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Document Number : 0806-95
Revision : A3
Total Pages : 4
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Date : 31 March, 2011

SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : Piezo Sound Generator Component
Part Number : HPA13H

A1 - New issue created by Ting Lok, Ngan on 21 Jun., 2008		
A2 - Updated section 4 by Holmes, Poon 16 Dec., 2010		
A3 - Updated section 4 ~ 6 by Holmes, Poon 31 Mar., 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

Ø12.6 mm 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. Housing Material : Noryl

4.1.4. Weight : Approx. 1g

4.2 Electrical Requirement

4.2.1. Rated Voltage : 3Vp-p

4.2.2. Operating Voltage : 1 ~ 25 Vp-p

4.2.3. Rated Current : <=5mA

4.2.4. Capacitance : 12 ± 30% nF

4.2.5. Sound Pressure level at 10cm (Applying rated voltage and rated frequency) : >=70dB

4.2.6. Rated Frequency : 4000 ± 500 Hz

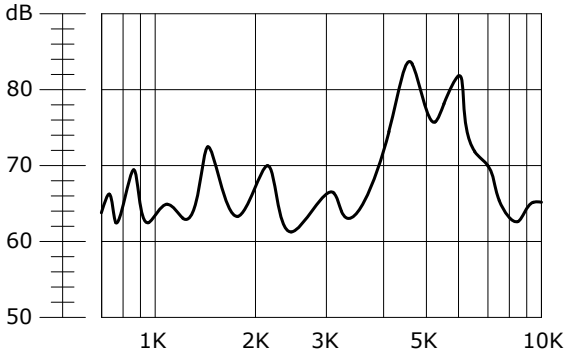

Figure 1. Frequency Response

4.3 Mechanical Requirement

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

4.4 Test Setup

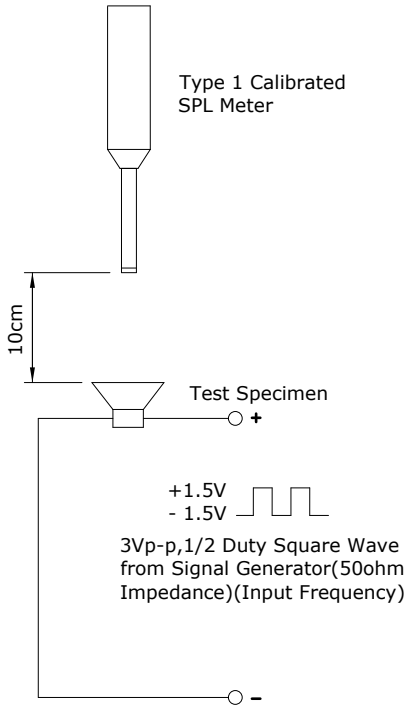

Figure 2. Test Setup

Notes : Apply 3Vp-p from Signal Generator, set 4000Hz from Signal Generator. 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 240 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 ± 2°C and operate for 240 hours. 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 room temperature for 1 hour. Then expose to +40 ± 2°C with 90 ~ 95% relative humidity for 48 hours. Finally dry at room ambient for 2 hours before taking final measurement.

6. Mechanical Layout

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

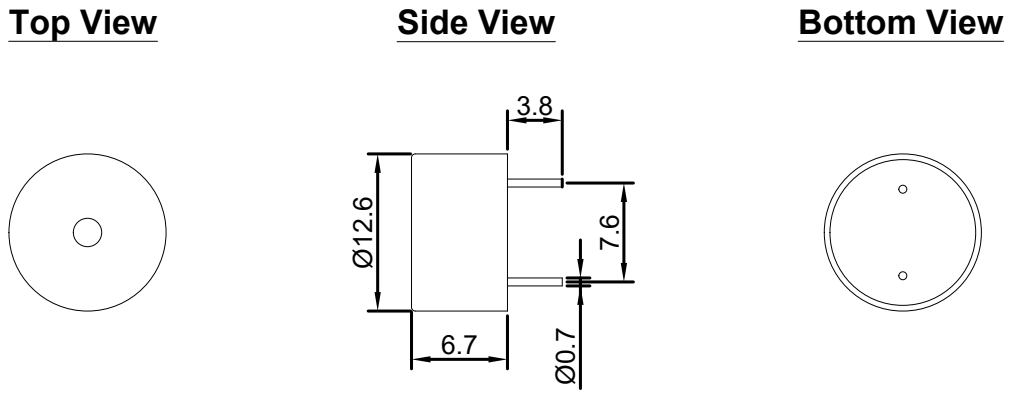

Figure 3. HPA13H Mechanical Layout