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Document Number : 0503-83
Revision : A2
Total Pages : 5
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Date : 20 February, 2008

SoniCrest Acoustic Components
Document Type : Specification
Product Type : Electret Condenser Microphone Component
Part Number : HMO1003A-65

A1 - new issue created by Leo Sin on 8 Mar., 2005		
A2 - update RoHS version by Leo Sin on 20 Feb., 2008		

1. Purpose and Scope

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

2. Description

ø9.7 mm electret condenser microphone. RoHS compliant

3. Application

Telecommunication Equipment, Computers and Peripherals, etc.

4. Component Requirement

4.1. General Requirement

4.1.1.	Operating Temperature Range	:	-10°C to +60°C
4.1.2.	Storage Temperature Range	:	-20°C to +70°C

4.2. Electrical Requirement

4.2.1.	Directivity	:	Omnidirectional
4.2.2.	Sensitivity (0dB = 1V/pa, 1kHz, rated voltage, R_L=2.2kΩ)	:	-45dB ± 3dB
4.2.3.	Rated Voltage	:	3V
4.2.4.	Maximum Operating Voltage	:	10V
4.2.5.	Current Consumption	:	<= 0.5mA
4.2.6.	Frequency Range	:	50Hz ~ 16000Hz
4.2.7	Impedance	:	Low

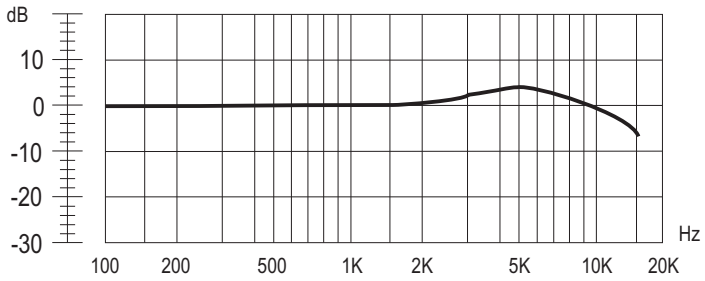

Figure 1. Frequency Response

4.3. Mechanical Requirement

4.3.1.	Layout and Dimension	:	See Section 6, Figure 4

4.4. Test Setup of Sensitivity

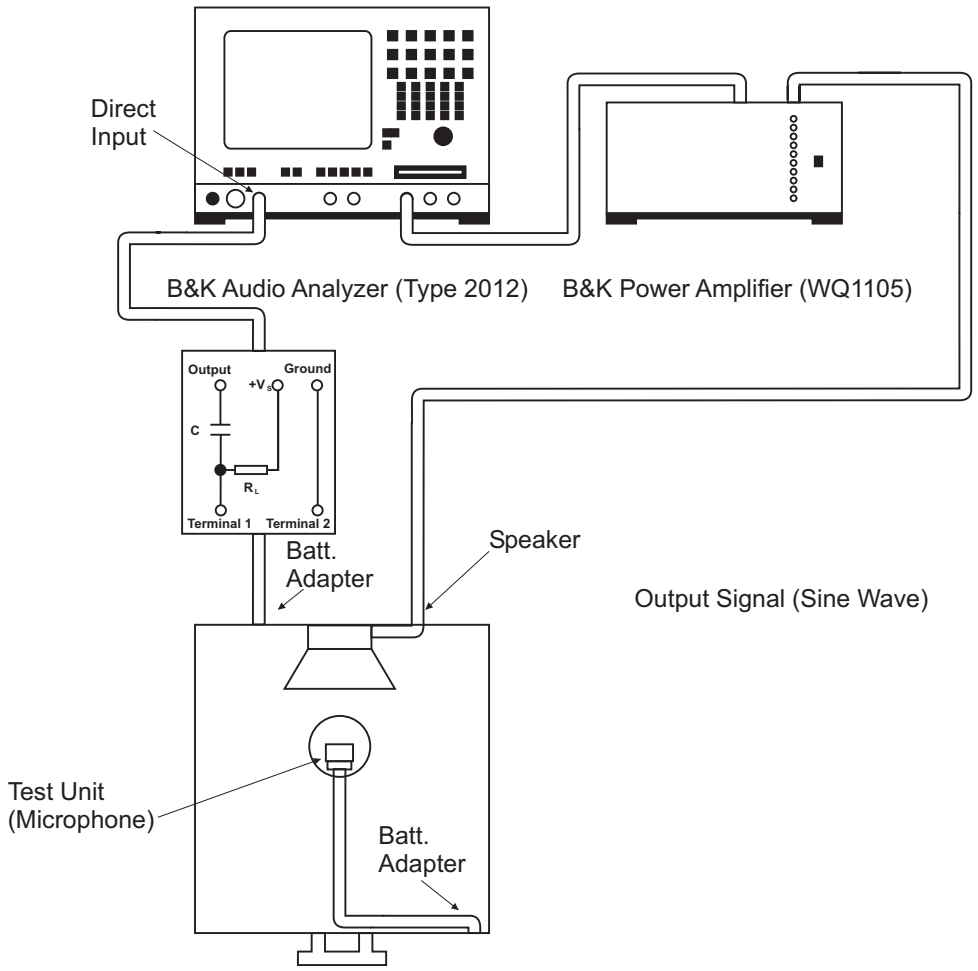

Figure 2. Sensitivity Inspection Test Fixture

Notes : Apply sinusoidal wave from B&K Audio Analyzer (Type 2012) and B&K Power Amplifier (WQ1105) to speaker of Anechoic Test Box (Type 4232). Measure sensitivity of test unit with specified driving circuit as shown above. The whole testing system should be calibrated based on calibration procedure recommended by the manufacturer before measurement. Measurement should be carried out in an excellent insulation from external noise environment.

4.5. Schematic Diagram

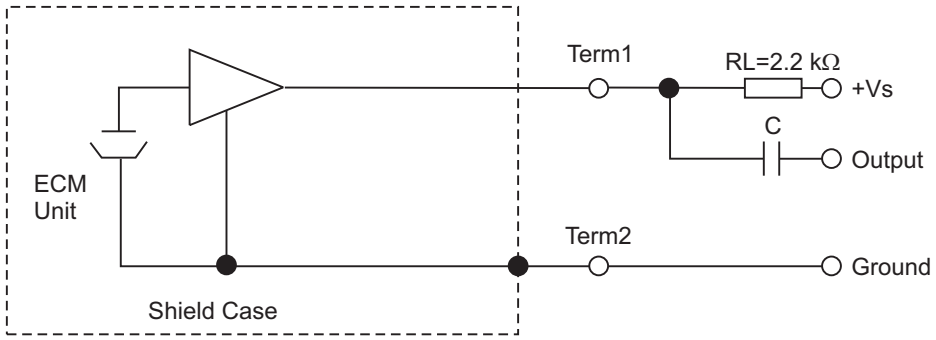

Figure 3. Schematic Diagram

5. Reliability Test

5.1. **High Temperature** : Subject samples to +60°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.

5.2. **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.

5.3. **Static Humidity** : Precondition at +25°C for 1 hour. Then expose to +40°C with 90 to 95% relative humidity for 48 hours. Finally dry at room ambient for 2 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)

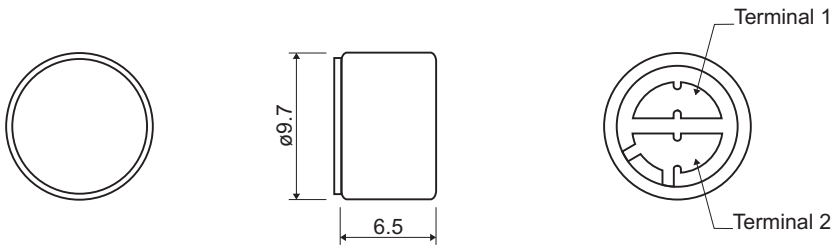

Figure 4. HMO1003A-65 Mechanical Layout