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

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Prepare by : Holmes, **Poon**
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SoniCrest Acoustic Components

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HCM1212X

A3 - Updated layout & format by Leo, Sin on 10 Apr., 2002		
A4 - Updated RoHS version by Leo, Sin on 1 Dec., 2005		
A5 - Updated section 4 ~ 7 by Holmes, Poon on 17 Dec., 2010		

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

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	: -30°C to +70°C
4.1.2.	Storage Temperature Range	: -40°C to +85°C
4.1.3.	Weight	: 2g

4.2 Electrical Requirement

4.2.1.	Rated Voltage	: 12VDC
4.2.2.	Operating Voltage	: 8 ~ 15 VDC
4.2.3.	Rated Current	: <=30mA
4.2.4.	Generated Frequency	: 2300 ± 300 Hz
4.2.5.	Sound Pressure Level at 10cm (Applying rated voltage)	: >=85dB

4.3 Mechanical Requirement

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

4.4 Test Setup of SPL and Frequency Measurement

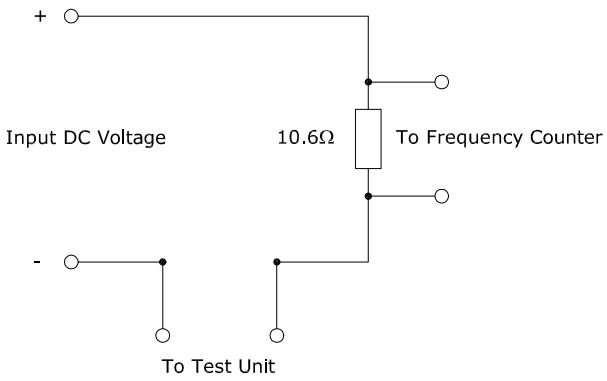

Figure 1. Frequency Testing Circuit

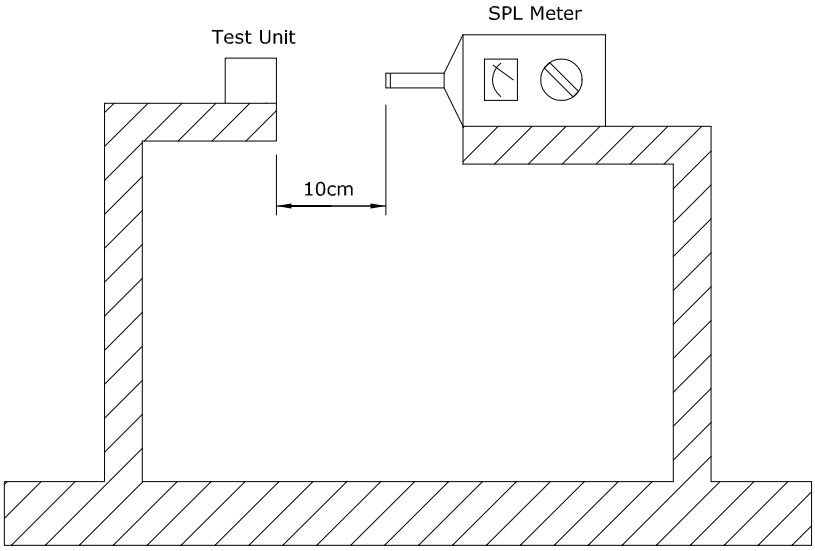

Figure 2. SPL Inspection Test Setup

Notes : Input 12V 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 96 hours under rated voltage

5.2. High Temperature : Subject samples to +70 ± 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 -30 ± 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 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 : 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. Mechanical Layout

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

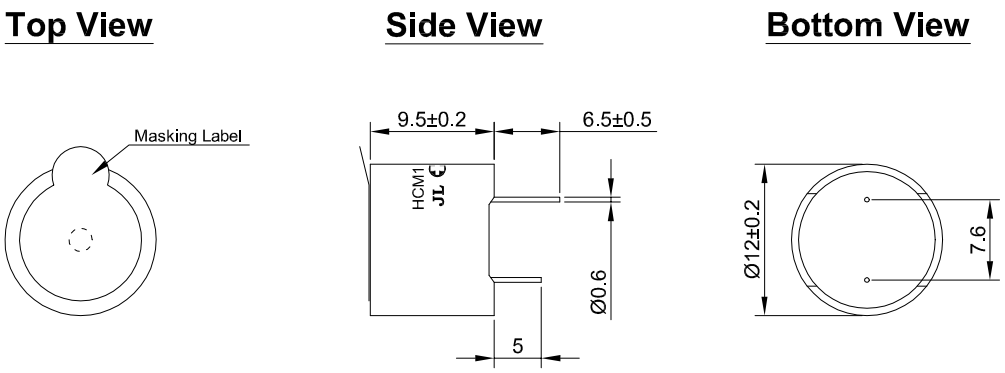

Figure 3. HCM1212X Mechanical Layout

7. Standard Packing Requirements

7.1. Packing Quantity : 100 pieces per tray, 30 trays per carton (Total 3000 pieces)

7.2. Canton Layout

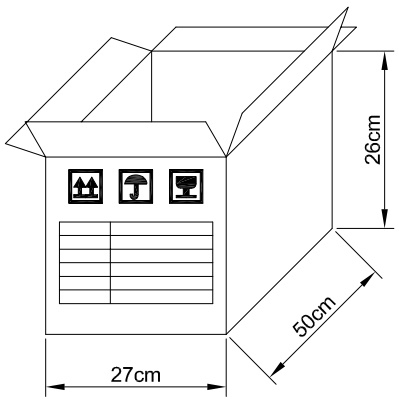

Figure 4. Carton Layout