SPECIFICATION

PRODUCT: Dynamic Loudspeaker

STETRON PART NUMBER: D0040008NM89WER

DESCRIPTION: 40mmx6.5mm/8 ohms/RoHS/with 0.5mm double sided tape, wires and MOLEX connector, IP67 from the front face

RFQ: QB25108-W

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	*CS*	RS	RS
DATE	02-Jul-2025	July 2-025	July 2-2025

CUSTOMER APPROVAL	SIGNATURE	DATE

STETRON
90 Broadway, Buffalo, NY USA 14203-1687
2651 John Street, Unit 4, Markham Ontario, L3R 2W5
Phone (USA): + (716) 854-3443 Fax: + (716) 854-3448 Email: contact@stetron.com
Phone (Canada): + (905) 475-6202 Fax: + (905) 475-1926 Website: www.stetron.com

REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
0.0	12-Mar-25	Original	All Pages	CS
0.1	02-Jul-25	Updated Testing setup, Added Speaker Markings, Packaging and Production stamp	All Pages	CS

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Contents

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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	8Ω ±15% (2.0 kHz)
3.2 Rated Power	2.0 W (RMS)
3.3 Max Power	2.5 W (RMS)

4. Acoustical Requirements

4.1 Sound Pressure Level	93 ± 3dB (on IEC 268-5 Baffle in anechoic chamber @ 0.1W/0.1m avg @ 580, 0.8k, 1k, 1.2k, and 1.5k Hz)
4.2 Resonant Frequency (F_0)	550 ± 15% Hz @ 1Vrms constant voltage – free air
4.3 Total Harmonic Distortion (THD)	Max 2% at 1 kHz @ 1W/0.1m
4.4 Frequency Range	F_0 - 10 kHz (0.1W/0.1m SPL -10 dB)

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4.5 Buzzes & Rattles

No audible buzzing shall occur at 0.3m distance when a rated power (4.0 Vrms) sine wave from 200 Hz to 3.4 kHz is applied to the speaker.

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

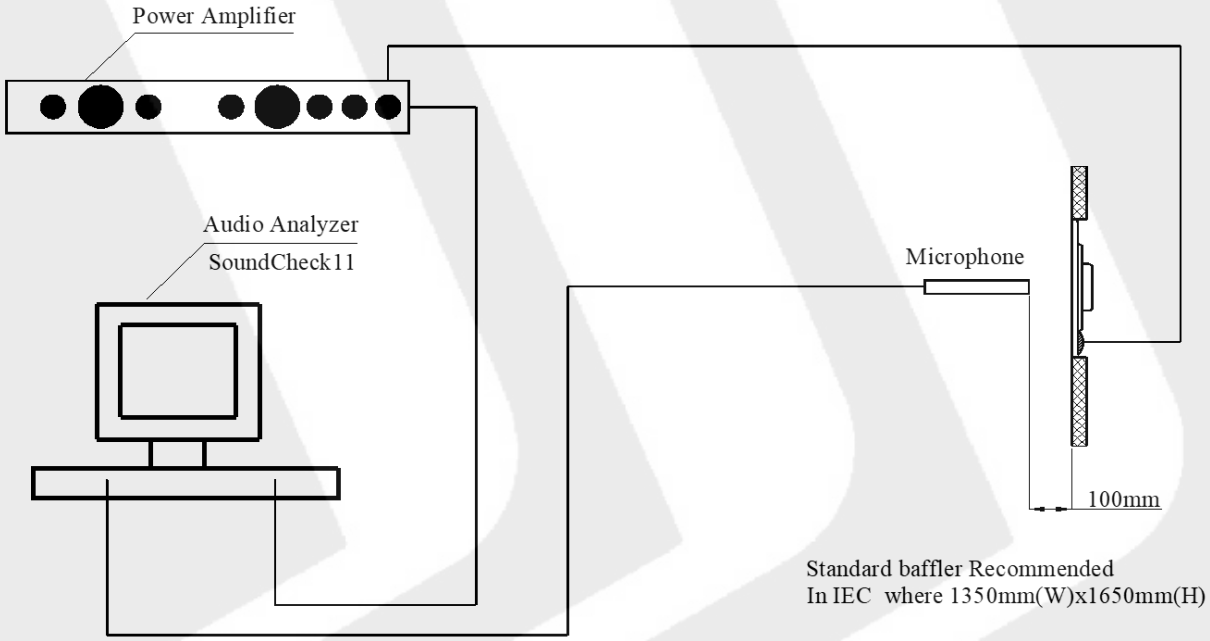


Fig 1. Test set up in Anechoic Chamber

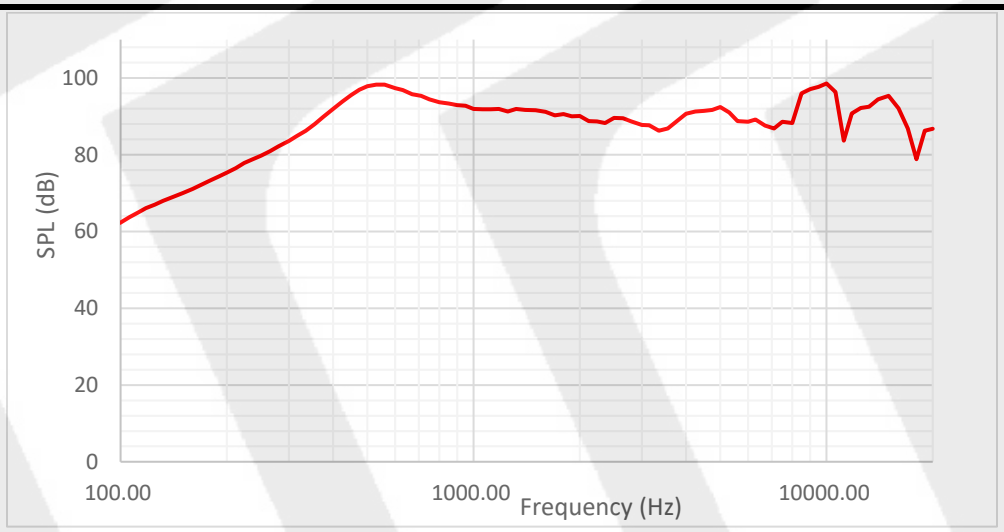


Fig 2. Typical Frequency Response @ 0.1W/0.1m

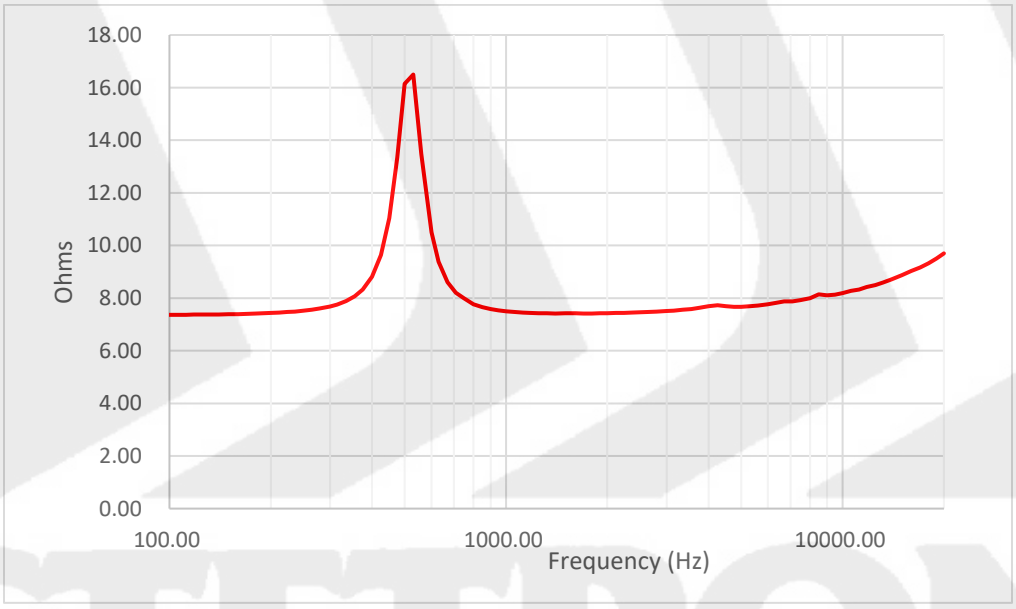


Fig 3. Typical Impedance Curve

5. Reliability

5.1 High Temperature

Speakers are fed with ¼ white noise power at 55 ± 2°C for 16 hrs, then deposited at constant temperature for 2 hrs, completing testing within 1 hour after withdrawing.

5.2 Static Humidity

Speakers are exposed to +40 ± 2 °C, RH 90%-95% environment for 48hrs, then deposited at normal atmosphere conditions for 24 hrs.

5.3 Low Temperature

Speakers are fed with ¼ white noise power at -10± 3°C for 1 hour, deposited at -25± 3°C for 2 hrs, then resume at normal atmosphere conditions for 4 hours.

*Note: After 5.1-5.3 tests each speaker must meet appearance and Buzzes & Rattles requirement.

5.4 Rated Power

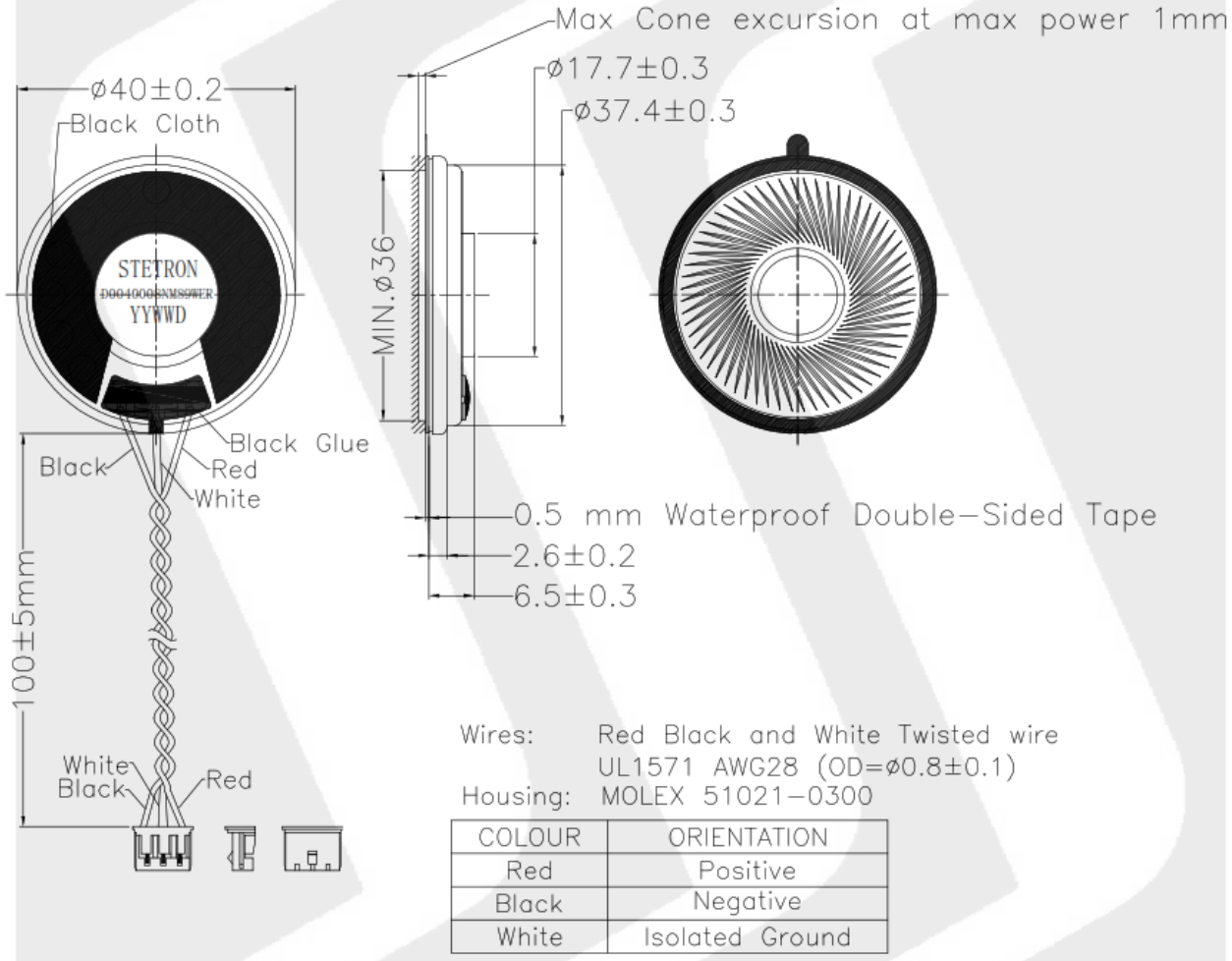
Speakers are exposed continuously to 2.0 W white noise for 96 hours.

5.5 Max Power

Speakers are exposed to 2.5 W simulant program signal for 1 min on & 2 min off, cycling for 10 times.

*Note: After above test each speaker must meet 3.1, 4.1, 4.2, 4.3 and 4.5.

6. Mechanical Layout and Dimensions



Wires: Red Black and White Twisted wire
UL1571 AWG28 (OD=ø0.8±0.1)
Housing: MOLEX 51021-0300

COLOUR	ORIENTATION
Red	Positive
Black	Negative
White	Isolated Ground

All dimensions in mm

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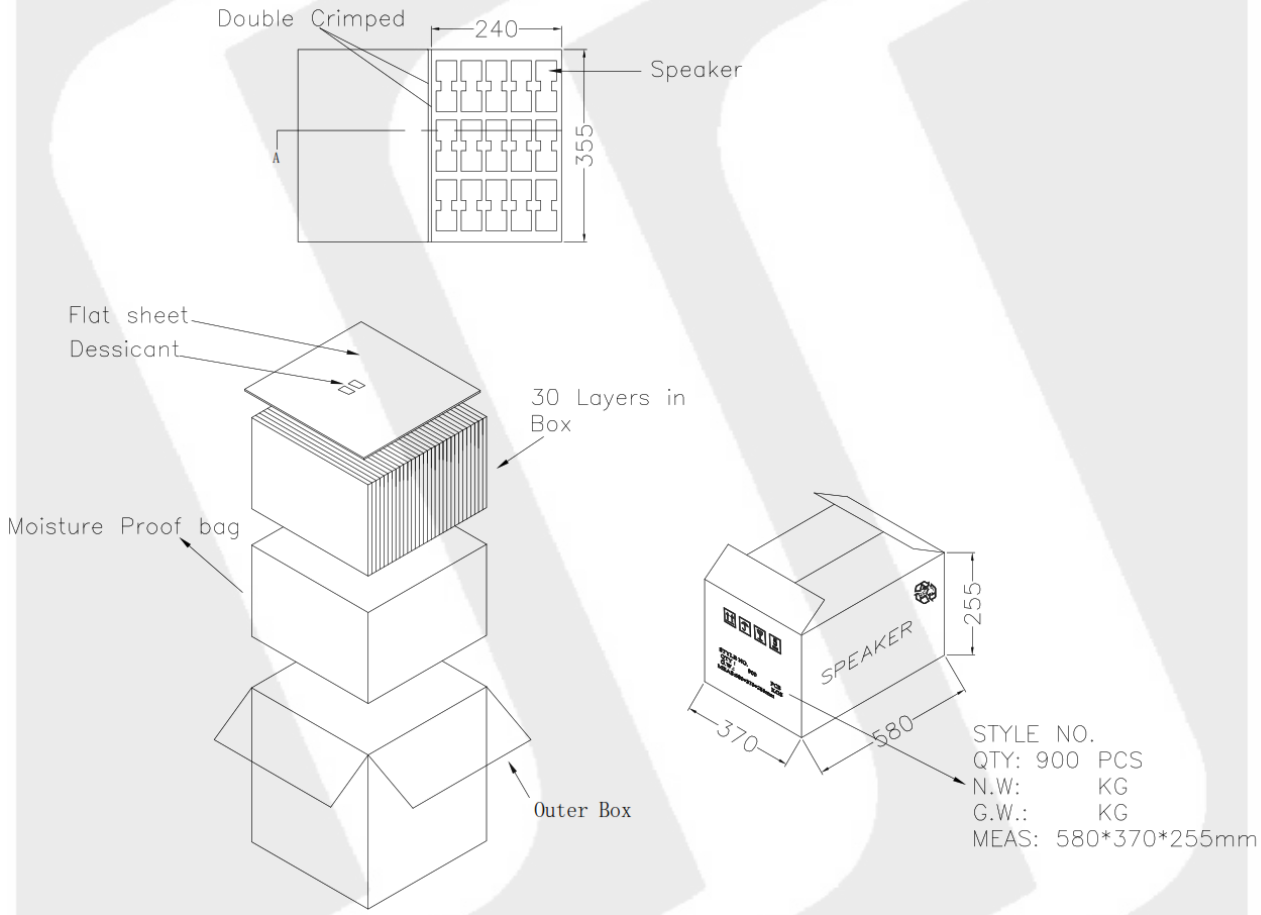
7. Packaging



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