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SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Piezo Sound Generator Component
Part Number : HPM24CX

A2 - Updated format and layout by Leo Sin on 19 Oct., 2006	A6 - Updated section 3 - 7 by Loki, Lo on 5 Feb., 2014	
A3 - Updated mechanical layout by Leo Sin on 25 Oct., 2006		
A4 - Add marking by Leo Sin on 14 Mar., 2007		
A5 - Add soldering temp. profile by Leo Sin on 6 Spet., 2007		

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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

Ø23.5mm piezo 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. 4g

4.2. Electrical Requirement

4.2.1.	Rated Voltage	: 12VDC
4.2.2.	Operating Voltage	: 3 ~ 20 VDC
4.2.3.	Rated Current	: <=10mA
4.2.4.	Generated Frequency	: 3400 ± 500 Hz
4.2.5.	Sound Pressure level at 10cm (Applying rated voltage)	: >=95dB

4.3. Mechanical Requirement

4.3.1.	Layout and Dimension	: See Section 7, Figure 4

4.4. Test Setup of SPL and Frequency Measurement

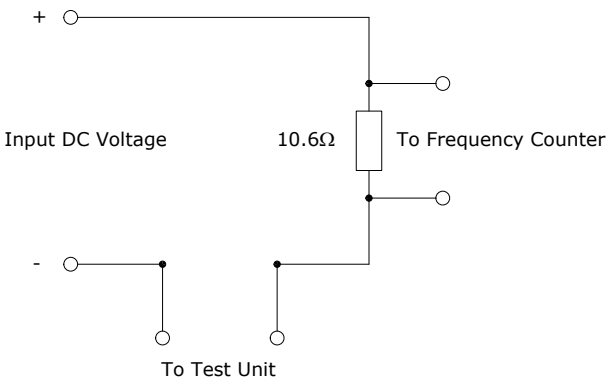


Figure 1. Frequency Testing Circuit

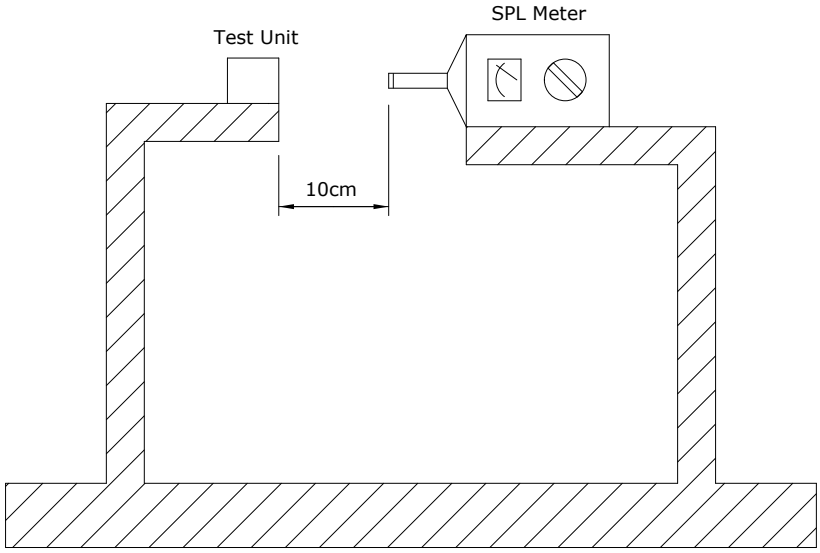


Figure 2. SPL Inspection Test Setup

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

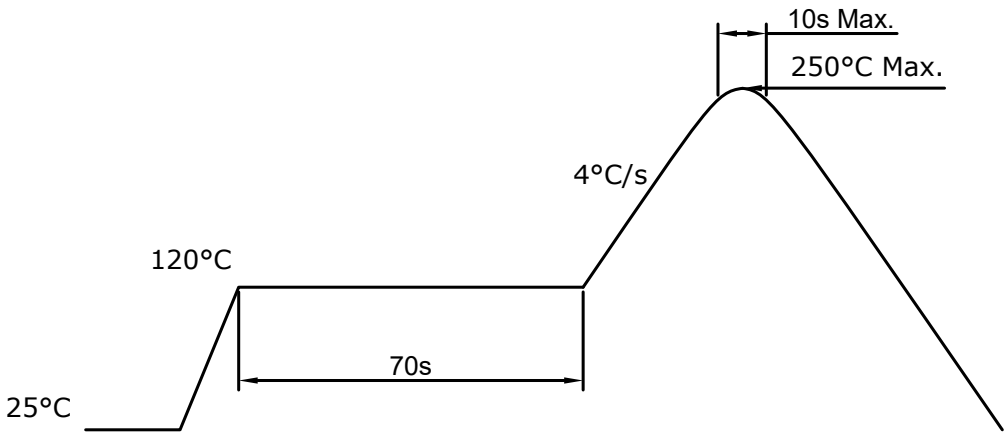
5.1. High Temperature : Subject samples to +80°C for 96 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

5.2. 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.

5.3. Temperature Shock : Each temperature cycle shall consist of 30 minutes at -30C, 15 minutes at +20°C, 30 minutes at +80°C and 15 minutes at +20°C. Test duration is for 50 cycles.

5.4. Humidity Cycle : Subject samples to +25°C with 90%~95% relative humidity for 5 hours +25°C with 90%~95% relative humidity for 6 hours. Test duration is for 30 cycles. Finally dry at room ambient for 2 hours before taking final measurement.

6. Recommended Soldering Process Condition



Time 25°C to Peak temperature : 3 minutes Max.

Figure 3. Recommended soldering process temperature profile

7. Mechanical Layout

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

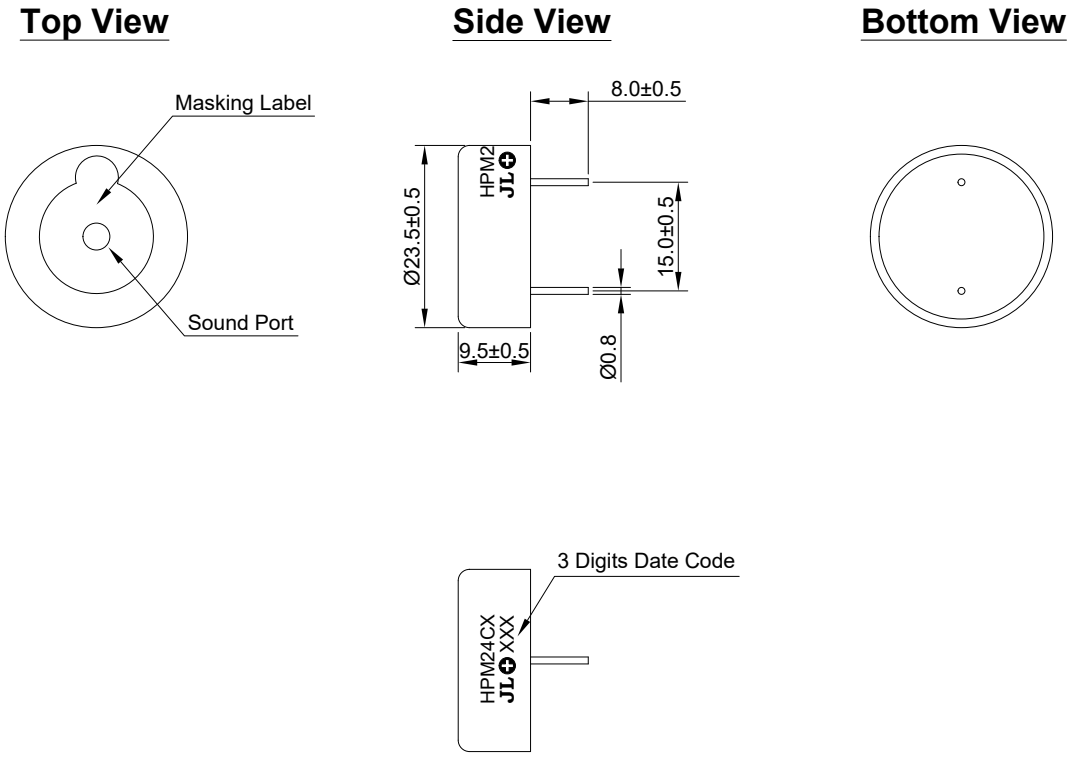


Figure 4. HPM24CX Mechanical Layout