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SoniCrest Brand Acoustic Components
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		
A3 - Updated section 4 and 6 by Loki, Lo on 3 Jun., 2014		
A4 - Updated packing by Loki, Lo on 15 Feb., 2016		

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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

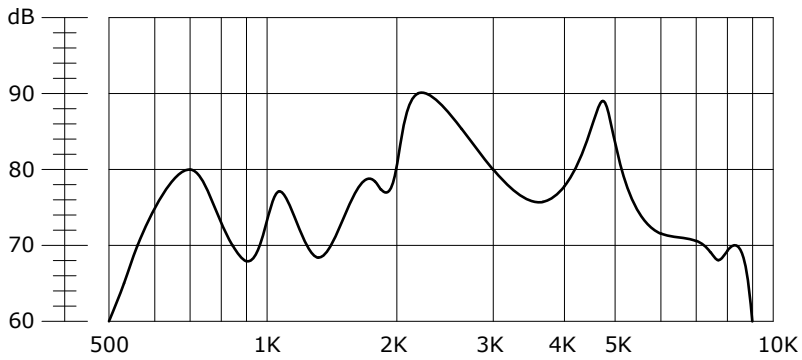


Figure 1. Frequency Response

4.3 Mechanical Requirement

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

4.4 Test Setup

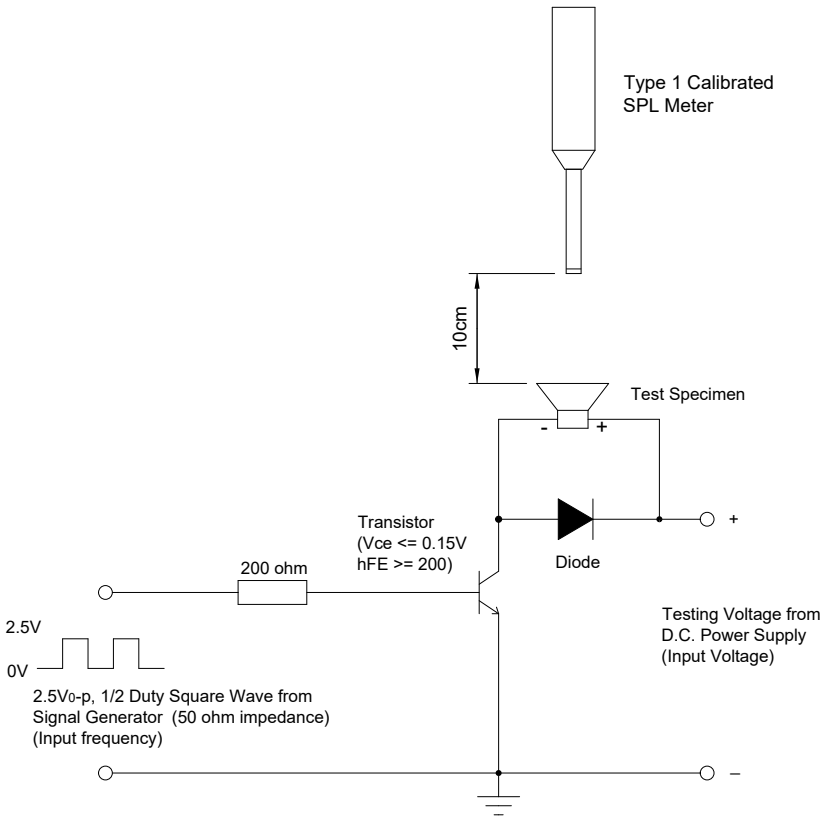


Figure 2. Test Setup

Notes : Apply 2.5V0-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. High Temperature : Subject samples to +80 ± 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 ± 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 ± 5 °C for 3 ± 0.5 seconds. After testing covered area of pins should be >= 95% with a continuous coating of bright solder.

5.6. Terminal Strength : Apply 10N force to samples for 10 ± 1 seconds in axial direction (2 terminals).

6. Mechanical Layout

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

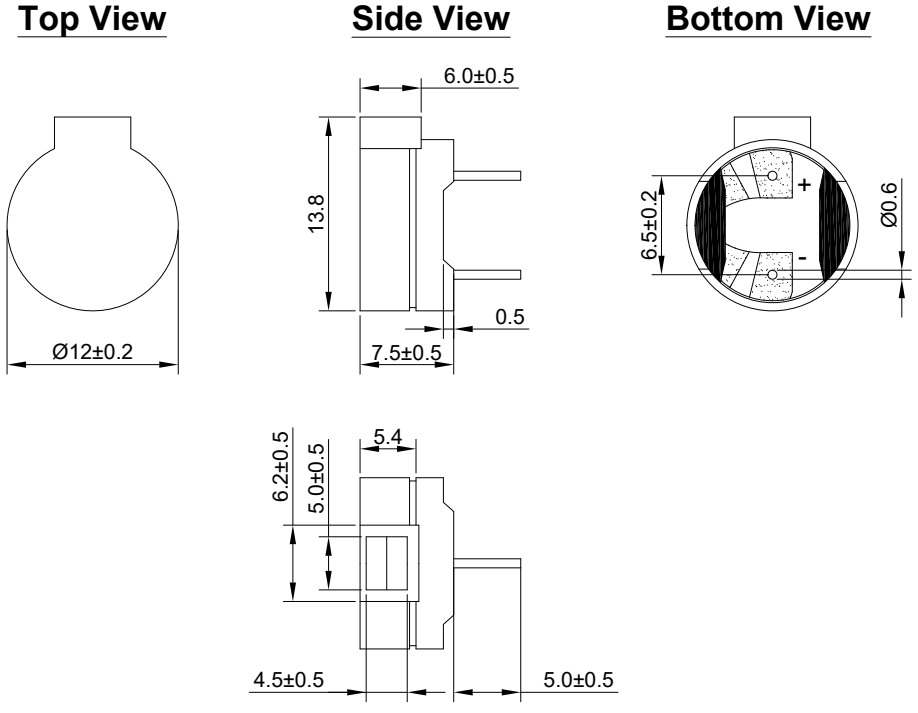


Figure 3. HC12G-04B Mechanical Layout

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

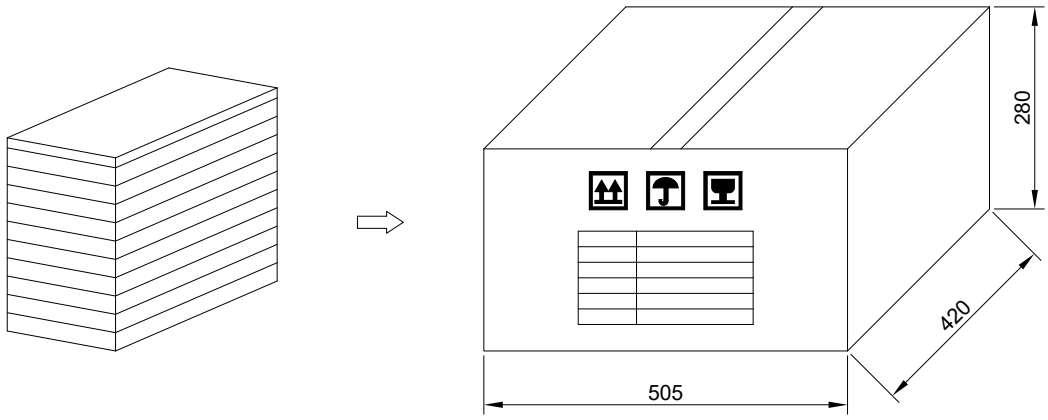


Figure 4. Tray and Carton Layout