



PN: P3020008NM04CMR

DWG #:DB23-015

SPECIFICATION

PRODUCT: Loudspeaker

STETRON PART NUMBER: P3020008NM04CMR

DESCRIPTION: 30 x 20 x 4.6 mm/8 ohms /Waterproof up to IPX7 for 30 mins/RoHS

RFQ: QG23023

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	CS	RS	
DATE	21-Nov-23	21-Nov-2023	

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
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Preliminary Specification

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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**

8 Ω \pm 15% (2.0 kHz/1Vrms)

4.2 Rated Power

1.0 W

4.3 Max Power

1.5 W

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

98 ± 3 dB on IEC 268-5 Baffle in anechoic chamber @ 0.6, 0.8, 1.0, 1.2 kHz, 1W/0.1m

5.2 Resonant Frequency (F₀)

650 Hz ± 20% in free air @ 1Vrms constant voltage

5.3 Total Harmonic Distortion (THD)

<5% @ 1 kHz; 0.1W/0.1m

5.4 Frequency Range

F₀- 20kHz (SPL-10dB) @ 1W/0.1 m

5.5 Buzz and Rattle

No audible extraneous noise should occur @ 0.3m when a rated power (2.83Vrms) sweep sine signal from F₀ to 5 kHz is applied to the speaker.

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

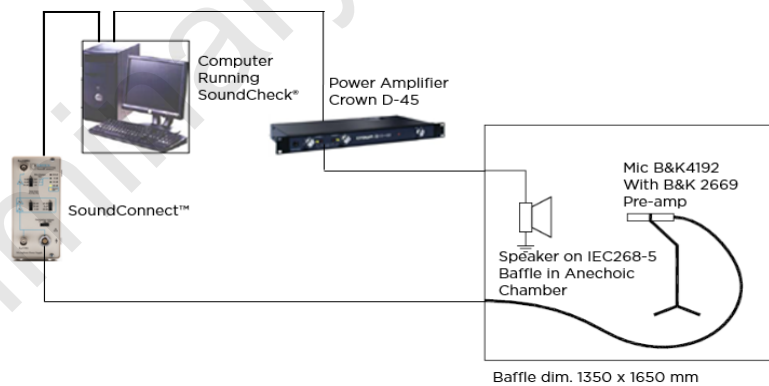


Fig 1. Test set up in Anechoic Chamber

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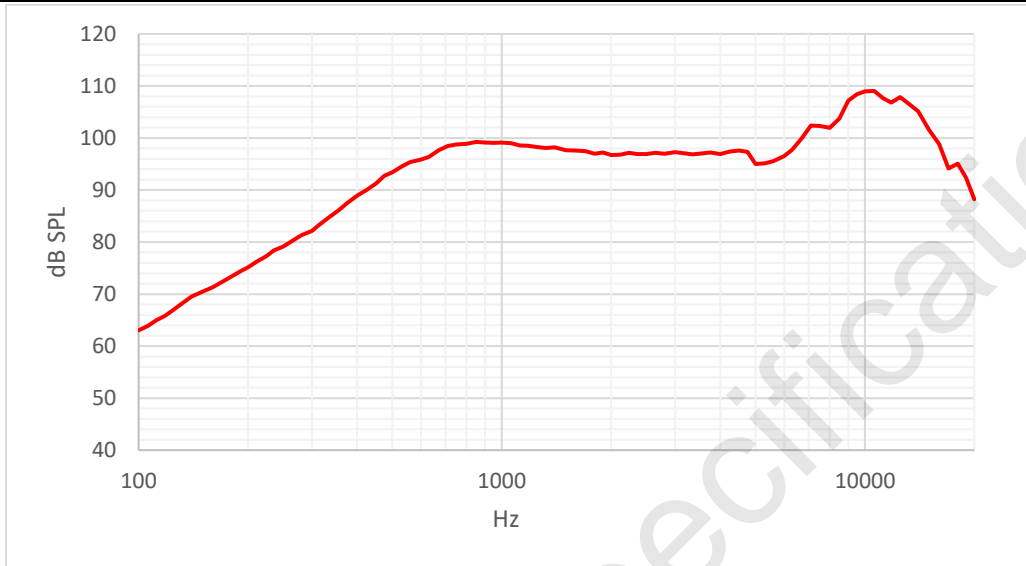


Fig 2. Typical Frequency Response on baffle @ 1W/0.1m

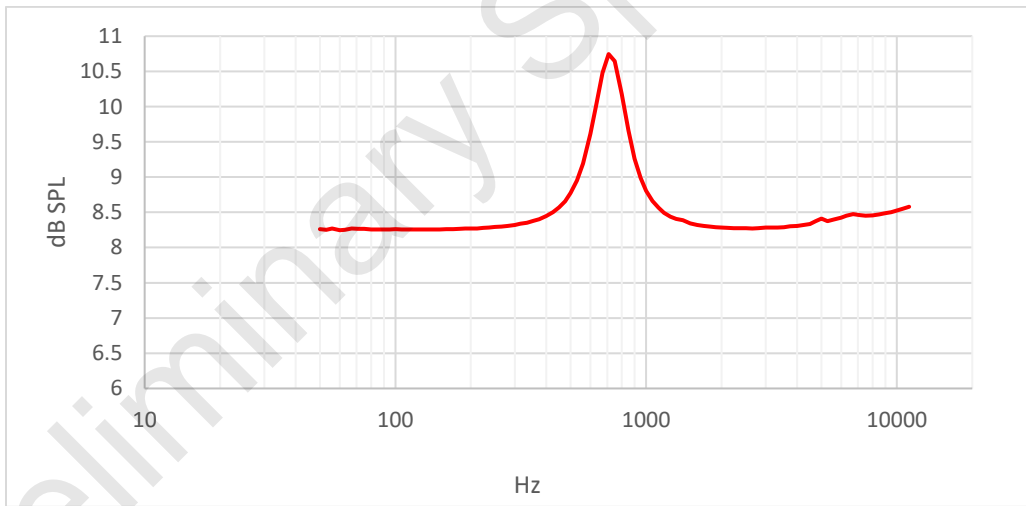


Fig 3. Typical Impedance Curve in Free Air @ 1.0Vrms input

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6. Reliability

6.1 High Temperature

DUTs are exposed to $60\pm 3^{\circ}\text{C}$ for 96 hrs

6.2 Low Temperature Test

DUTs are exposed to $-20\pm 3^{\circ}\text{C}$ for 96 hrs

6.3 Humidity Test

DUTs are exposed to $40\pm 2^{\circ}\text{C}$ and R.H of 90% to 95% for 96 hrs.

6.4 Load Test

DUTs are subjected continuously to white noise (20 Hz to 20 kHz) at Rated Power of 1.0 W for 96 hrs.

6.5 Max Power Test

DUTs are subjected to white noise (20 Hz to 20 kHz) at Max Power of 1.5 W for 1 minute.

6.6 Vibration Test

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

6.7 Drop Test

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

Note: After reliability tests 6.1 to 6.7 DUTs shall conform to original performance within $\pm 3\text{dB}$ after 6 hours of recovery time when tested with Rated Power.

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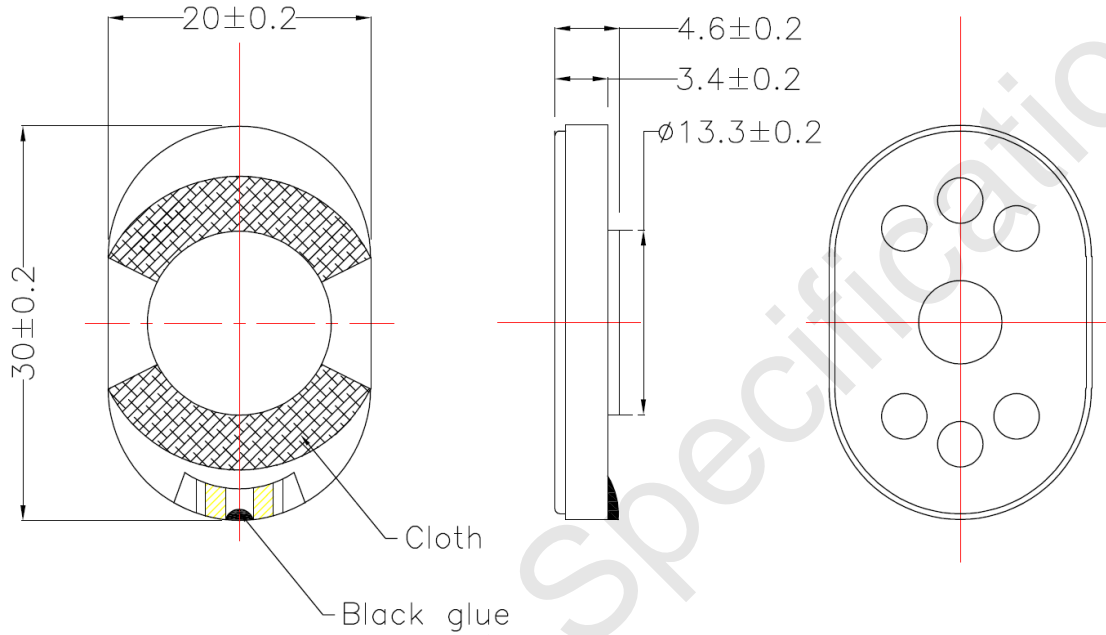
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7. Mechanical Layout and Dimensions



All dimensions in mm.
 General tolerance unless specified: ± 0.5 mm.

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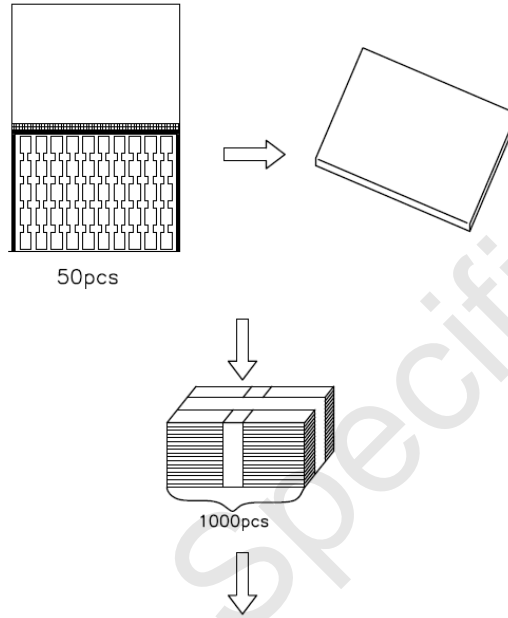
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8. Packaging



	 QUANTITY:1000PCS GROSS WT: 5 KGS NET WT: 3.5 KGS MEAS: 29.5*23*30		 QUANTITY:1000PCS GROSS WT: 5 KGS NET WT: 3.5 KGS MEAS: 29.5*23*30

All dimensions in cm
 50 pc/tray, 20 Trays/carton
 Total 1000 pc/carton
 Carton Size: 29.5 x 23 x 30 cms

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