Tectonic

TEBM46C20N-4B
Data Sheet

TEBM46C20N-4B Balanced Mode Radiator

✓RoHS
COMPLIANT

Features

- Wide bandwidth and wide directivity
- Impedance: 4 ohm
- Dimensions: 68mm x 68mm
- Thickness: 34.65mm
- Mass: 194g

Applications

- Sound bars
- Portable speakers
- Internet radios
- Docking stations
- Wireless speakers

Description

The TEBM46C20N-4B Balanced-Mode Radiator (BMR) is an audio drive unit with an extended frequency response and wide directivity compared with a conventional drive unit. It combines the benefits of Tectonic bending-wave technology and pistonic modes of operation. It is ideally suited for compact audio applications that require a full-range, high performance acoustic solution.

Parameters

Parameter	Description	min	typ	max	Units
R_e	DC resistance	-10%	3.94	+10%	Ω
L_e	Inductance (10 kHz)	-10%	0.03	+10%	mH
BL	Force factor	-10%	4.49	+10%	Tm
f_s	Resonance frequency	-20%	170	+20%	Hz
SPL	Sound Pressure Level @ 1W, 1m	83	85	86	dB
dDrv	Voice coil diameter	-	32	-	mm
M_{ms}	Moving mass	-10%	2.26	+10%	g
C_{ms}	Compliance	-12%	0.39	+12%	mmN^{-1}
R_{ms}	Suspension Loss	-15%	0.16	+15%	Nsm^{-1}
S_d	Radiating Area	-	19.6	-	cm^2
$X_{mech\ max}$	Maximum coil excursion (p-p)	-	8.0	-	mm
V_{AS}	Equivalent volume	-	0.32	-	L
Q_{ms}	Mechanical quality factor	-15%	15.16	+15%	
Q_{es}	Electrical quality factor	-15%	0.47	+15%	
Q_{ts}	Total quality factor	-20%	0.46	+20%	

Operating conditions

Condition	Value
Continuous power handling (weighted pink noise, 150Hz HP filter)	20W
Operating temperature range	-20 to 55° C
Audio frequency range	100Hz to 20kHz

Measured response – on axis SPL

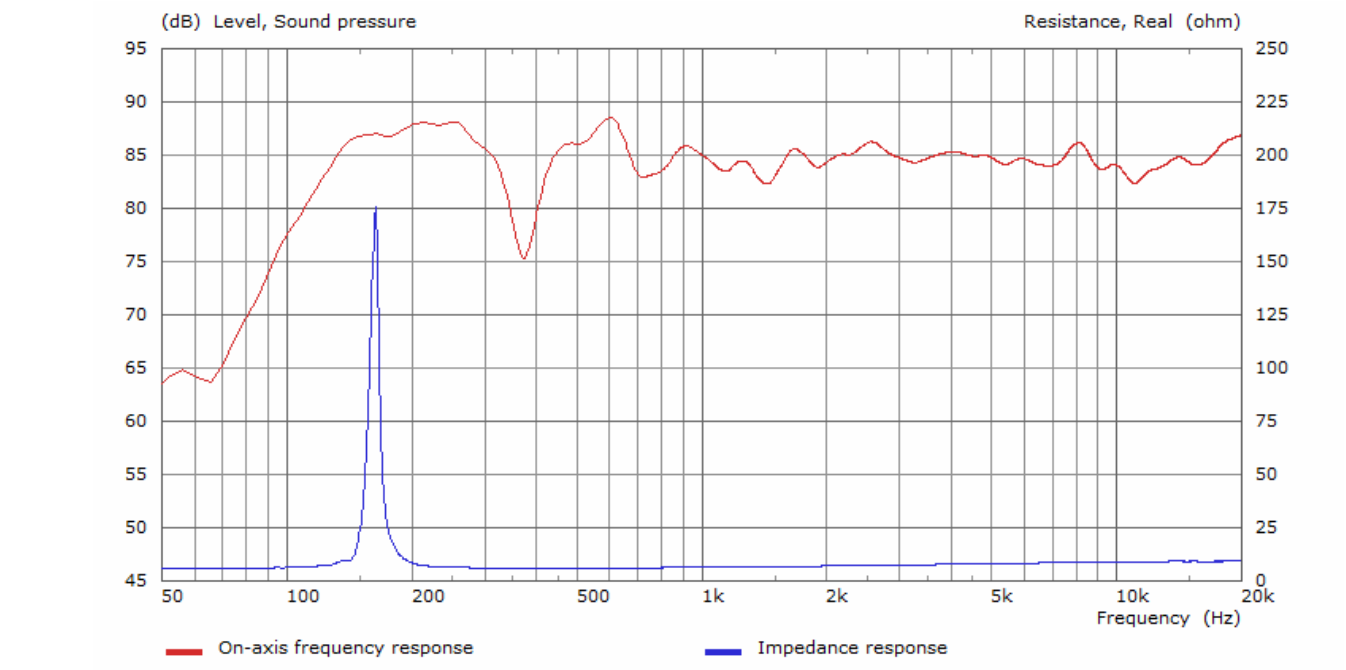

Fig. 1: Red – On-axis frequency response, 1/3rd octave smoothed, corrected to 1W/1m. Drop at 370Hz due to baffle dimensions. Blue – Impedance response.

Measured response – adjusted power response over frontal hemisphere

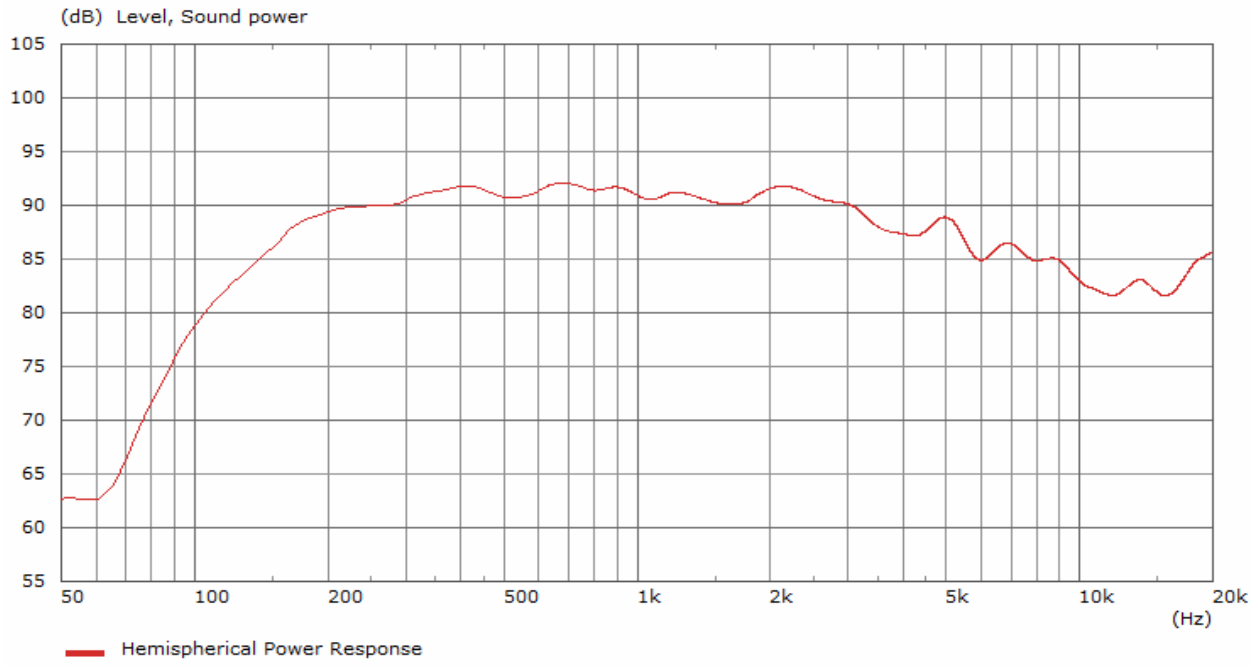

Fig. 2: Hemispherical power response, 1/3rd octave smoothed, corrected to 1W/1m.

Outline Drawing

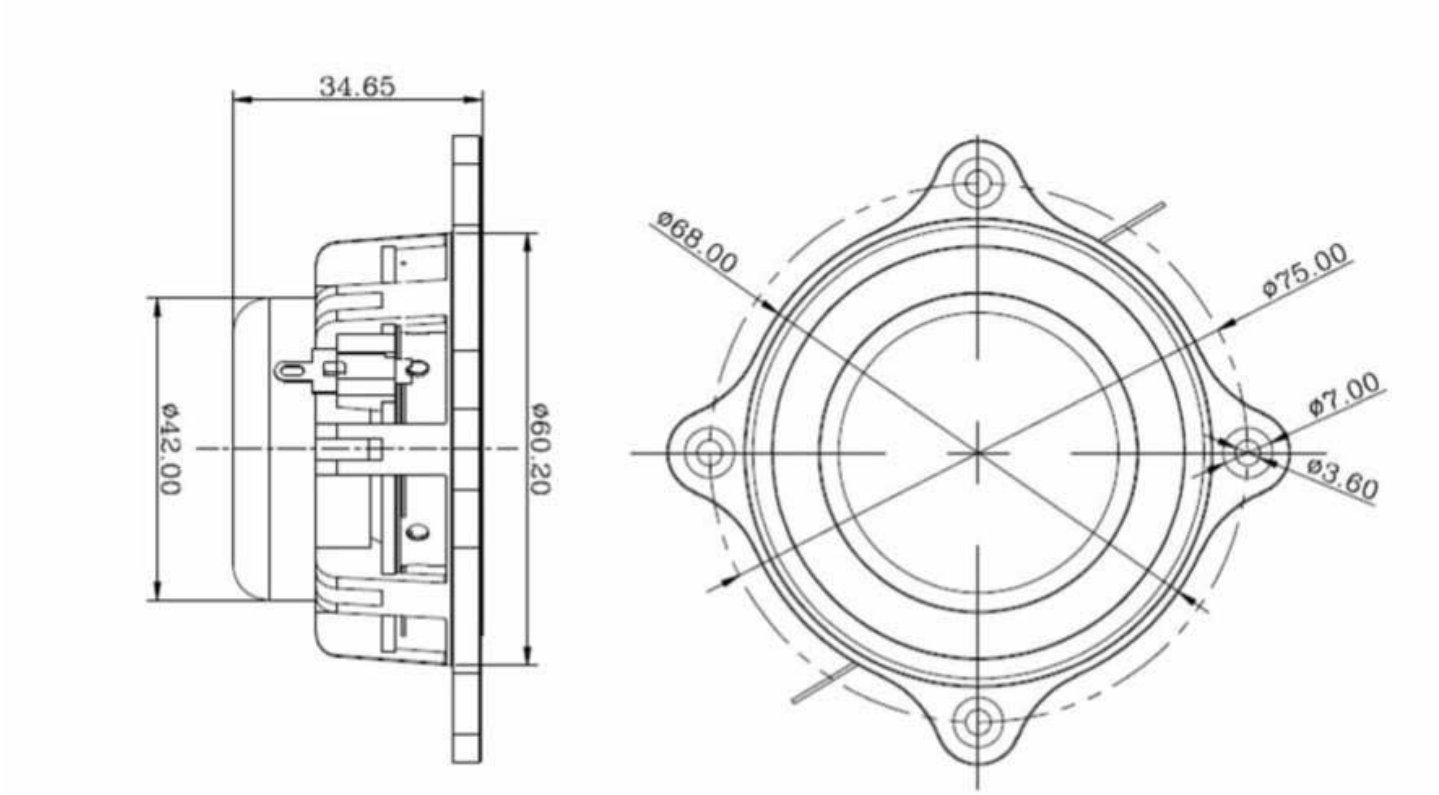

Figure 5: Nominal dimensions

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