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## **SoniCrest** Brand Acoustic Components

[www.jlsonicrest.com](http://www.jlsonicrest.com)

Document Type : Specification  
Product Type : Electro-magnetic Sound Generator Component  
Part Number : HC12G-04B

A2 - Updated format & layout by Holmes, Poon on 13 Mar., 2009		
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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, 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 +70°C
- 4.1.2. Storage Temperature Range
- : -30°C to +80°C
- 4.1.3. Weight
- : Approx. 2g
- 4.1.4. Housing Material
- : Noryl

4.2 Electrical Requirement

- 4.2.1. Rated Voltage
- : 1.5V
- 4.2.2. Operating Voltage
- : 1 ~ 3 V
- 4.2.3. Rated Current
- : <=70mA
- 4.2.4. Coil Resistance
- : 6.5 ± 1 Ω
- 4.2.5. Rated Frequency
- : 2731Hz
- 4.2.6. Sound Pressure Level at 10cm  
(Applying rated voltage)
- : >=85dB

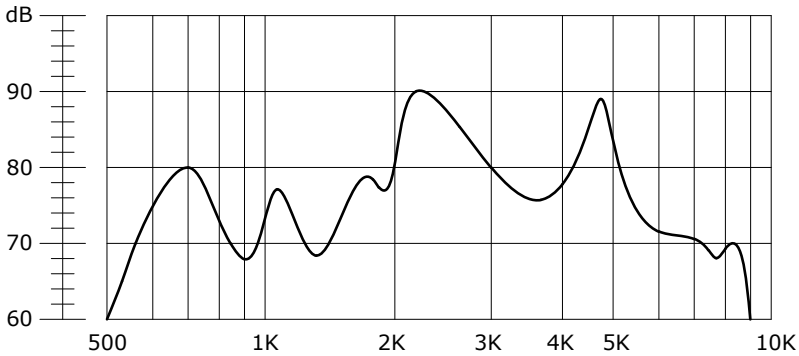
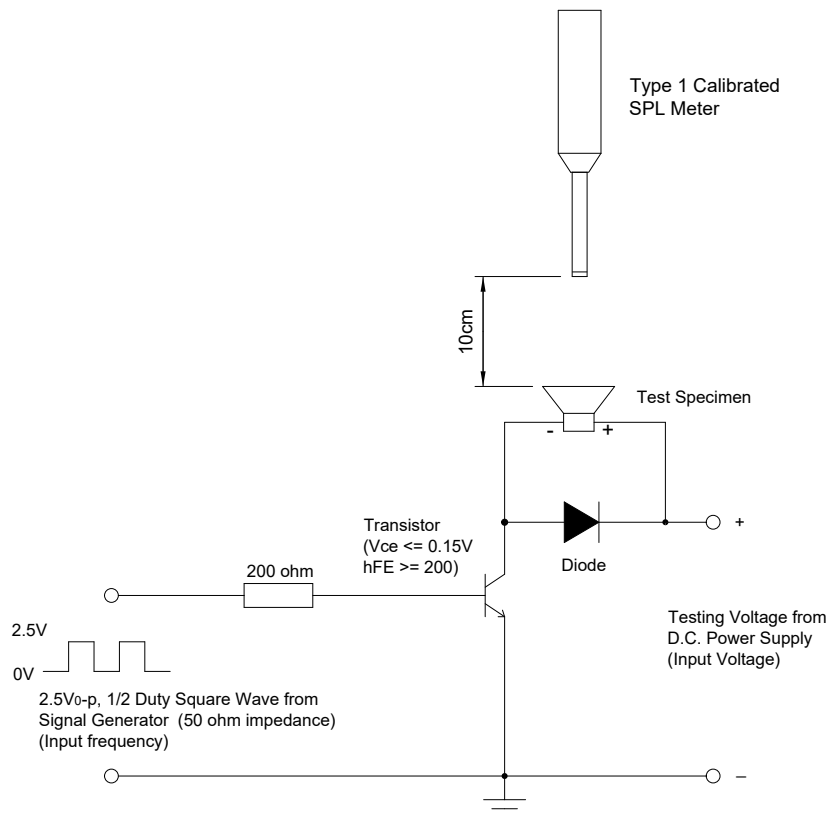


Figure 1. Frequency Response

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 2.5V<sub>0-p</sub> 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

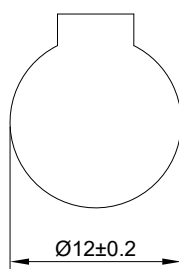
- 5.1. High Temperature** : Subject samples to  $+80 \pm 2$  °C and operate for 240 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.2. Low Temperature** : Subject samples to  $-30 \pm 2$  °C and operate for 240 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.3. Random Vibration** : Secure samples. Vibrated randomly 10 ~ 50Hz with 1.5mm peak amplitude in 3 directions (x, y and z). The test duration is 2 hours per plane.
- 5.4. Drop Test** : Drop samples naturally from the height of 1.5m onto a 10mm thickness wooden board in 3 directions (x, y and z).
- 5.5. Solderability** : Immerse solder pads into molten solder at  $260 \pm 5$  °C for  $3 \pm 0.5$  seconds. After testing covered area of pins should be  $\geq 95\%$  with a continuous coating of bright solder.
- 5.6. Terminal Strength** : Apply 10N force to samples for  $10 \pm 1$  seconds in axial direction (2 terminals).

## 6. Mechanical Layout

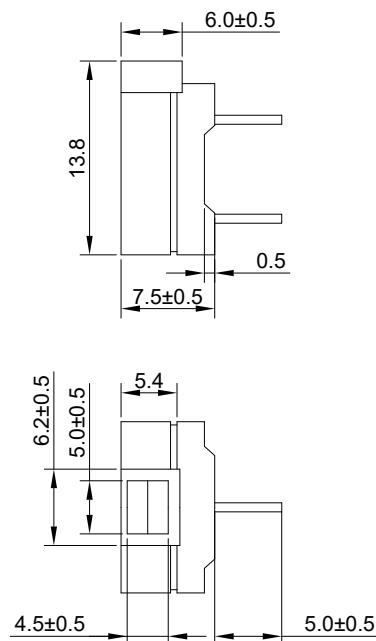
Unit : mm

Tolerance : Linear      XX.X      =  $\pm 0.3$   
                                  XX.XX     =  $\pm 0.05$   
                          Angular       =  $\pm 0.25^\circ$   
 (unless otherwise specified)

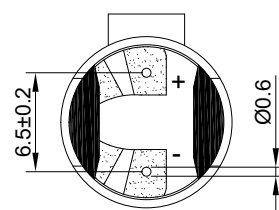
**Top View**



**Side View**



**Bottom View**



**Figure 3. HC12G-04B Mechanical Layout**

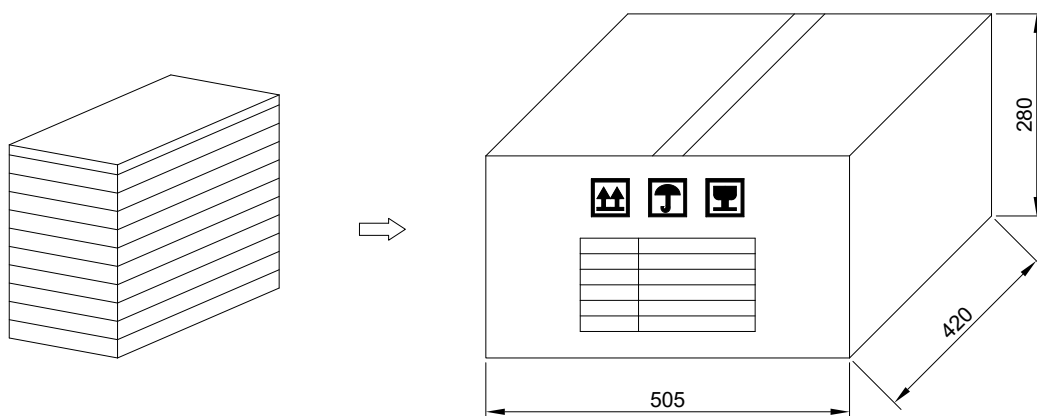
## 7. Standard Packing Requirements

**7.1. Packing Quantity :** 100 pieces per tray 10 trays per unit, 5 units per carton  
(Total 5000 pieces)

**7.2. Net Weight :** 8 Kg

**7.3. Gross Weight :** 9 Kg

### 7.4. Tray and Carton Layout



**Figure 4. Tray and Carton Layout**