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**SoniCrest** Brand Acoustic Components

www.jlsonicrest.com

Document Type : Specification  
 Product Type : Electro-magnetic Sound Generator Component  
 Part Number : HCM1205F

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A5 - Updated Mechanical layout by Leo, Sin on 17 Oct., 2006		
A6 - Added soldering temperature profile by Leo, Sin on 25 Mar., 2008		

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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.

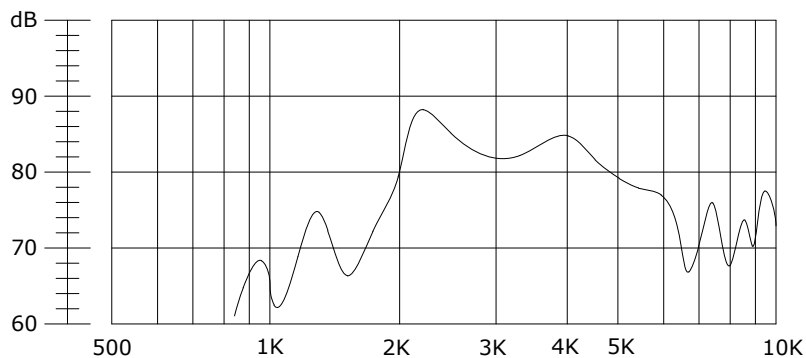
**4. Component Requirement**

**4.1 General Requirement**

- 4.1.1. Operating Temperature Range : -20°C to +60°C
- 4.1.2. Storage Temperature Range : -30°C to +70°C
- 4.1.3. Weight : Approx. 2g
- 4.1.4. Housing Material : PPO

**4.2 Electrical Requirement**

- 4.2.1. Rated Voltage : 5V
- 4.2.2. Operating Voltage : 4 ~ 8 V
- 4.2.3. Rated Current : <=60mA
- 4.2.4. Coil Resistance : 45 ± 4 Ω
- 4.2.5. Rated Frequency : 2400Hz
- 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 7, Figure 4

4.4 Test Setup

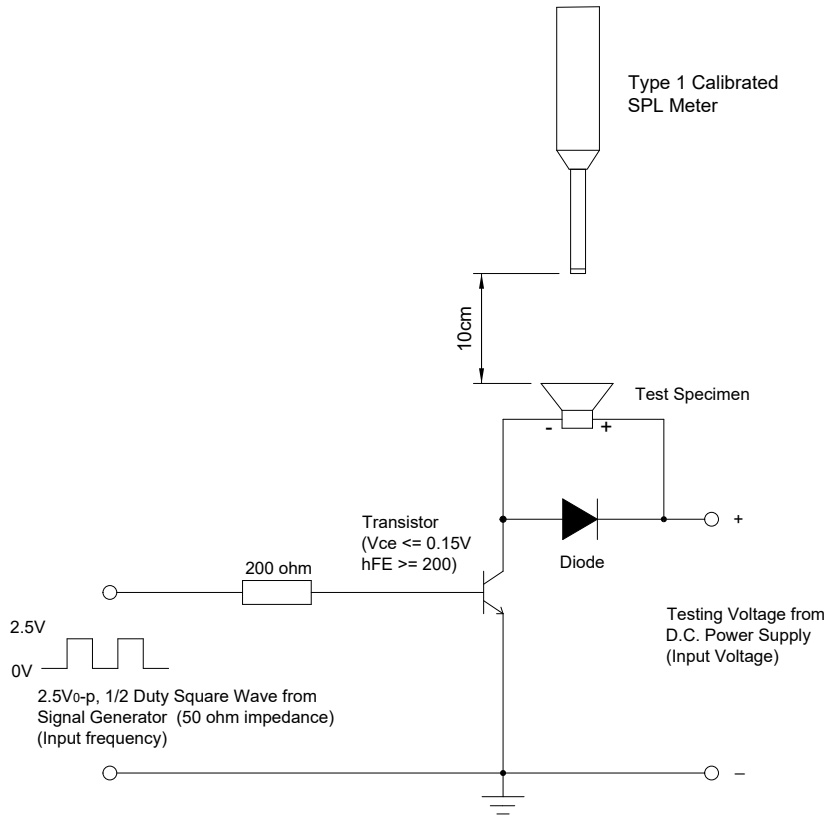


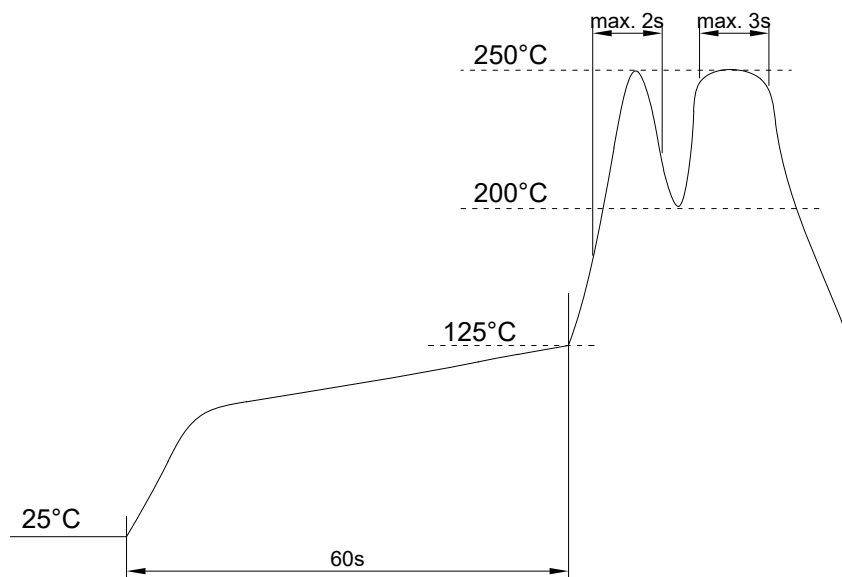
Figure 2. Test Setup

**Notes :** Apply rated signal 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
- 5.2. High Temperature** : Subject samples to  $+60 \pm 3$  °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  $-20 \pm 3$  °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. Temperature Shock** : Each temperature cycle shall consist of 1 hour at  $-40$ °C followed by 1 hour at  $+80$ °C with a 20 seconds maximum transition time between temperature extremes. Test duration is for 32 cycles.
- 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 1.5m onto a 10mm thickness wooden board in 3 directions (x, y and z).

## 6. Recommended Soldering Process Condition

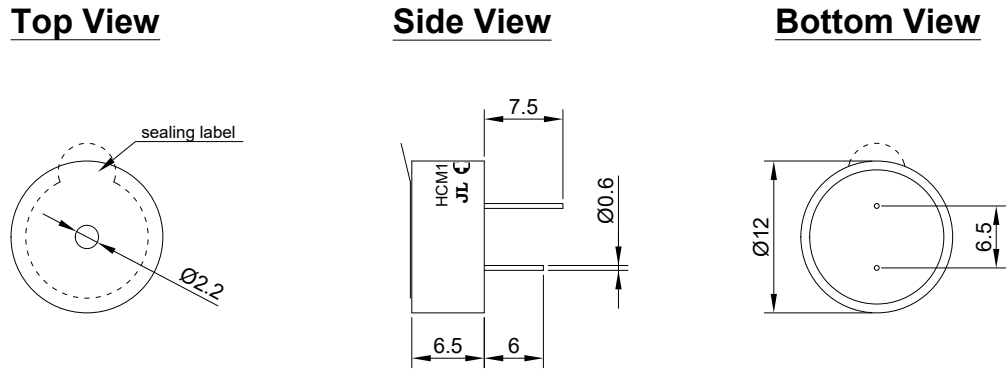


**Figure 3. Recommended Soldering Temperature Profile**

**7. Mechanical Layout**

Unit : mm

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

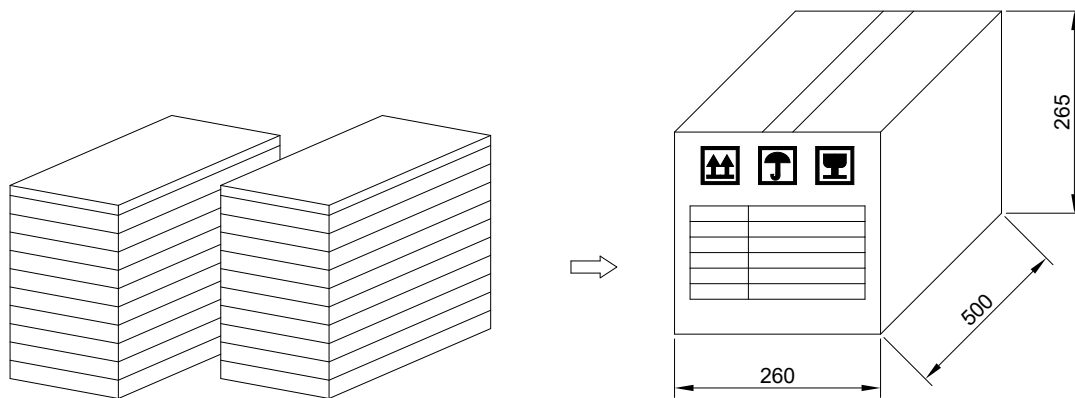


**Figure 4. HCM1205F Mechanical Layout**

**8. Standard Packing Requirements**

**8.1. Packing Quantity :** 100 pieces per tray 10 trays per unit, 3 units per carton  
 (Total 3000 pieces)

**8.2. Carton Layout**



**Figure 5. Tray and Carton Layout**