**JL World Corporation Limited**
Tel : (+852) 25650319 Fax : (+852) 25656979 Web : www.jlworld.com

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Prepare by : Loki, **Lo**
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# SoniCrest Acoustic Components

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HC12G-1P/002

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|---|---|---|
| A3 - Update format and layout by Ting Lok, Ngan on 9 Dec., 2003 | | |
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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

Ø12mm electro-magnetic sound generator with marking of part number, date code and polarity mark.

## 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 : -25°C to +70°C

**4.1.2.** Storage Temperature Range : -30°C to +85°C

**4.1.3.** Weight : Approx. 2g

**4.1.4.** Housing Material : Noryl SE1

### 4.2. Electrical Requirement

**4.2.1.** Rated Voltage : 1.5V

**4.2.2.** Operating Voltage : 1 ~ 5 V

**4.2.3.** Rated Current : <=30mA

**4.2.4.** Coil Resistance : 16 ± 2 Ω

**4.2.5.** Rated Frequency : 2048Hz

**4.2.6.** Sound Pressure Level at 10cm : >=85dB
(Applying rated voltage and rated frequency)

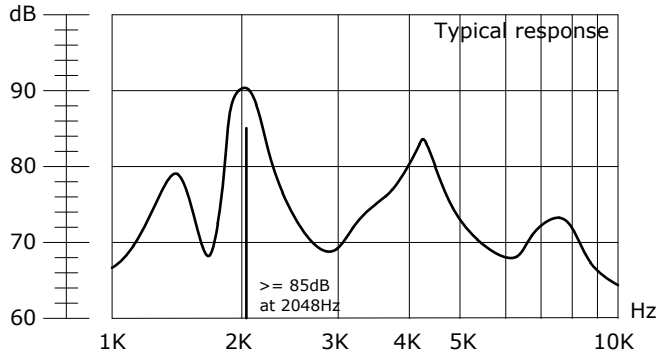


**Figure 1. Frequency Response**

### 4.3. Mechanical Requirement

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

### 4.4. Test Setup

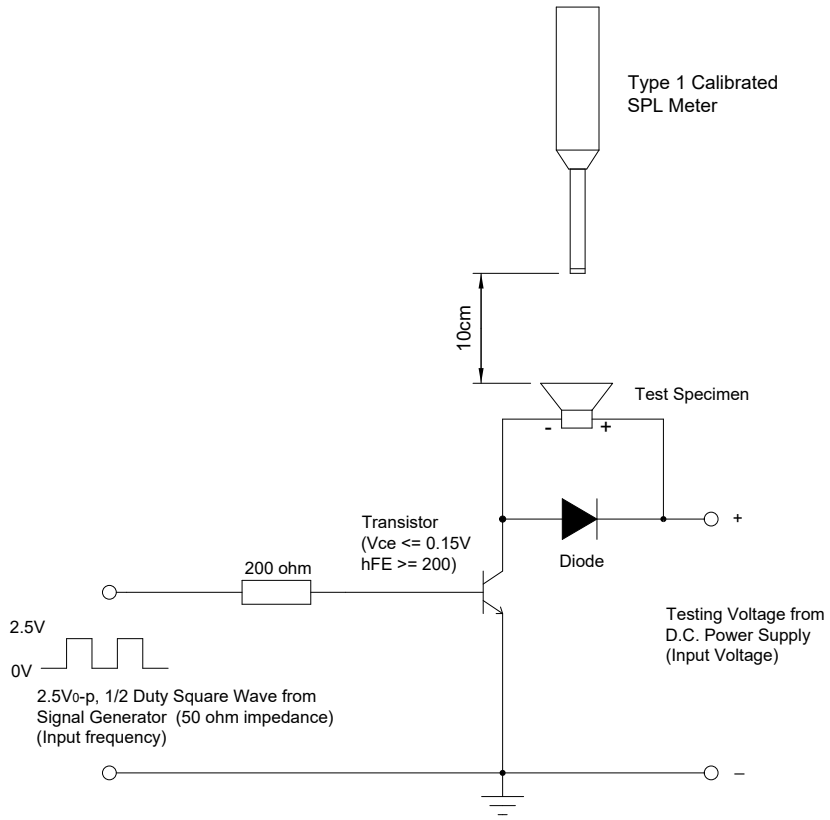


**Figure 2. Test Setup**

**Notes** : Apply 2.5V0-p from Signal Generator, set 2048Hz 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 frequency. Components must be fully stabilized before data is taken, which may require up to a 2 hours soak.

**5.2. High Temperature** : Subject samples to +70°C and operate for 96 hours with rated voltage and frequency. 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 -25°C and operate for 96 hours with rated voltage and frequency. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

**5.4. Temperature Shock** : Each temperature cycle shall consist of 1 hour at -25°C followed by 1 hour at +70°C with 20 seconds maximum transition time between temperature extremes. Test duration is for 32 cycles. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

**5.5. Static Humidity** : Precondition at room temperature for 1 hour. Then expose to +40°C with 90 to 95% relative humidity for 96 hours. Finally dry at room ambient for 2 hours before taking final measurement.

**5.6. Drop Test** : Drop samples naturally from the height of 1m onto a wooden board six times.

## 6. Mechanical Layout

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

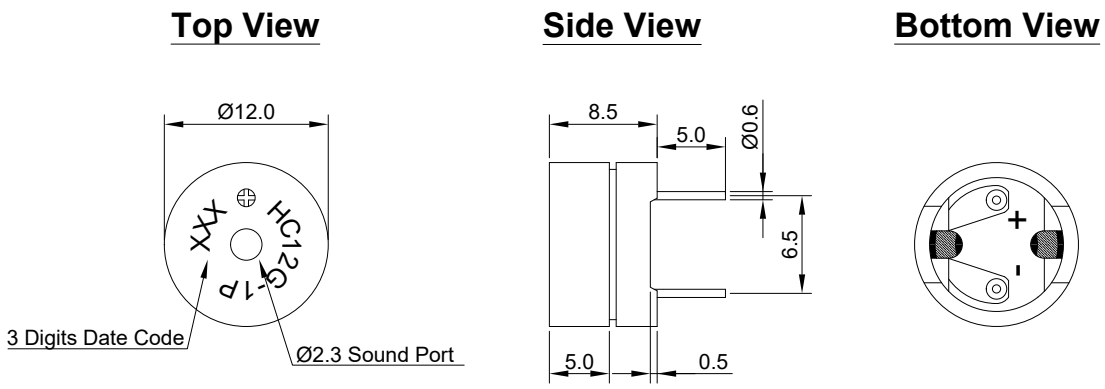


**Figure 3. HC12G-1P/002 Mechanical Layout**