BeStar Technologies Inc.
Address: 761 N. 17th Street Unit 4, St. Charles, IL 60174
Tel : 847-261-2850 E-mail : sales@bestartech.com Web : www.bestartech.com

Document Number : 0303-01
Revision : A3
Total Pages : 6
Prepare by : Loki, **Lo**
Date : 21 August, 2013

SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Speaker Sound Generator Component
Part Number : HSP3040B-8

A1 - New issue created by Leo, Sin on 21 Mar., 2003		
A2 - Updated section 4 ~ 6 by Holmes, Poon on 3 Apr., 2012		
A3 - Updated section 5 and 6 by Loki, Lo on 21 Aug., 2013		

This material is the property of BeStar Technologies Inc.
Unauthorized copying or use of this material is prohibited.

1. Purpose and Scope

This document contains both general requirements, qualification requirements, and those specific electrical, mechanical requirements for this part.

2. Description

40 x 28.3 mm 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 +60°C

4.1.2. Storage Temperature Range : -30°C to +70°C

4.1.3. Weight : Approx. 7.6g

4.2. Electrical Requirement

4.2.1. Coil Impedance : 8 ± 15% Ω

4.2.2. Rated Power : 2W

4.2.3. Maximum Input Power : 4W

4.2.4. Resonance Frequency : 380 ± 20% Hz

4.2.5. Frequency Range : f_0 ~ 20KHz

4.2.6. Sound Pressure Level at 0.5m, 1W (0.8, 1.0, 1.2, 1.5KHz average) : 84 ± 3 dB

4.2.7. Total Harmonic Distortion at 1KHz, 1V : <5%

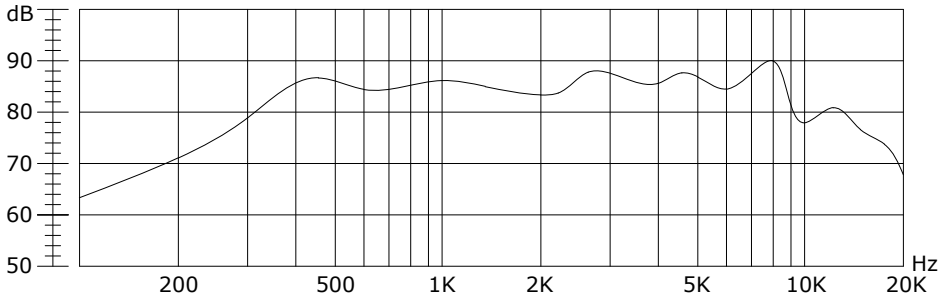


Figure 1. Frequency Response

4.3. Mechanical Requirement

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

4.4. Test Setup

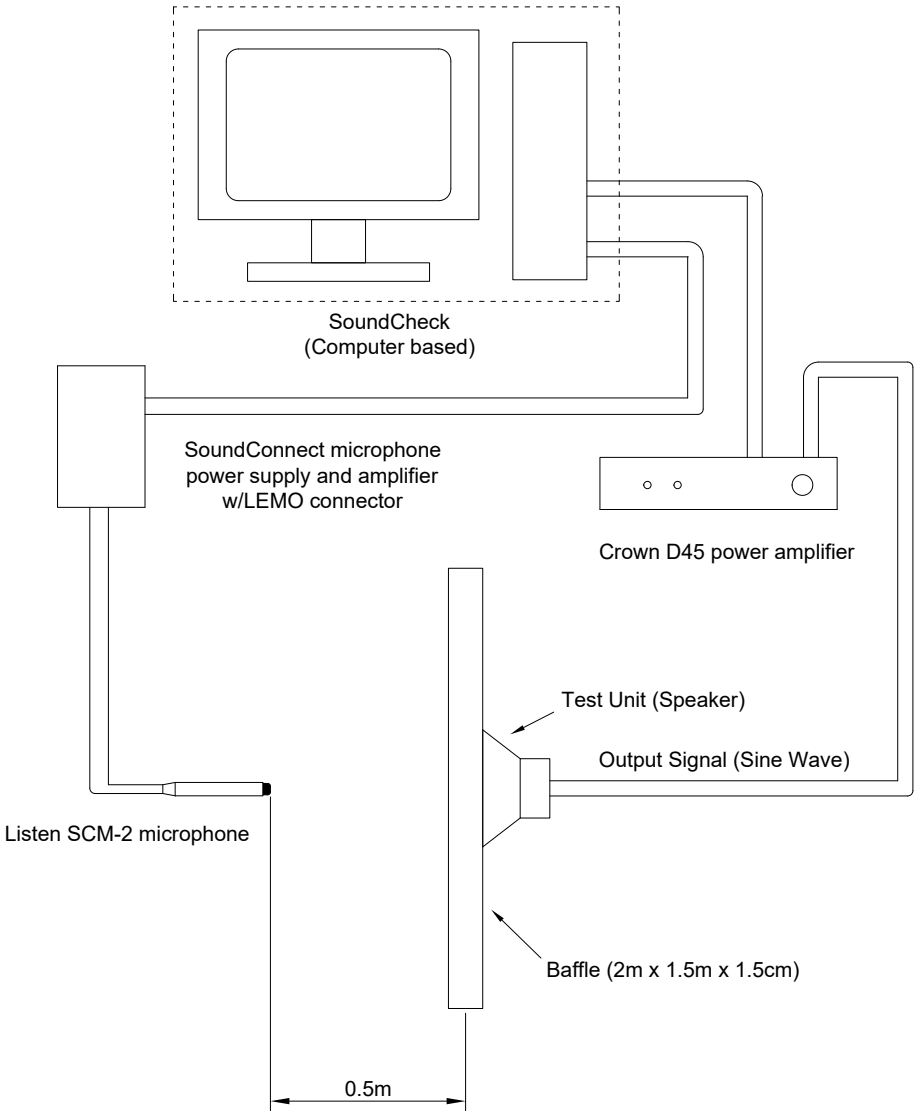


Figure 2. Test setup

Notes : Apply rated signal from Crown D45 Power Amplifier. Measure SPL with microphone 0.5m 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. High Temperature : Subject samples to +60°C and operate for 96 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 -20°C and operate for 96 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 3 hours soak.

5.3. Static Humidity : Subject samples to +40 ± 2 °C with 95% relative humidity for 96 hours. Finally dry at room ambient for 3 hours before taking final measurement.

5.4. Temperature Shock : Each temperature cycle shall consist of 30 minutes at -20°C and 30 minutes at +60°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 1 hour soak.

5.5. Drop Test : Drop samples naturally from the height of 1m onto a 20mm thickness board 1 time in each directions (x, y, z), total of 6 times.

5.6. Load Test : Subject samples to room condition for 96 hours under rated power, white noise. Components must be fully stabilized before data is taken, which may require up to a 3 hours soak.

5.7. Terminal Strength : Applied 1kg static load to the terminals for 15s in any direction.

5.8. Maximum Power : Each cycle shall consist of 1 minute ON and 2 minutes OFF under maximum power. Test duration is for 10 cycles.

5.9. Random Vibration : Secure samples. Vibrated on 10 ~ 55 ~ 10Hz sin-wave with 5g acceleration and 15 minutes sweep duration. The test duration is 2 hours per plane (x, y, z), total 6 hours.

6. Mechanical Layout

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

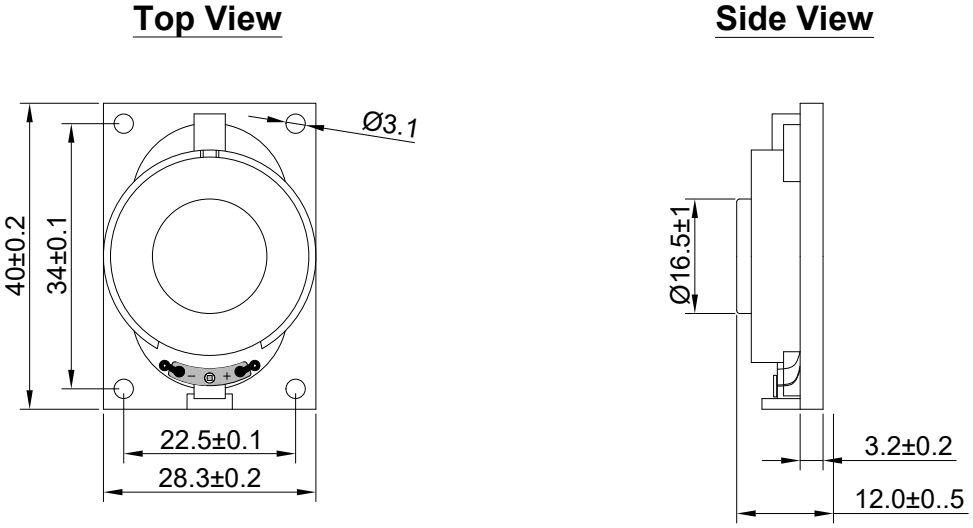


Figure 3. HSP3040B-8 Mechanical Layout

7. Standard Packing Requirements

7.1. Packing Quantity : 50 pieces per tray, 10 trays per unit, 2 units per carton
(Total 1000 pieces)

7.2. Tray & Carton Layout

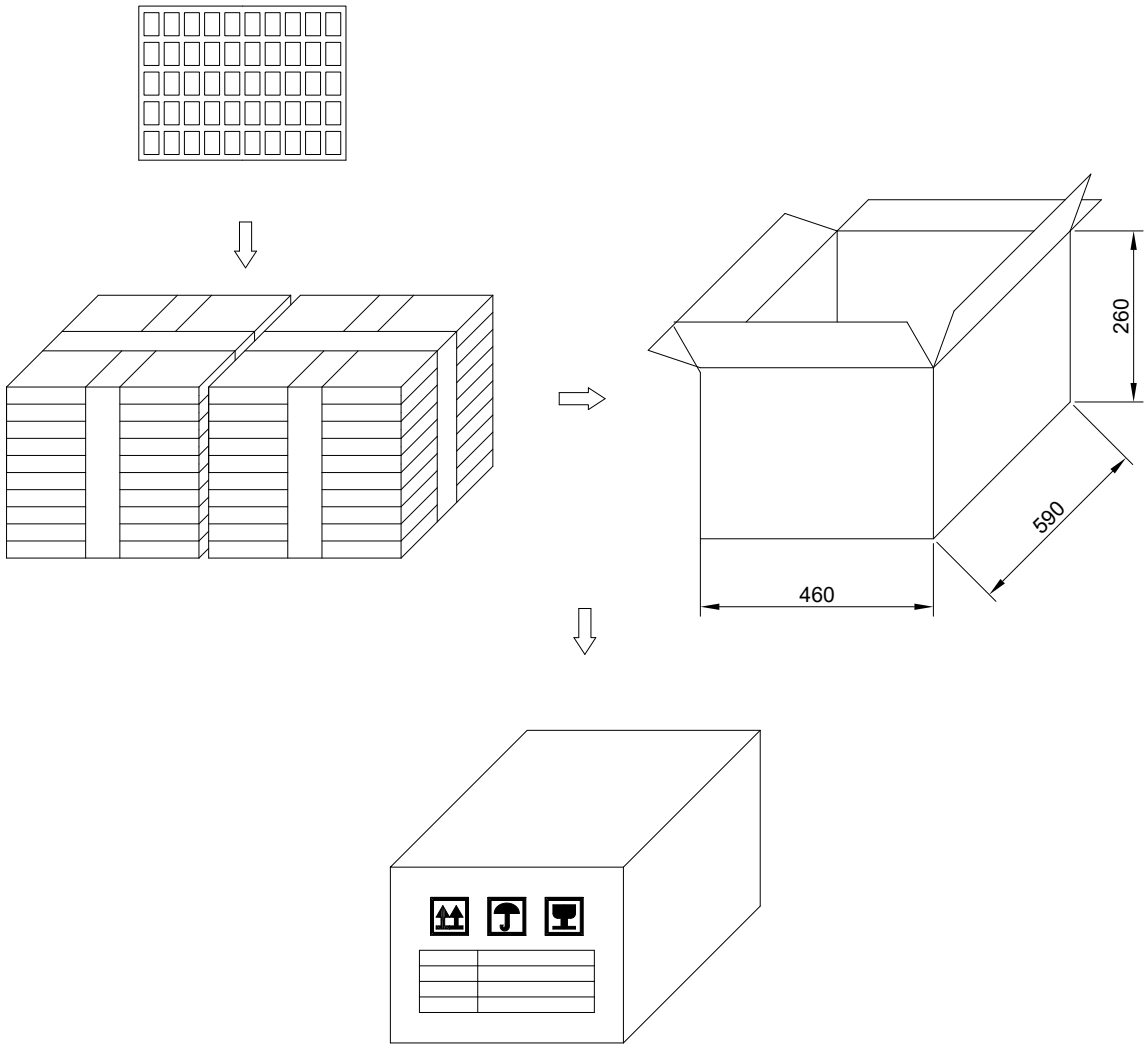


Figure 4. Tray and Carton Layout