



**JL World Corporation Limited**

1907 Westlands Centre, 20 Westlands Road, Quarry Bay, Hong Kong  
Tel : 25650319 Fax : 25656979 Web : www.jlworld.com

Document Number : 0105-86  
Revision : A2  
Total Pages : 5  
Prepare by : Leo Sin  
Date : 30 April, 2008

**SoniCrest** Acoustic Components

Document Type : Specification  
Product Type : Electro-Magnetic Sound Generator Component  
Part Number : HCM1205X

A2 - update layout and format by Leo Sin on 30 Apr., 2008		

This material is the property of JL World Corporation Limited.  
Unauthorized copying or use of this material is prohibited.

## 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 built-in oscillation circuit, RoHS compliant.

## 3. Application

Computers and Peripherals, Portable Equipment, Automobile Electronics, POS System, Household Appliances, 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. 1g

### 4.2. Electrical Requirement

- 4.2.1. Rated Voltage (DC) : 5V
- 4.2.2. Operating Voltage (DC) : 4V to 7V
- 4.2.3. Rated Current (applying Rated Voltage) :  $\leq 30\text{mA}$
- 4.2.4. Sound Pressure Level at 10cm (applying Rated Voltage) :  $\geq 85\text{dBA}$
- 4.2.5. Generated Frequency (applying Rated Voltage) :  $2300\text{Hz} \pm 300\text{Hz}$

### 4.3. Mechanical Requirement

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

4.4. Test Setup of SPL and Frequency

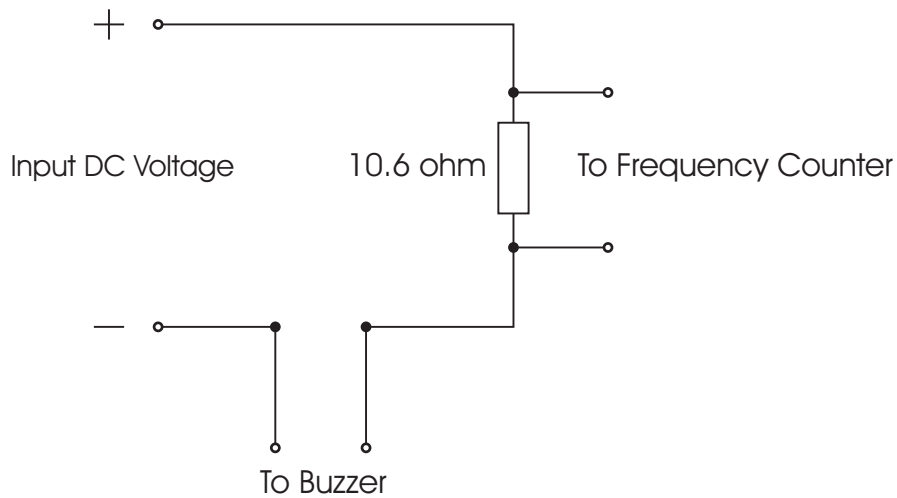


Figure 1. Frequency Testing Circuit

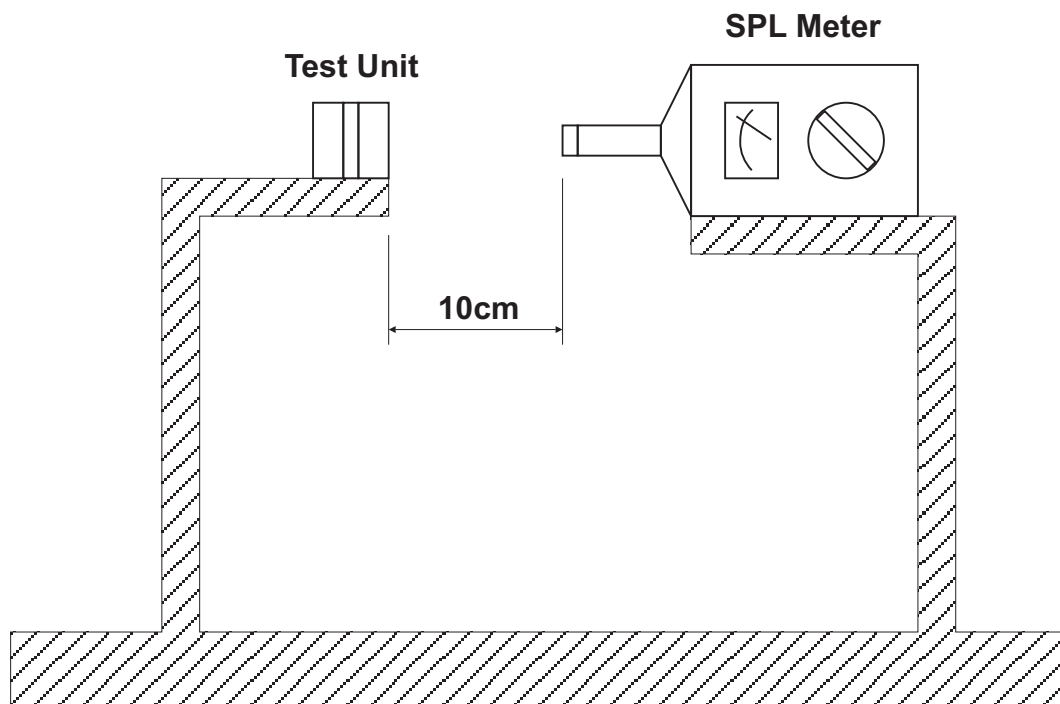


Figure 2. SPL Inspection Test Fixture

**Notes :** Input 5V 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.

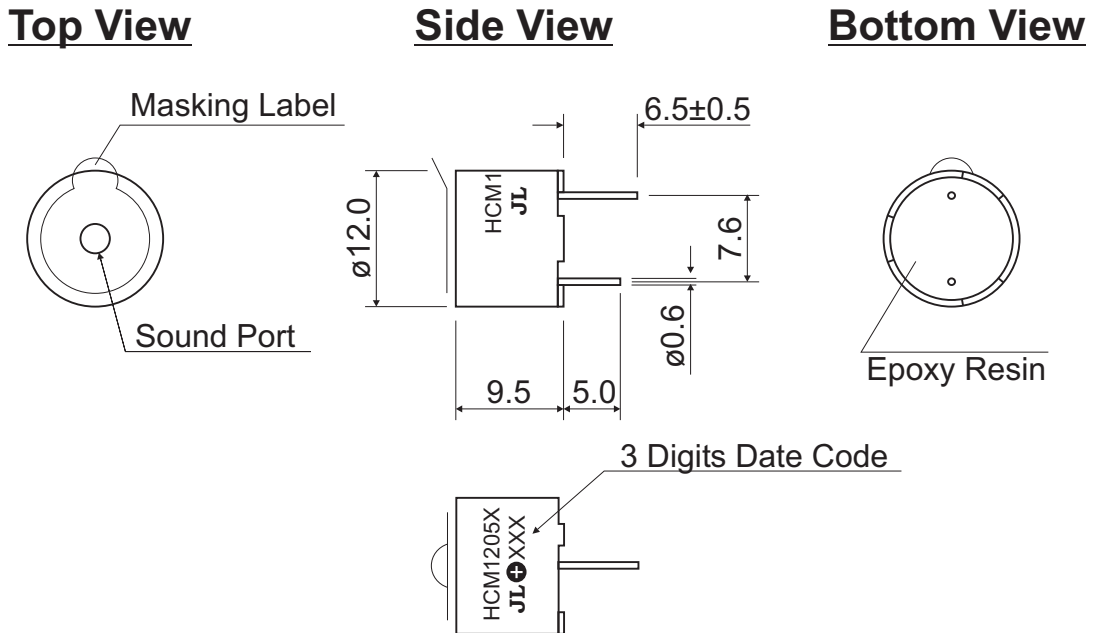
## 5. Reliability Test

- 5.1. Operating Life** : Subject samples to room condition for 1000 hours with rated voltage. 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 +80°C 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 -30°C 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. Temperature Cycle** : Each temperature cycle shall consist of 30 minutes at -30°C, 15 minutes at +20°C, 30 minutes at +80°C and 15 minutes at +20°C. Test duration is for 5 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 Cycle** : Each cycle shall consist of +25°C with 90 to 95% relative humidity for 10 hours and +65°C with 90 to 95% relative humidity for 12 hours. Test duration is for 5 cycles. Finally dry at room ambient for 2 hours before taking final measurement.
- 5.6. Drop Test** : Drop samples naturally from the height of 0.7m onto a wooden board (10mm thickness) each direction (x, y, z).
- 5.7. Solderability Test** : Temperature at +255°C for 3 seconds.

**6. Mechanical Layout**

Unit : mm

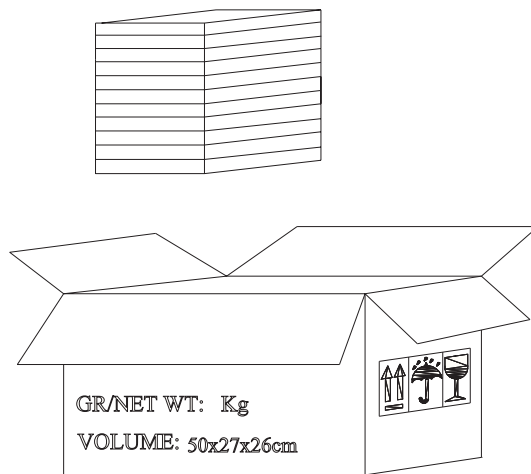
Tolerance :   Linear    XX.X    =   ±0.3  
                               XX.XX   =   ±0.05  
                   Angular    =   ±0.25°  
 (unless otherwise specified)



**Figure 3. HCM1205X Mechanical Layout**

**7. Standard Packing Layout**

**7.1. Packing Quantity :** 100 pieces per tray  
 30 trays per carton (Total 3000 pieces)  
 Carton Size : 50 x 27 x 26 cm



**Figure 4. Packing Layout**