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**SoniCrest** Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Piezo Sound Generator Component
Part Number : HPA24AX

| | | |
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| A3 - Update format and layout by Leo, Sin on 21 Feb., 2005 | | |
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| A5 - Update section 2 ~ 5 by Holmes, Poon on 8 Feb., 2011 | | |
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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 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 | : 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 | : <=15mA |
| **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 6, Figure 3 |

### 4.4. Test Setup of SPL and Frequency Measurement

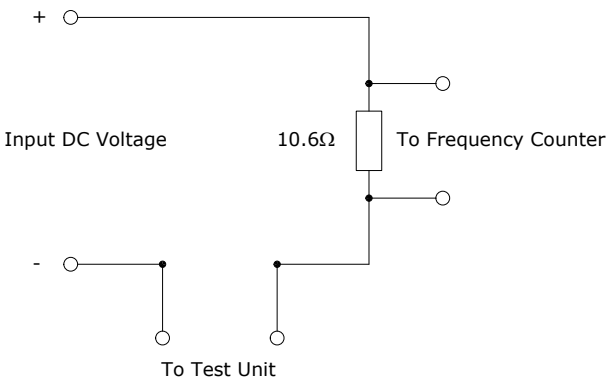



**Figure 1. Frequency Testing Circuit**

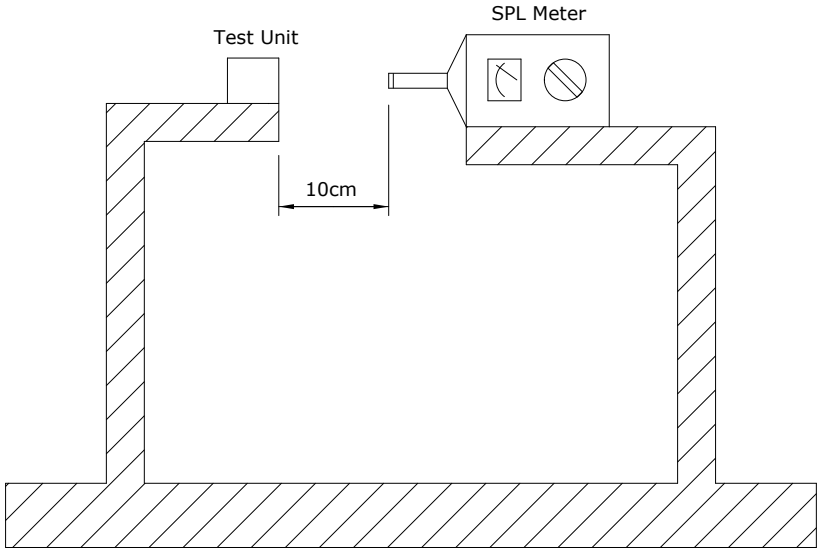



**Figure 2. SPL Inspection Test Setup**

**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. High Temperature** : Subject samples to +70 ± 2°C and operate for 96 hours with rated power and resonance frequency. 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 96 hours with rated power and resonance frequency. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.

**5.3. Static Humidity** : Precondition at +25°C 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.

## 6. Mechanical Layout

Unit : mm
Tolerance : Linear XX.X = ±0.5
XX.XX = ±0.05
Angular = ±0.25°
(unless otherwise specified)

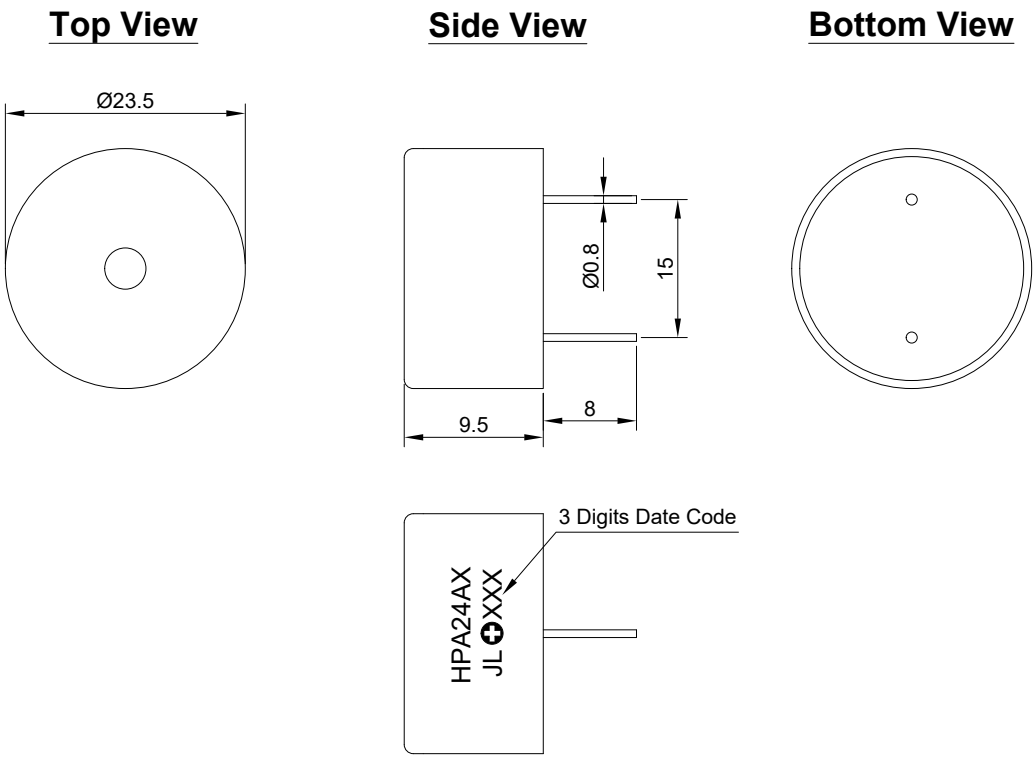



**Figure 3. HPA24AX Mechanical Layout**