

**BeStar Technologies Inc.**

Address: 761 N. 17th Street Unit 4, St. Charles, IL 60174

Tel : 847-261-2850 E-mail : sales@bestartech.com Web : www.bestartech.com

Document Number : 0101-79
Revision : A6
Total Pages : 5
Prepare by : Stella, Leung
Date : 11 Jun, 2012

SoniCrest Brand Acoustic Componentswww.jlsonicrest.com

Document Type : Specification
Product Type : Electro-magnetic Sound Generator Component
Part Number : HCM0905A

A3 - Updated layout & format by WH Chan on 29 May., 2001		
A4 - updated electrical spec. by Leo, Sin on 24 Oct., 2002.		
A5 - Updated RoHS version by Leo Sin on 6 Jul., 2006		
A6 - Updated layout & format by Stella Leung on 12 Jun., 2012		

This material is the property of BeStar Technologies Inc.
Unauthorized copying or use of this material is prohibited.

1. Purpose and Scope

This document contains both general requirements, qualification requirements, and those specific electrical, mechanical requirements for this part.

2. Description

Ø9 mm electro-magnetic sound generator, RoHS compliant.

3. Application

Computers and Peripherals, Portable Equipment, Automobile Electronics, 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 |
| 4.1.3. Housing Material | : Noryl SE1-GFM2 |

4.2 Electrical Requirement

- | | |
|--|--------------|
| 4.2.1. Rated Voltage | : 5V |
| 4.2.2. Operating Voltage | : 4 ~ 7 V |
| 4.2.3. Rated Current | : <=70mA |
| 4.2.4. Coil Resistance | : 40 ± 4 ohm |
| 4.2.5. Sound Pressure Level at 10cm
(Applying rated voltage and rated frequency.) | : >=85dBA |
| 4.2.6. Rated Frequency | : 2731Hz |

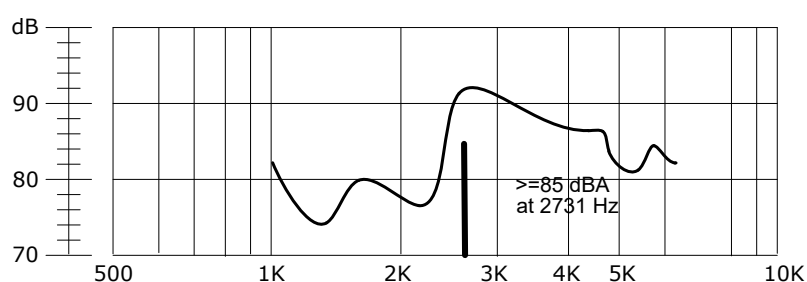


Figure 1. Frequency Response

4.3 Mechanical Requirement

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

4.4 Test Setup

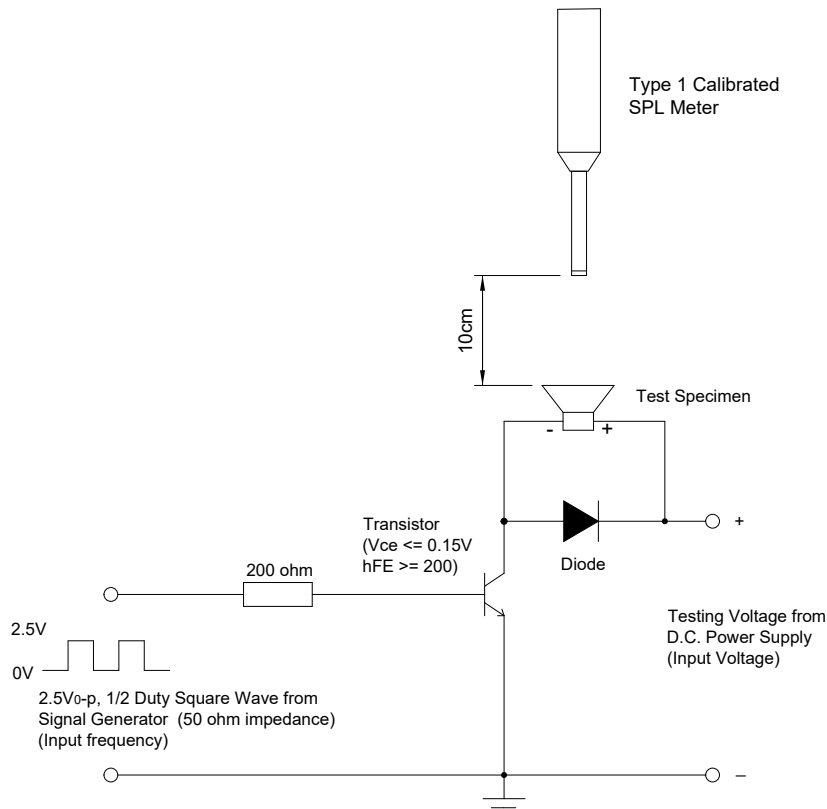


Figure 2. Test Setup

Notes : Apply rated voltage and signal from Signal Generator. Measure SPL using a calibrated SPL meter 10cm from the sound 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. Operating Life** : Subject samples to room condition for 96 hours under rated voltage
- 5.2. High Temperature** : Subject samples to $+60 \pm 3$ °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. Low Temperature** : Subject samples to -20 ± 3 °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.
- 5.4. Temperature Shock** : Each temperature cycle shall consist of 1 hour at -20°C, followed by 1 hour at +60°C with a 20 seconds maximum transition time between temperature extremes. Test duration is for 32 cycles.
- 5.5. 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.
- 5.6. Drop Test** : Drop samples naturally from the height of 1m onto a wooden board six times.

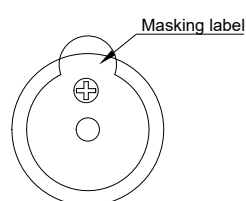
6. Mechanical Layout

Unit : mm

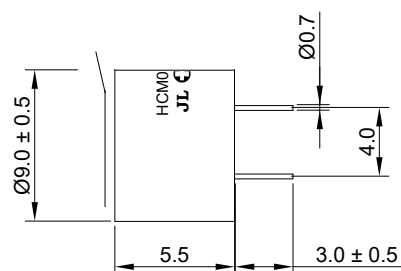
Tolerance : Linear XX.X = ± 0.3
 XX.XX = ± 0.05
 Angular = $\pm 0.25^\circ$

(unless otherwise specified)

Top View



Side View



Bottom View

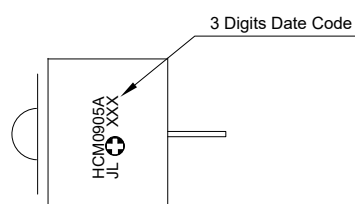
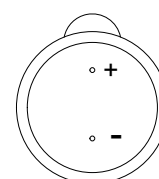


Figure 3. HCM0905A Technical Drawing