Carton Layout