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## **SoniCrest** Brand Acoustic Components

[www.jlsonicrest.com](http://www.jlsonicrest.com)

Document Type : Specification  
Product Type : Speaker Sound Generator Component  
Part Number : HSR13Z-32

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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**

Ø13mm speaker sound generator - dynamic receiver, RoHS compliant.

**3. Application**

Telecommunication Equipment, Computers and Peripherals, etc.

**4. Component Requirement**

**4.1. General Requirement**

**4.1.1.** Operating Temperature Range : -20°C to +60°C

**4.1.2.** Storage Temperature Range : -30°C to +70°C

**4.2. Electrical Requirement**

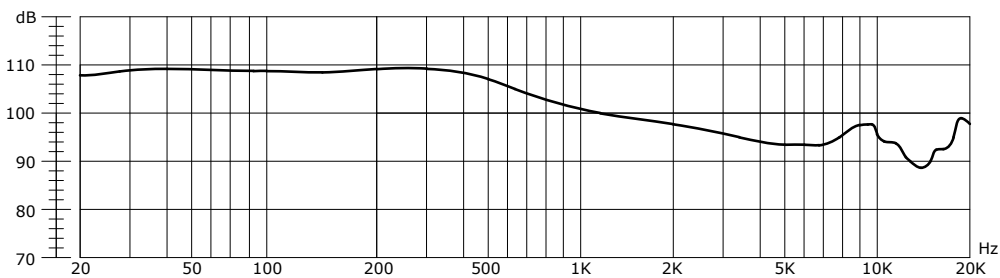
**4.2.1.** Coil Impedance : 32 ± 15% Ω

**4.2.2.** Rated Power : 10mW

**4.2.3.** Maximum Power : 20mW

**4.2.4.** Sensitivity at 1KHz : 101 ± 3 dB  
(179mV, based on IEC-R318 standard)

**4.2.5.** Total Harmonic Distortion at 1KHz, 1mW : ≤5%

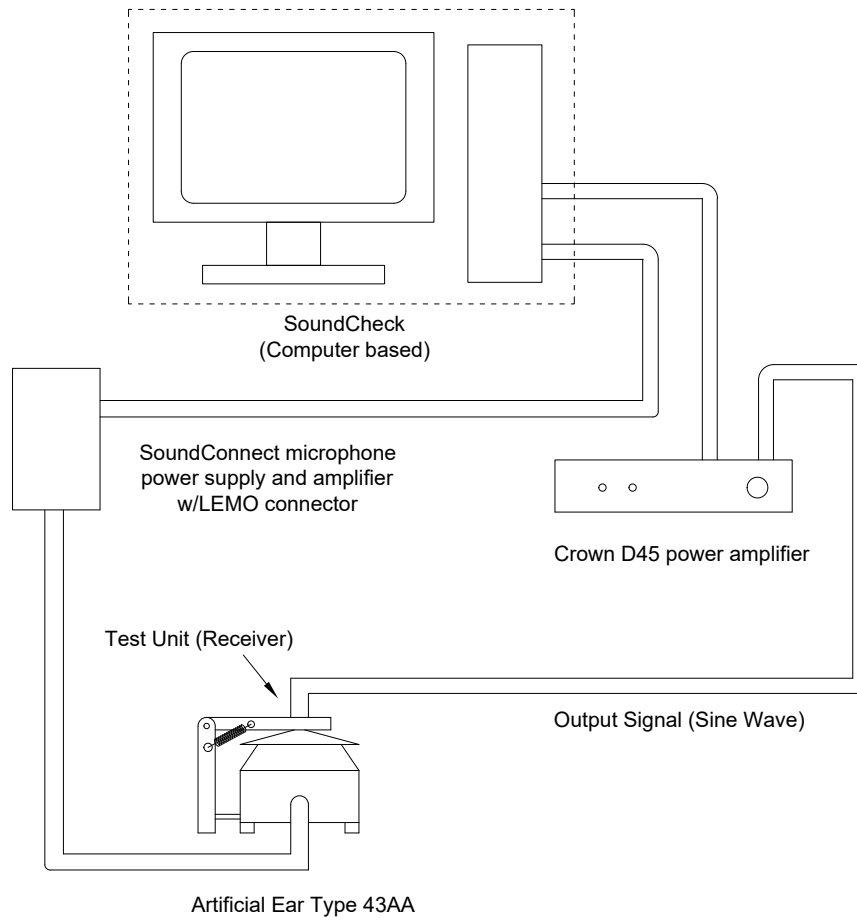


**Figure 1. Frequency Response**

**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 126mV sinusoidal signal from SoundCheck (Computer based) and Crown D45 power amplifier. Measure sensitivity with Artificial Ear Type 43AA from the test unit with specified ear piece. The microphone should be calibrated on a daily basis using an acoustic calibrator recommended by the manufacturer.

**5. Reliability Test**

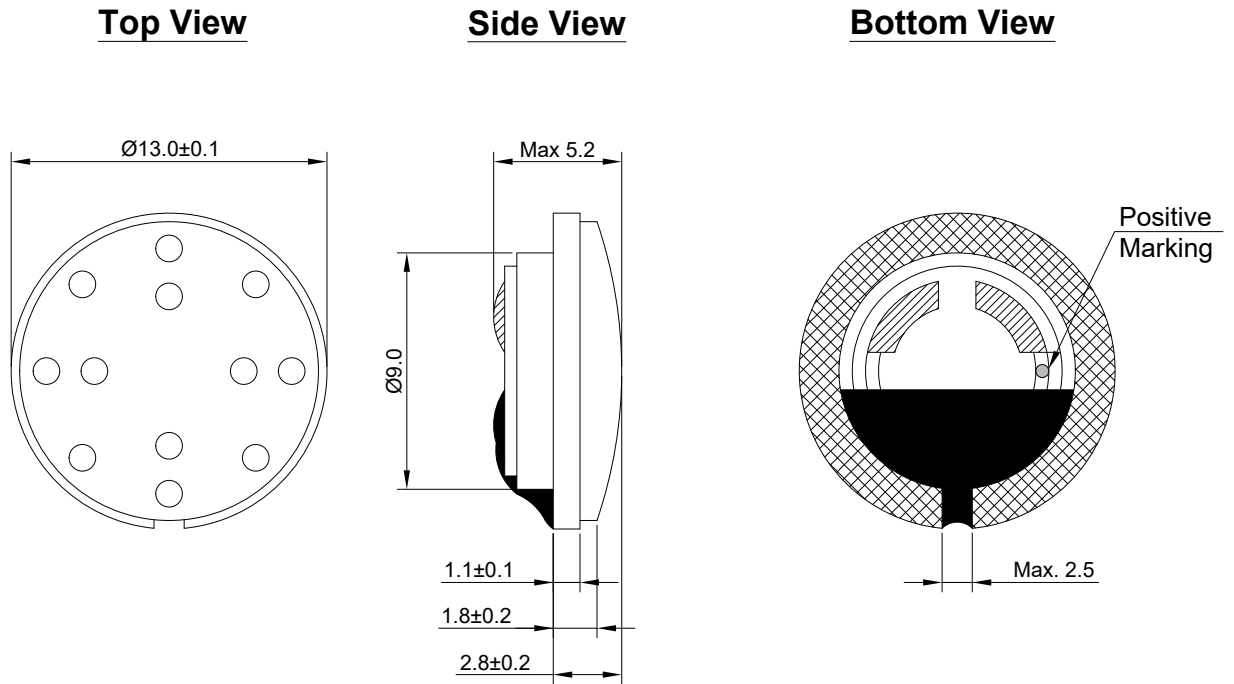
- 5.1. High Temperature** : Subject samples to  $+70 \pm 2$  °C for 96 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.2. Low Temperature** : Subject samples to  $-30 \pm 2$  °C for 96 hours. Components must be fully stabilized at temperature extremes before data is taken, which may require up to a 2 hours soak.
- 5.3. Static Humidity** : Precondition at room temperature for 1 hour. Then expose to  $+40 \pm 2$  °C with 90% ~ 95% relative humidity for 96 hours. Finally dry at room ambient for 2 hours before taking final measurement.
- 5.4. Temperature Shock** : Each temperature cycle shall consist of 45 minutes at  $+70$ °C and 45 minutes at  $-30$ °C with 1 ~ 3°C per minutes transition time between temperature extremes. Test duration is for 6 cycles.
- 5.5. Drop Test** : Drop samples naturally from the height of 1m onto a 5mm thickness wooden board for 3 times.
- 5.6. Load Test** : Subject samples to room condition for 96 hours under rated power, white noise. Components must be fully stabilized before data is taken, which may require up to a 2 hours soak.

**6. Mechanical Layout**

Unit : mm

Tolerance : Linear    XX.X    = ±0.3  
                               XX.XX   = ±0.05  
                               Angular   = ±0.25°

(unless otherwise specified)



**Figure 3. HSR13Z-32 Mechanical Layout**