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SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HCM0903AX

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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

Ø9mm electro-magnetic sound generator with built-in oscillation circuit, 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	: -40°C to +85°C
4.1.2.	Storage Temperature Range	: -40°C to +85°C
4.1.3.	Weight	: Approx. 0.8g

4.2 Electrical Requirement

4.2.1.	Rated Voltage	: 3VDC
4.2.2.	Operating Voltage	: 2 ~ 5 VDC
4.2.3.	Rated Current	: <=30mA
4.2.4.	Generated Frequency	: 3200 ± 300 Hz
4.2.5.	Sound Pressure Level at 10cm (Applying rated voltage)	: >=82dB

4.3 Mechanical Requirement

4.3.1.	Layout and Dimension	: See Section 6, Figure 5

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4.3.2. Voltage-Sound Pressure Level(at 10cm)

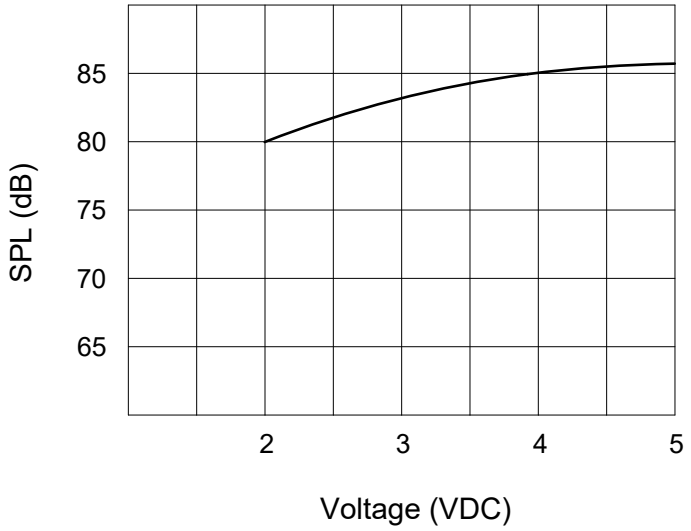

Figure 1. Voltage-Sound Pressure Level

4.3.3. Voltage-Current

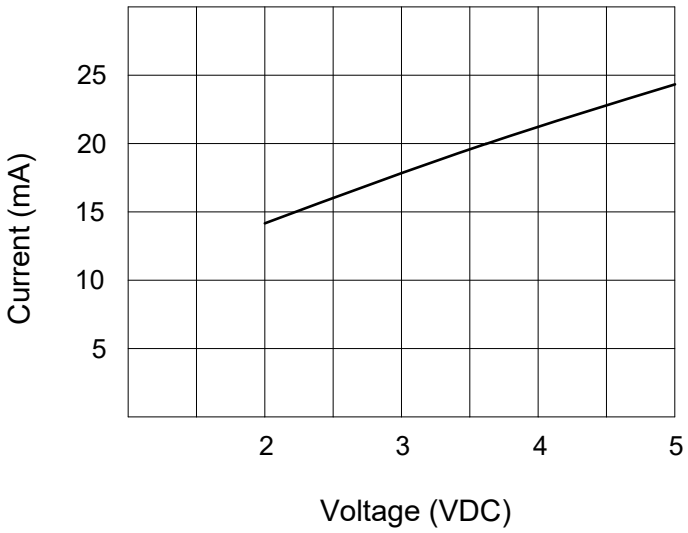

Figure 2. Voltage-Current

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4.4. Test Setup of SPL and Frequency Measurement

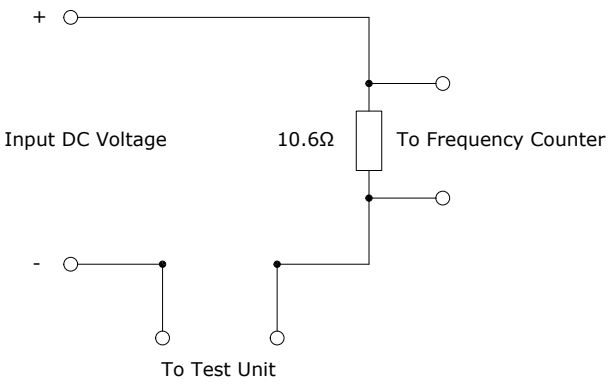

Figure 3. Frequency Testing Circuit

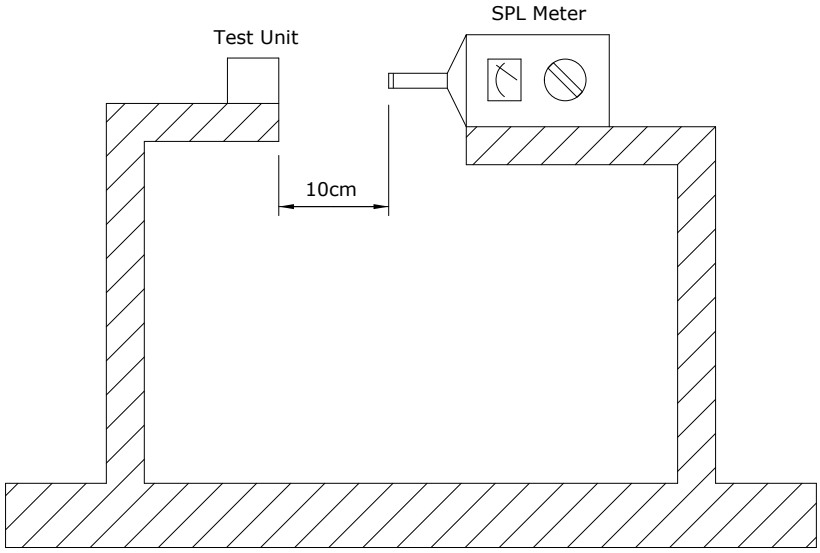

Figure 4. SPL Inspection Test Setup

Notes : Input 3V DC into samples. Measure SPL using a calibrated SPL meter 10cm from the alert 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.

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5. Reliability Test

5.1. Operating Life : Subject samples to room condition for 1000 hours with rated voltage. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

5.2. High Temperature : Subject samples to +85 ± 3 °C and operate for 240 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 -40 ± 3 °C and operate for 240 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

5.4. Temperature Cycle : Each temperature cycle shall consist of 30 minutes at -20°C, 15 minutes at +20°C, 30mins at +60°C and 15 minutes at +20°C. Test duration is for 5 cycles. Finally dry at room ambient for 2 hours before taking final measurement.

5.5. Static Humidity : Precondition at room temperature for 1 hour. Then expose to +65°C with 90 ~ 95% relative humidity for 12 hours. Finally dry at room ambient for 2 hours before taking final measurement.

5.6. Drop Test : Drop samples with package naturally from the height of 0.7m onto a wooden board six times. (Three directions)

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6. Mechanical Layout

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

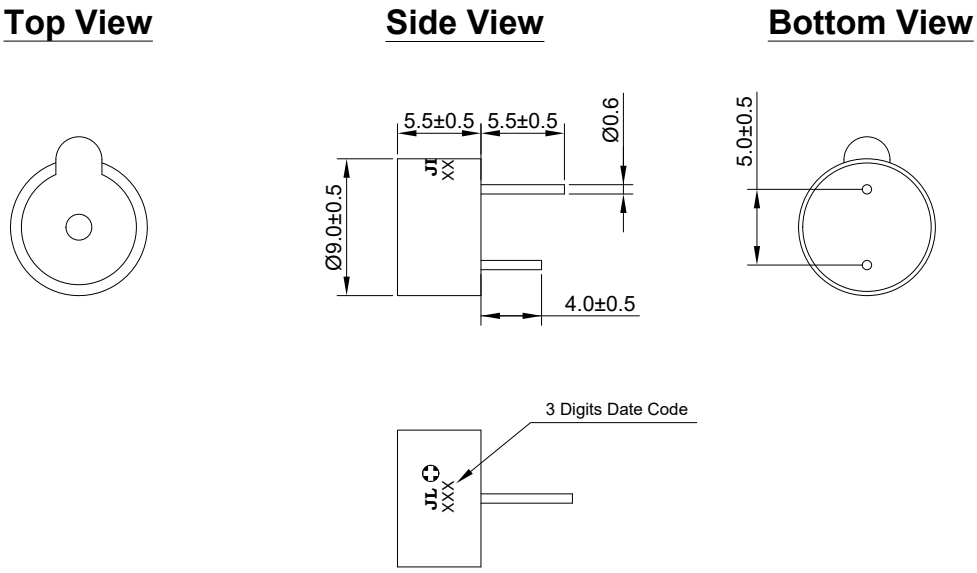

Figure 5. HCM0903AX Mechanical Layout

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