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SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HC0903E

A2 - update layout and format by Leo, Sin on 11 Feb., 2004		
A3 - updated RoHS version by Leo, Sin on 17 Nov., 2005		
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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, 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 : -20°C to +60°C

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

4.1.3. Weight : Approx. 1g

4.2 Electrical Requirement

4.2.1. Rated Voltage : 3V

4.2.2. Operating Voltage : 2 ~ 5 V

4.2.3. Rated Current : <=80mA

4.2.4. Coil Resistance : 25 ± 4 Ω

4.2.5. Coil Impedance : 40Ω

4.2.6. Sound Pressure Level at 10cm (Applying rated voltage and rated frequency) : >=82dB

4.2.7. Rated Frequency : 2731Hz

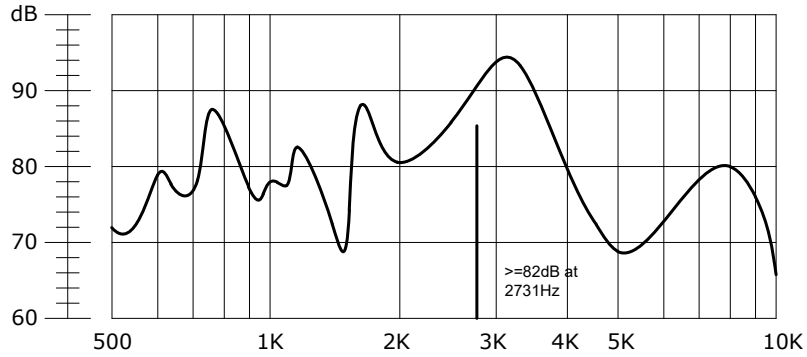

Figure 1. Frequency Response

4.3 Mechanical Requirement

4.3.1. Layout and Dimension : See Section 7, Figure 3

4.4 Test Setup

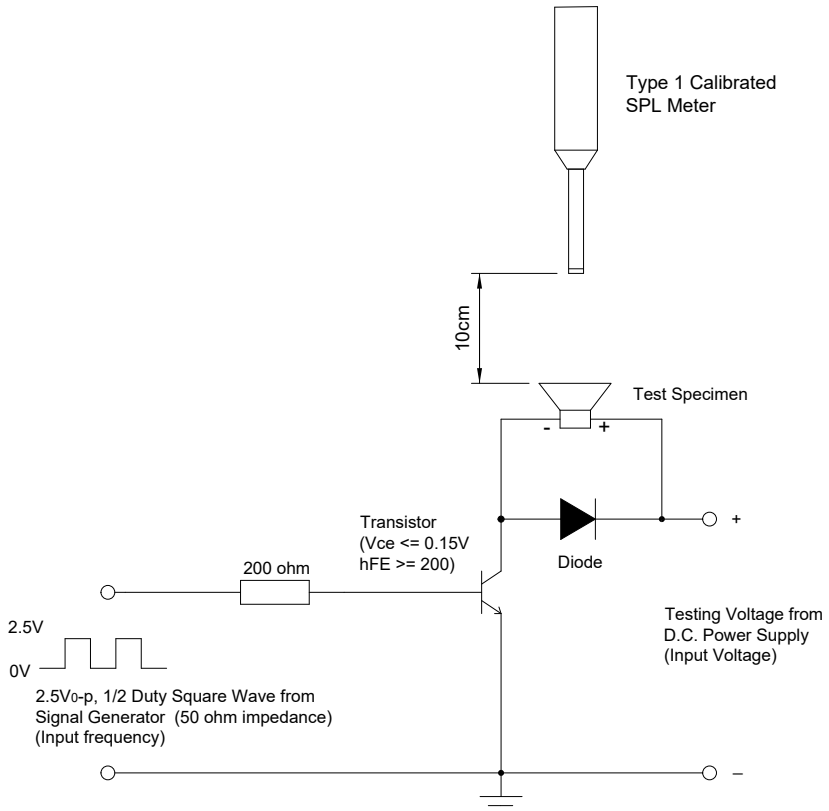

Figure 2. Test Setup

Notes : Apply 2.5V0-p from Signal Generator, set 2731Hz from Signal Generator. Measure SPL using a calibrated SPL meter 10cm from the sound 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.

5. Reliability Test

5.1. Operating Life : Subject samples to room condition for 96 hours under rated voltage and rated frequency. 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 +60 ± 2 °C and operate for 96 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 -20 ± 2 °C and operate for 96 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 with 90 ~ 95% relative humidity for 96 hours. Finally dry at room ambient for 2 hours before taking final measurement.

6. Recommended Soldering Profile

6.1. Soldering Method : Manual Soldering

6.2. Temperature : 315°C

6.3. Duration : <= 3 seconds

7. Mechanical Layout

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

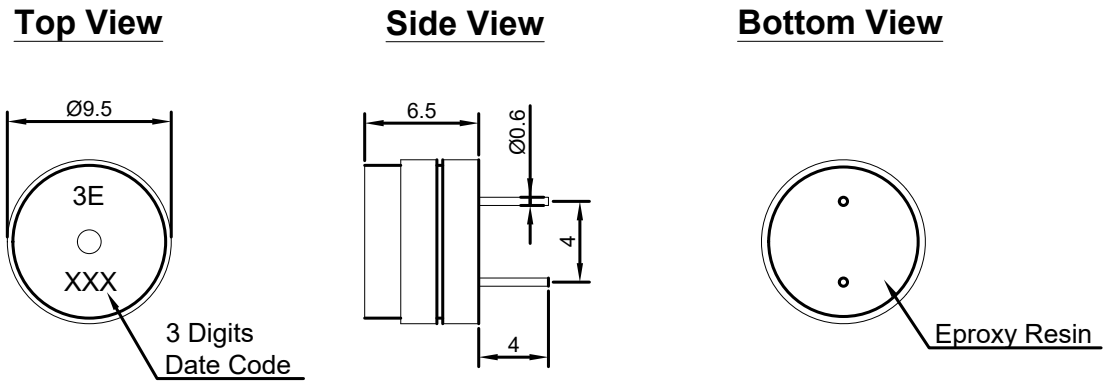

Figure 3. HC0903E Mechanical Layout