



PN: P1511008NM28CMR

DWG #:DB23-011

SPECIFICATION

PRODUCT: Loudspeaker

STETRON PART NUMBER: P1511008NM28CMR

DESCRIPTION: 15 x 11 x 2.5 mm/8 ohms /IP67/RoHS /multi layered front gasket

RFQ: QB18158-V1

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	RS	CS	
DATE	27-July-23	27-July-2023	

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
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**1. Scope**

This document contains the required electrical, acoustic, mechanical and reliability information for a loudspeaker.

2. Environmental Requirements

This loudspeaker including all components, solder joints and glue must be RoHS compliant and meet the customer's known requirements for banned or restricted substances.

3. Test Conditions

	Standard Conditions
Temperature	15 to 35°C
Humidity	25 to 75%
Air Pressure	86 to 106kPa

Note: Above atmospheric test conditions are for acoustic parameters.

4. Electrical Requirements**4.1 Rated Impedance**

8Ω ±15% (2.0 kHz/1Vrms)

4.2 Rated Power

0.8W (in 1cc box)

4.3 Max Power

1.2W (in 1cc box)

4.4 Polarity

When a positive DC current is applied to the terminal marked "+" the diaphragm shall move forward.

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5. Acoustical Requirements

5.1 Sound Pressure Level

82 $\pm$ 3dB on IEC 268-5 Baffle in anechoic chamber @ 2kHz,
0.1W/0.1m

5.2 Resonant Frequency (Fo)

615 Hz $\pm$ 20% in free air @ 1Vrms
constant voltage

5.3 Buzz and Rattle

No audible extraneous noise should occur @ 0.3m when a rated power (2.53Vrms) sweep sine signal from 400Hz to 5kHz is applied to the speaker in 1cc box.

*See Test circuit (Fig 1), Typical Frequency Response (Fig 2), and Typical Impedance (Fig 3) below.

Typical Test Set Up In Anechoic Chamber

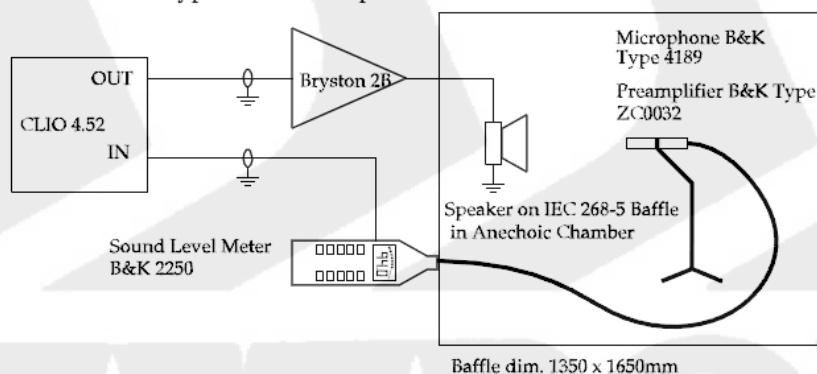


Fig 1. Test set up in Anechoic Chamber

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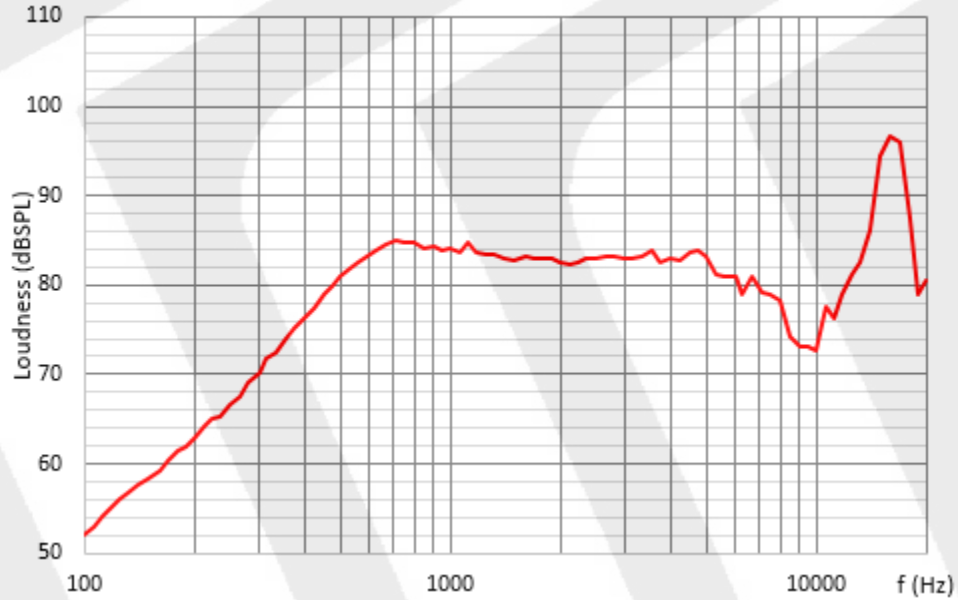


Fig 2. Typical Frequency Response on baffle @ 0.1W/0.1m

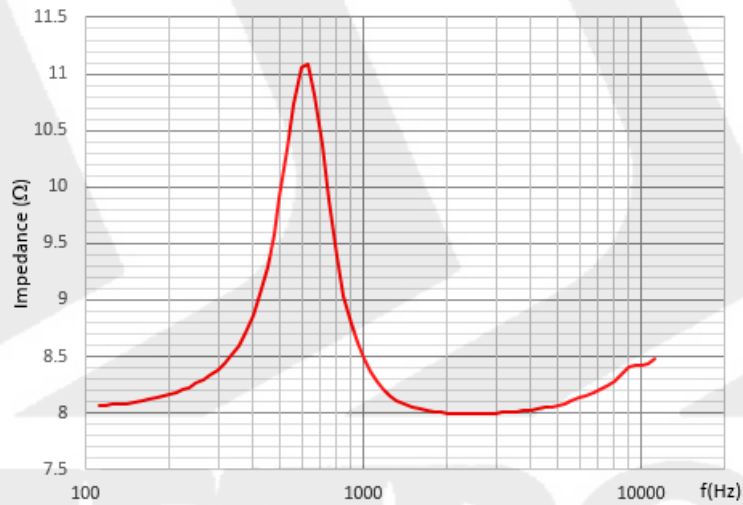


Fig 3. Typical Impedance Curve in Free Air @ 1.0Vrms input

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6. Reliability

6.1 High Temperature

DUTs are exposed to 60°C for 96 hrs

6.2 Low Temperature Test

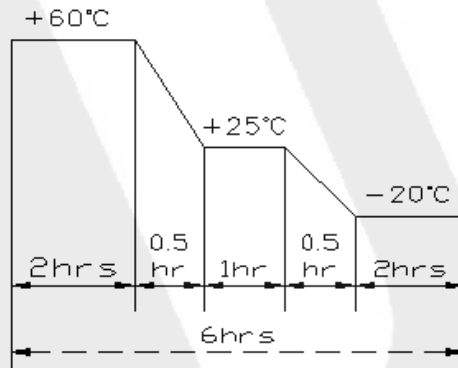
DUTs are exposed to -20°C for 96 hrs

6.3 Humidity Test

DUTs are exposed to 40°C±2°C and R.H of 90% to 95% for 96 hrs.

6.4 Temperature/Humidity Cycle

DUTs are exposed to below conditions for 5 cycles. One cycle shall be for 6 hrs.



6.5 Load Test

DUTs are subjected continuously to white noise (20 Hz to 20 kHz) of 0.8W for 96 hrs.

6.6 Vibration Test

DUTs are subjected to a vibrating cycle of 10-55-10Hz /min for 2 hours on 3 directions (x, y, and z) and with an amplitude of 1.5mm.

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**6.7 Drop Test**

DUTs contained in shipping carton are dropped from a height of 75cm onto a 40mm thick board for 10 times.

6.8 Leakage Test

DUTs are tested using air leak test equipment to simulate immersion in 1m of water for 30 mins.

* Note: After above reliability test 6.1 to 6.8 DUTs shall conform to original performance within $\pm 3\text{dB}$ after 6 hours of recovery time.

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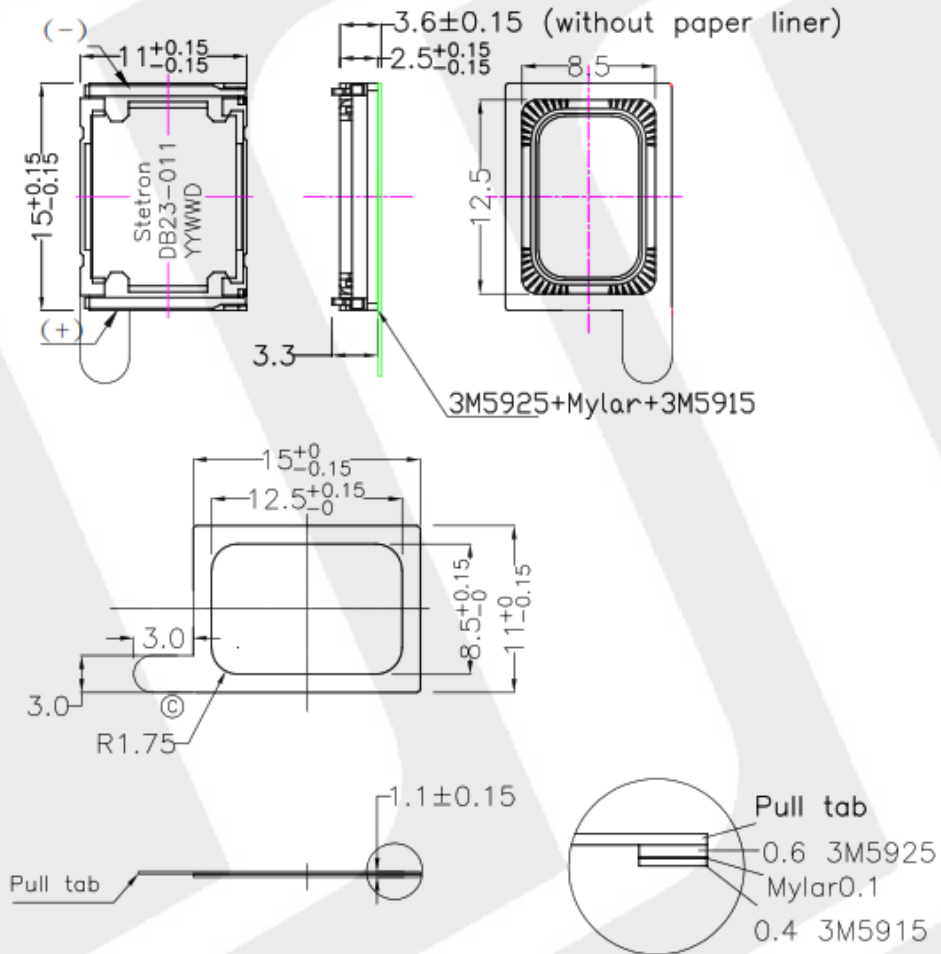
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7. Mechanical Layout and Dimensions



All dimensions in mm.

General tolerance unless specified: ±0.15mm.

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