



PN: D5353004NR023WER

DWG #:DB21-018 Rev0.1

SPECIFICATION

PRODUCT: Dynamic Loudspeaker

STETRON PART NUMBER: D5353004NR023WER

DESCRIPTION: 53 x 53 x 22.2mm/4 ohms/RoHS/With twisted lead wire

RFQ: QB19158

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	CS	RS	
DATE	28-June-2021	28-June-2021	

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
0.0	25-May-2021	Original (from DB20-003 Rev 0.1)	All Pages	CS
0.1	28-June-2021	Removed Preliminary Stamp, Updated tolerance on dwg	All pages	CS

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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.

Note: Normal environmental conditions A.T. 15-35°C, H.M. 25-75%, B.P. 86-106kPa

3. Electrical Requirements

3.1 Rated Impedance $4\Omega \pm 15\%$ (1.0 kHz)

3.2 Rated Power 3.0W (RMS)

3.3 Max Power 4.0W (RMS)

4. Acoustical Requirements

4.1 Sound Pressure Level $82 \pm 3\text{dB}$ (on IEC 268-5 Baffle in anechoic chamber @ 1W/1m avg. @ 0.8, 1.0, 1.2 and 1.5 kHz)

4.2 Resonant Frequency (Fo) $150\text{ Hz} \pm 20\%$ @ 1Vrms constant voltage – free air

4.3 Total Harmonic Distortion (THD) Max 9% from 200 Hz to 500 Hz

*All THD at 1W/1m Max 3% from 501 Hz to 10 kHz

4.4 Frequency Range Fo to 10 KHz (@1W/1m, SPL -10dB)

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4.5 Buzzes & Rattles

No audible buzzing shall occur at 0.3m distance when a rated power (3.46Vrms) sine wave from Fo to 2kHz is applied to the speaker.

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

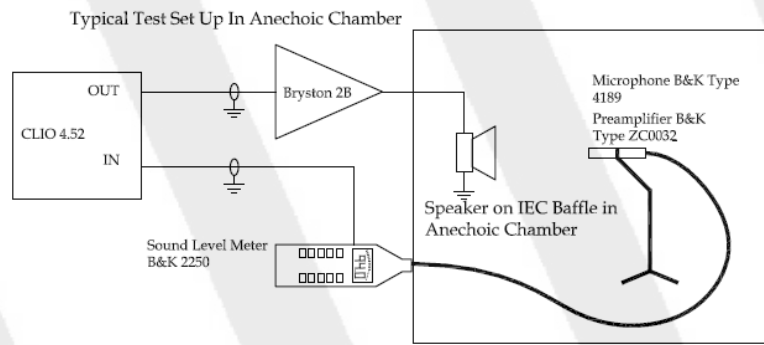


Fig 1. Test set up in Anechoic Chamber

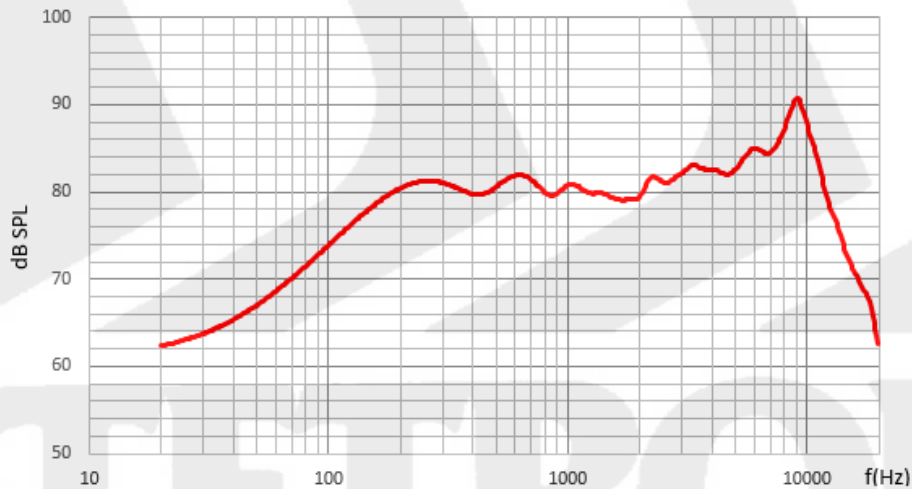


Fig 2. Typical Frequency Response @ 1W/1m

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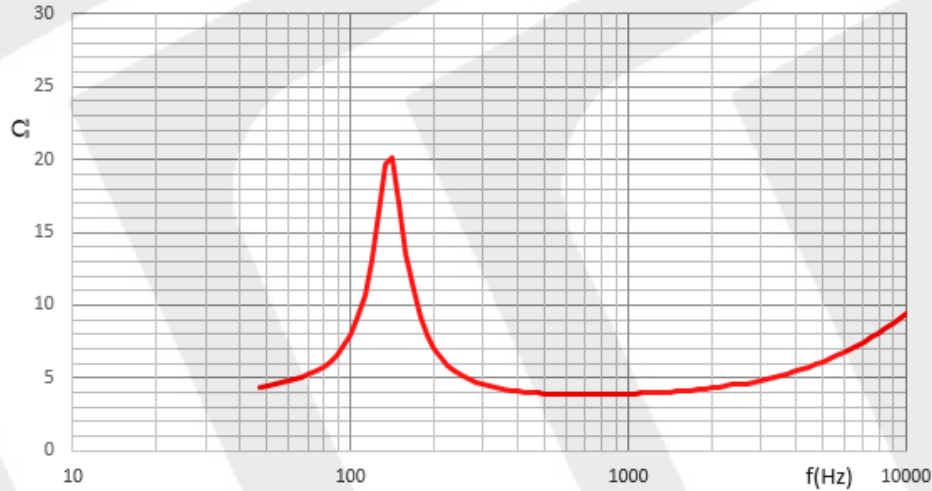


Fig 3. Typical Impedance Curve

5. Reliability

5.1 High Temperature

Speakers are fed with $\frac{1}{4}$ rated white noise power (1.73Vrms) at $55 \pm 2^\circ\text{C}$ for 16 hrs, then deposited at constant temperature for 2 hrs, completing testing within 1 hour after withdrawing

5.2 Humidity

Speakers are exposed to $40 \pm 2^\circ\text{C}$, H.M. 90%-95% for 48 hrs, then resumed at normal atmospheric conditions for 24 hrs.

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**5.3 Low Temperature**

Speakers are fed with $\frac{1}{4}$ rated white noise power (1.73Vrms) at $-10 \pm 3^\circ\text{C}$ for 1 hour, deposited at $-25 \pm 3^\circ\text{C}$ for 2 hrs, then resumed at normal atmospheric conditions for 4 hours.

*Note: After test 5.1-5.3 speakers must meet the requirements of appearance and buzzes & rattles test.

5.4 Rated Power

Speakers are exposed continuously to 3.0W (3.46Vrms) white noise for 100 hrs.

5.5 Max Power

Speakers are exposed to 4.0W (4.0Vrms) simulant program signal for 1 min on & 2 min off, cycling for 10 times.

*Note: After test 5.4-5.5 speakers must meet items 3.1, 4.1, 4.2, 4.3, and 4.5.

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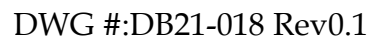
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All dimensions in mm
All unspecified tolerances according to IT13 grade
Customer Part No: 135-003251

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