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SoniCrest Brand Acoustic Components
www.jlsonicrest.com
Document Type : Specification
Product Type : SMD Piezo Sound Generator Component
Part Number : HPS16B

A1 - New issue created by Leo Sin on 12 Nov., 2001	A5 - Updated RoHS version by Ting Lok, Ngan on 17 Aug., 2005	A9 - Updated section 2, 4, 6, 7, 8 by Ting Lok, Ngan on 19 May, 2008
A2 - Update electrical spec. and mechanical layout by Leo Sin on 21 May, 2002	A6 - Updated company address by Ting Lok, Ngan on 2 Feb., 2006	A10 - Updated cover page by Ting Lok, Ngan on 18 Aug., 2009
A3 - Update mechanical layout by Leo Sin on 5 Jun., 2003	A7 - Updated section 4, 5 and 6 by Ting Lok, Ngan on 26 May, 2006	A11 - Updated section 4 ~ 7 by Holmes, Poon on 24 Mar., 2011
A4 - Added packaging info. by Ting Lok, Ngan on 6 Oct., 2004	A8 - Updated section 7 by Ting Lok, Ngan on 19 Dec., 2007	A12 - Added section 8 by Holmes, Poon on 21 Apr., 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

16 x 16 mm SMD 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 : -40°C to +85°C

4.1.3. Weight : Approx. 0.9g

4.2 Electrical Requirement

4.2.1. Rated Voltage : 3Vp-p

4.2.2. Operating Voltage : 3 ~ 20 Vp-p

4.2.3. Rated Frequency : 4000 ± 500 Hz

4.2.4. Rated Current : <=5mA

4.2.5. Capacitance : 20 ± 30% nF

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

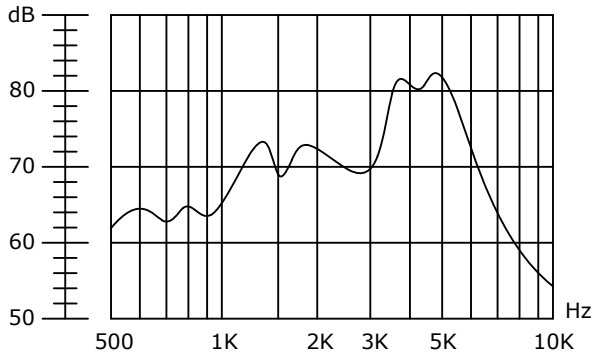


Figure 1. Frequency Response

4.3 Mechanical Requirement

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

4.4 Test Setup

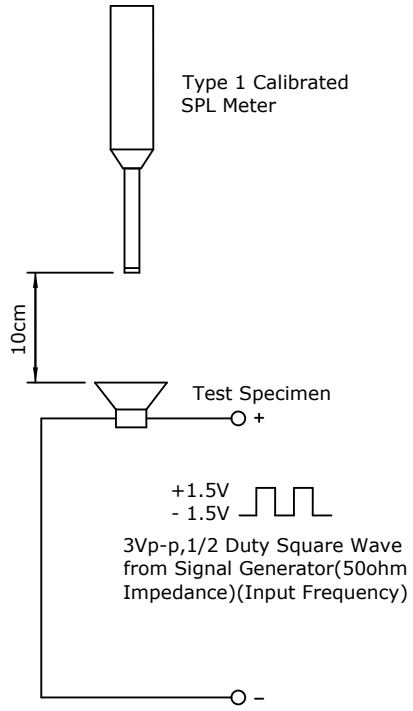


Figure 2. Test Setup

Notes : Apply 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 +85°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.

5.2. Low Temperature : Subject samples to -40°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. Static Humidity : Precondition at room temperature for 1 hour. Then expose to +40 ± 3°C with 90 ~ 95% relative humidity for 96 hours. Finally dry at room ambient for 3 hours before taking final measurement.

6. Recommended Reflow Process Condition

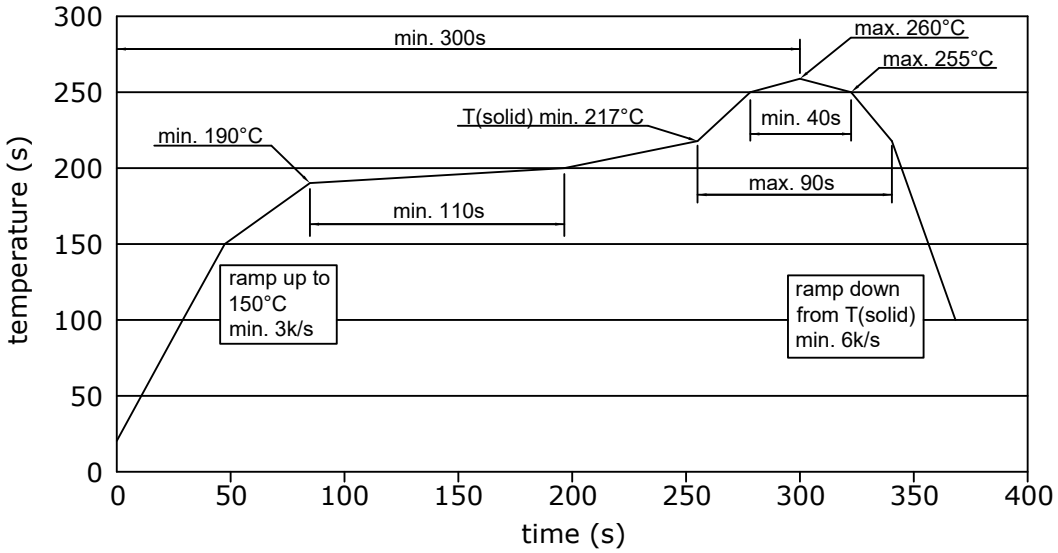


Figure 3. Recommended reflow oven temperature profile

7. Mechanical Layout

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

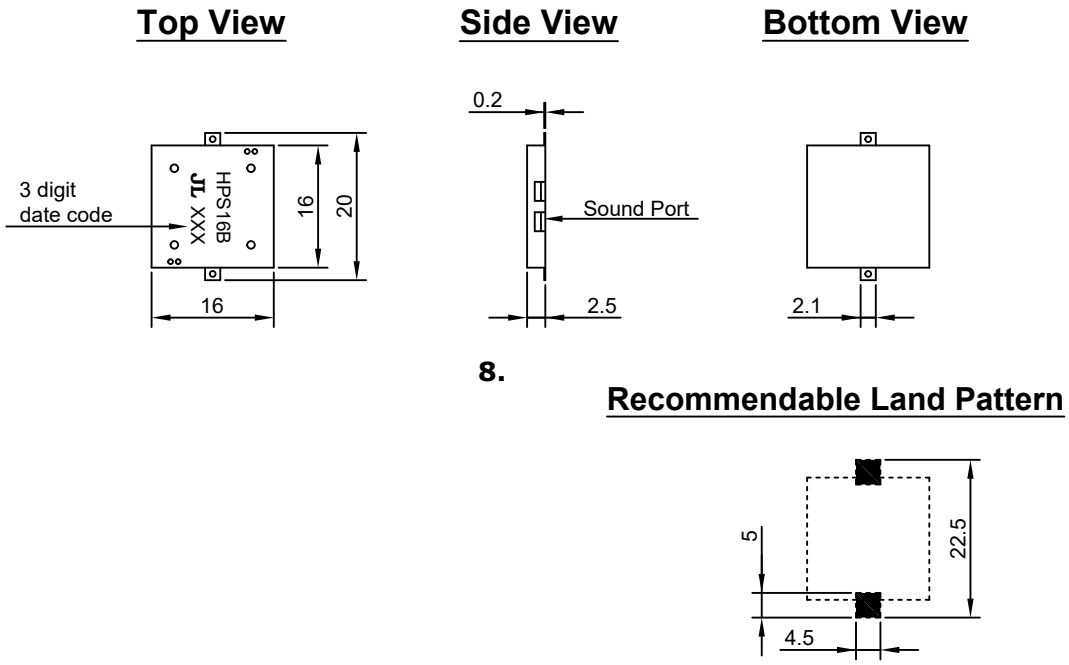


Figure 4. HPS16B Mechanical Layout

8. Standard Packing Layout

8.1. Tape Layout

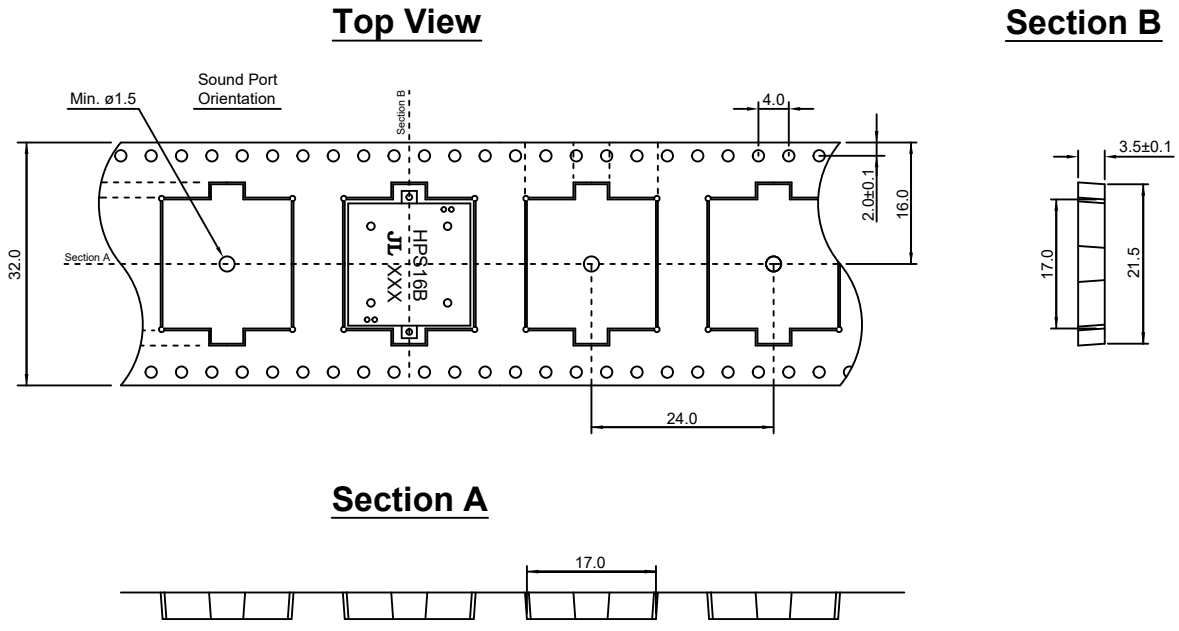


Figure 5. Tape Layout

8.2 Packing Quantity : 800 pieces per reel

8.3 Carton Size : 34 x 20 x 34.5 cm

8.4 Reel Layout

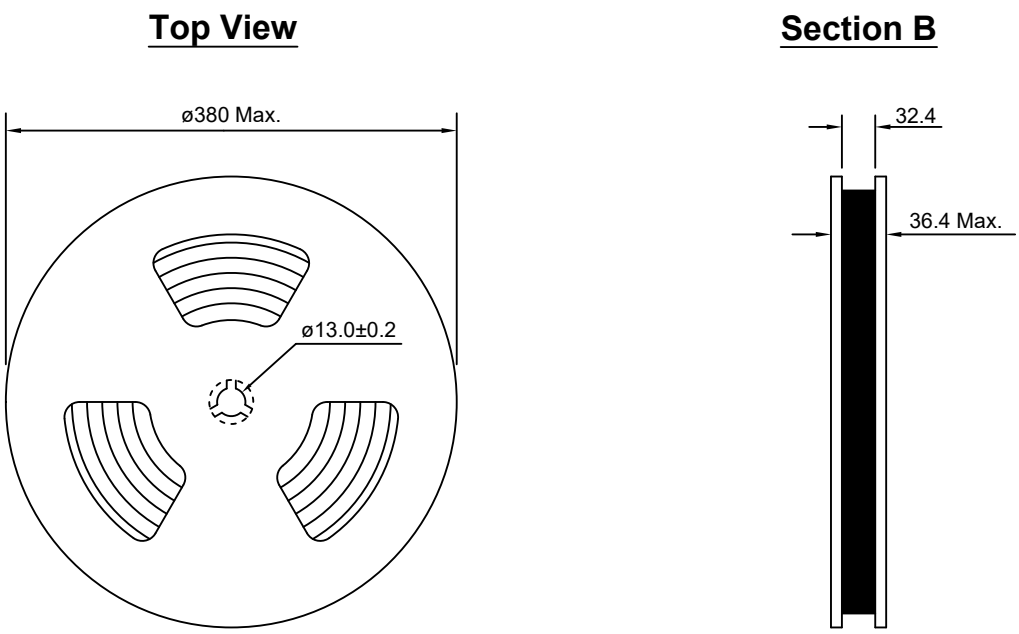


Figure 6. Reel Layout

8.5 Reel Installation

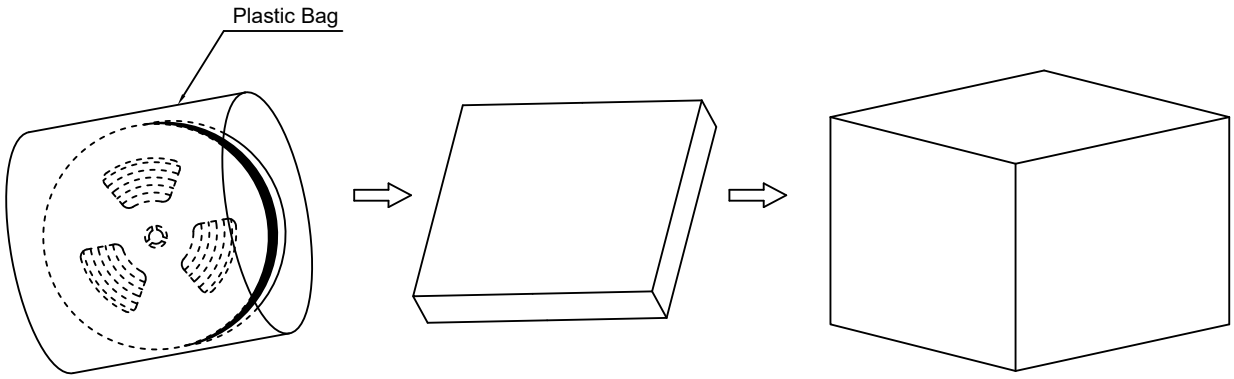


Figure 7. Reels Installation