



PN: D0057008NM130AR

DWG #:DB18-014 Rev0.4

SPECIFICATION

PRODUCT: Loudspeaker

STETRON PART NUMBER: D0057008NM130AR

DESCRIPTION: $\phi 57\text{mm} \times 19.77\text{mm}$ /8ohms/Low Current Consumption/RoHS

RFQ: QB16190-V1

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	<i>YL</i>	<i>RS</i>	
DATE	04-Dec-19	04-Dec-2019	

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
0.0	20-Jun-2018	Original	All Pages	YL
0.1	12-July-2018	Change lead wire length	Page 5	YL
0.2	03-Oct-2018	Change gasket thickness	Page 5	YL
0.3	21-Jan-2019	Change Speaker Markings	Page 5	YL
0.4	04-Dec-2019	Remove preliminary watermark	All Pages	YL

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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	Preferred Conditions
Temperature	15 to 35°C	20 ± 2°C
Humidity	25 to 75%	63 to 67%
Air Pressure	86 to 106kPa	86 to 106kPa

*Note: Above atmospheric test conditions are for acoustic parameters only

4. Electrical Requirements**4.1 Rated Impedance**

6 – 9.2 Ω (1.0KHz/1Vrms)

4.2 Rated Power

1.0W (RMS)

4.3 Max Power

2.0W (RMS)

5. Acoustical Requirements**5.1 Sound Pressure Level**

>91.2dB (on IEC 268-5 Baffle in anechoic chamber @ 1W/1m @ 520 Hz)

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5.2 Resonant Frequency (Fo)

510 Hz $\pm$ 20% @ 1Vrms constant voltage – free air

5.3 Frequency Range

Fo to 3 kHz (SPL-10dB) @ 1W/1m

5.4 Buzz and Rattle

No audible buzzing shall occur at $\geq 0.3\text{m}$ distance when 2.83Vrms sine wave from 510 Hz to 3 kHz is applied to the speaker.

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

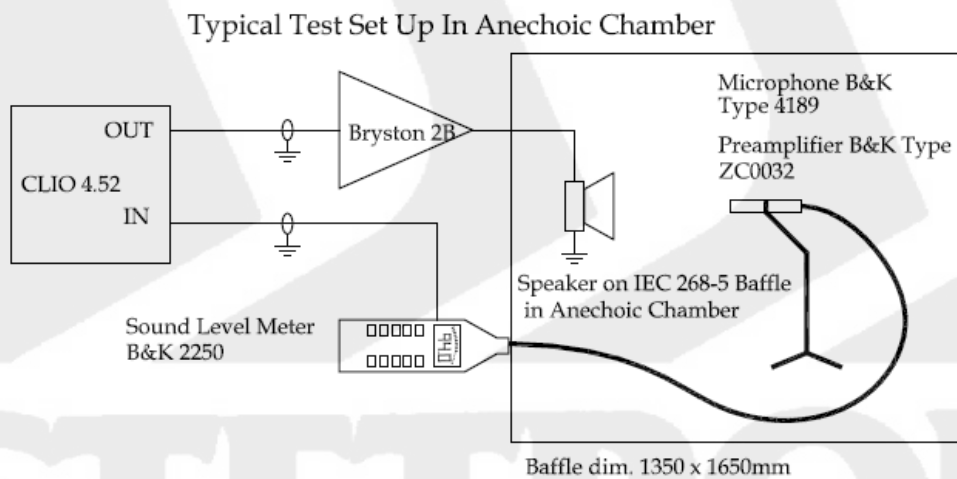


Fig 1. Test set up in Anechoic Chamber

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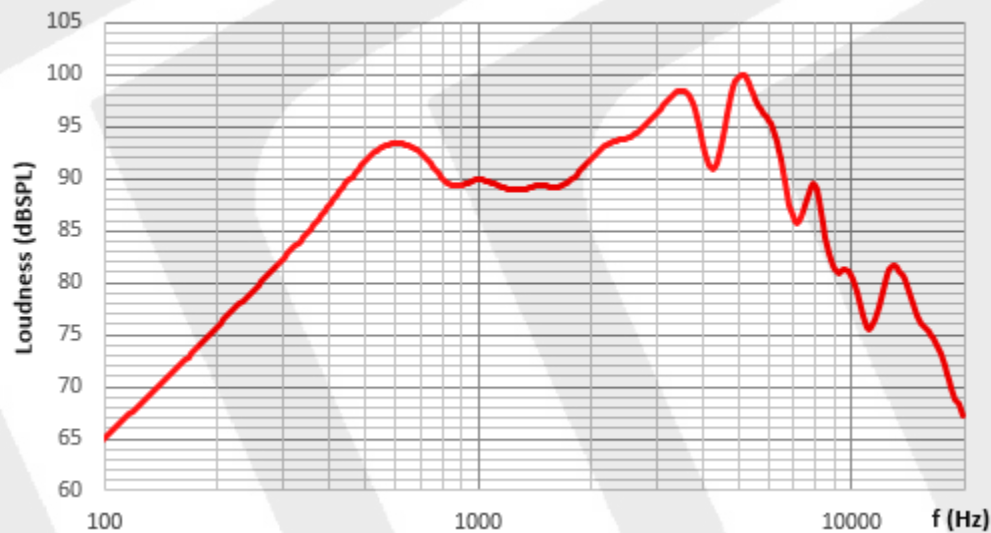


Fig 2. Typical Frequency response @ 1W/1m

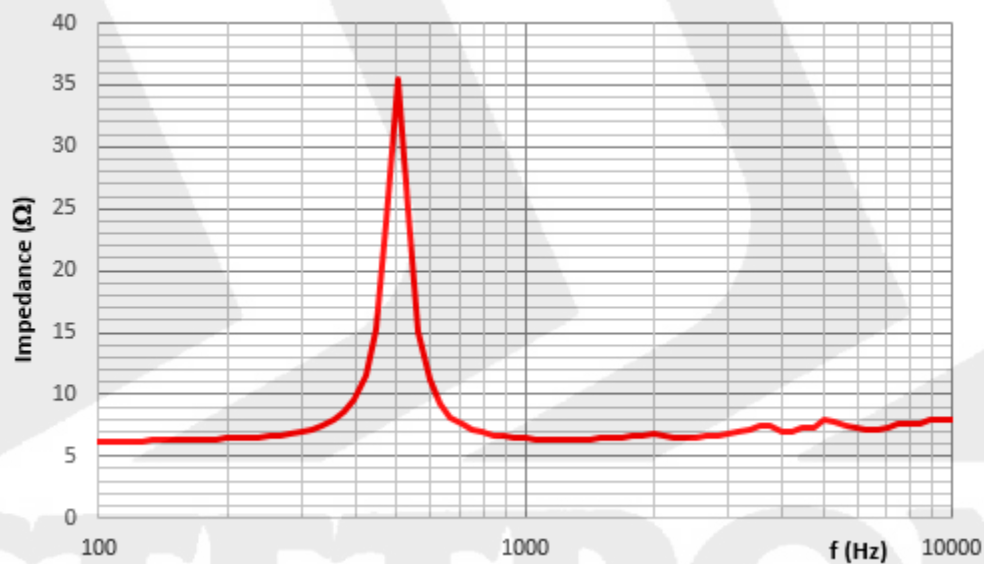


Fig 3. Typical Impedance Curve in Free Air @ 1Vrms input

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**6. Reliability****6.1 High Temperature**

Speakers are exposed to $60^{\circ}\text{C} \pm 3^{\circ}\text{C}$, R.H. random for 96 hrs.

6.2 Humidity

Speakers are exposed to $40^{\circ}\text{C} \pm 3^{\circ}\text{C}$, R.H. 90 – 95% for 96 hrs.

6.3 Low Temperature

Speakers are exposed to $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$, R.H. random for 96 hrs.

6.4 Rated Power

Speakers are exposed continuously to 1W (2.83Vrms) white noise (20 ~ 20K Hz) for 96 hrs.

6.5 Max Power

Speakers are fed with 2W (4.0Vrms) white noise (20 ~ 20K Hz) for 1min.

*Note: After any of the above tests (6.1 to 6.5) leave speakers for 1 hr at room temperature and speakers must meet items 5.1 and 5.3.

6.6 Drop Test

Speakers properly packaged in their shipping carton are dropped on each side of the carton except the top from a height of 80cm (Carton GW $\leq$ 10 kg) or 60 cm (10 kg < Carton GW $\leq$ 25 kg). After test there shall be no audible buzz or rattle and the speakers shall not exhibit any physical damage.

6.7 Transportation and Storage

$T_{\text{max}} = +60^{\circ}\text{C}$, $T_{\text{min}} = -20^{\circ}\text{C}$

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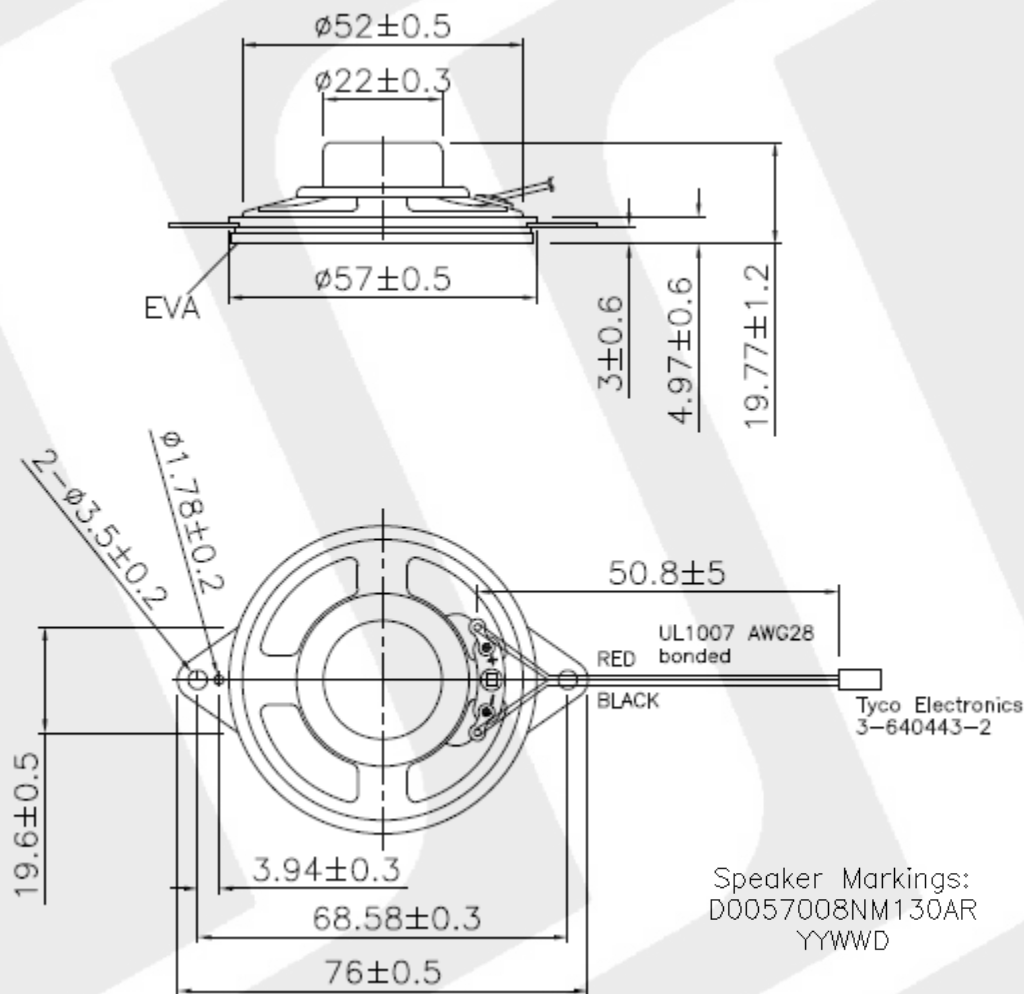
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7. Mechanical Layout and Dimensions



All dimensions in mm

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