Tectonic

TEBM35C10-4
Data Sheet

TEBM35C10-4 Miniature BMR® Driver

✓RoHS
COMPLIANT

Features

- Full range: 100Hz – 20kHz
- Extremely wide directivity; 180°
- Nominal Impedance: 4 Ω
- Diameter: 52mm (54mm OD max)
- Depth: 25.1mm
- Mass: 51.3g

Applications

- Portable speakers
- Sound bars and stands
- Flat TV speakers
- Conference speaker phone

Description

The TEBM35C10-4 BMR® is an audio drive unit with an extended frequency response and extremely wide directivity. It combines the benefits of Tectonic Elements bending-wave technology and pistonic modes of operation.

The small form-factor is ideally suited for compact products that require a full-range drive unit, room filling sound and a high performance acoustic solution.

Parameters

Parameter	Description	min	typ	max	Units
R_e	DC resistance	-10%	4.2	+10%	Ohms
L_e	Inductance (@ 10kHz)	-10%	0.06	+10%	mH
BL	Force factor	-10%	1.85	+10%	Tm
f_s	Resonant frequency	-20%	185	+20%	Hz
SPL	Sound Pressure Level @ 1W, 1m	78	80	81	dB
dDrv	Voice coil diameter	-	20.4	-	mm
M_{ms}	Moving mass	-10%	1.0	+10%	g
C_{ms}	Compliance	-12%	0.73	+12%	mmN^{-1}
R_{ms}	Suspension Loss	-15%	0.26	-15%	Nsm^{-1}
$X_{mech\ max}$	Maximum coil excursion (p-p)	-	8.0	-	mm
Sd	Effective piston area	-	11.04	-	cm^2
V_{AS}	Equivalent volume	-	0.12	-	L
Q_{ms}	Mechanical quality factor	-15%	4.47	+15%	
Q_{es}	Electrical quality factor	-15%	1.45	+15%	
Q_{ts}	Total quality factor	-20%	1.09	+20%	

Operating conditions

Condition	Value
Power handling (continuous, weighted pink noise)	10W
Operating temperature range	-20 to 55° C
Audio frequency range	100Hz to 20kHz

Measured Response – on axis SPL

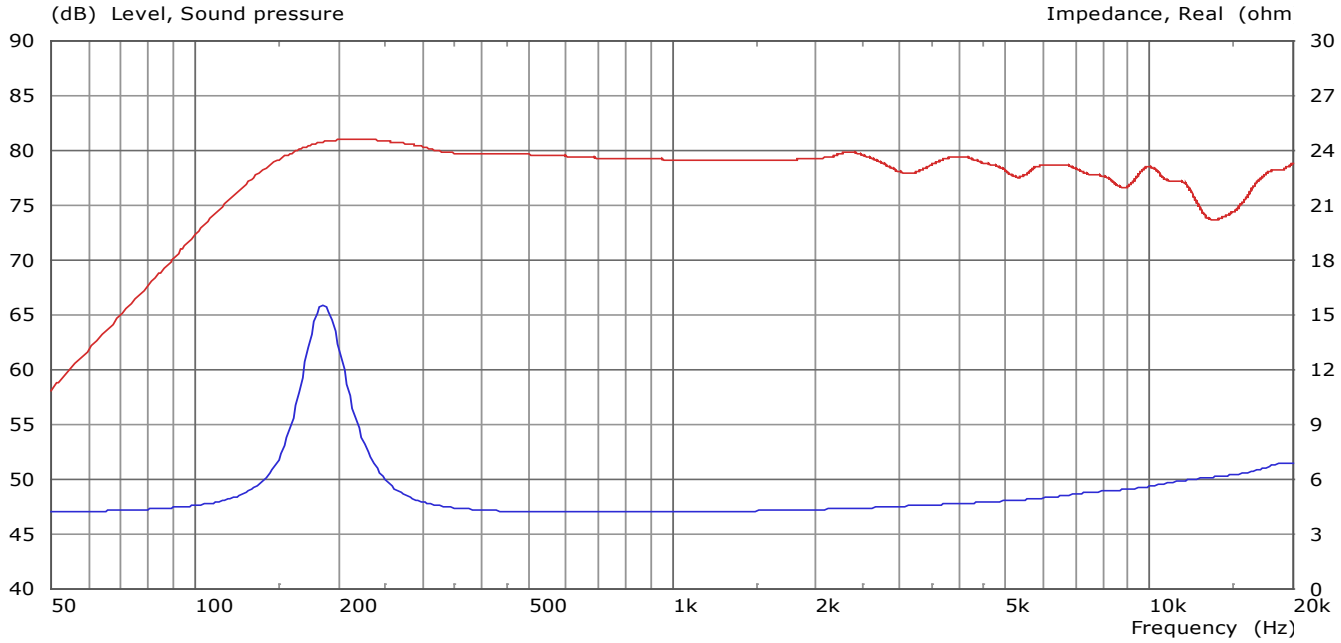

Figure 1: Red: on-axis SPL at 1W/1m (1/3-octave smoothed/spliced anechoic measurement) Blue: Impedance

Measured Response – adjusted power response over frontal hemisphere

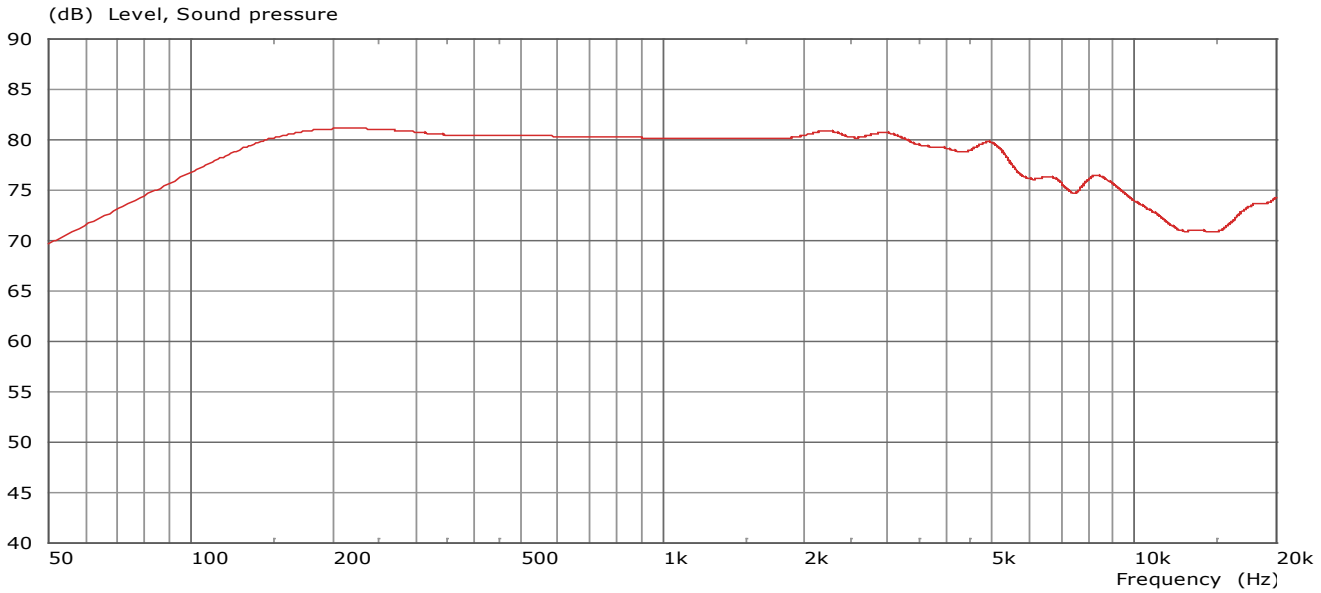

Figure 2: Power Response calculated across -90 -> +90 degrees, 1W/1m, (1/3-octave smoothed/spliced, -11 dB)

Polar – off axis measurements in anechoic chamber at various angles

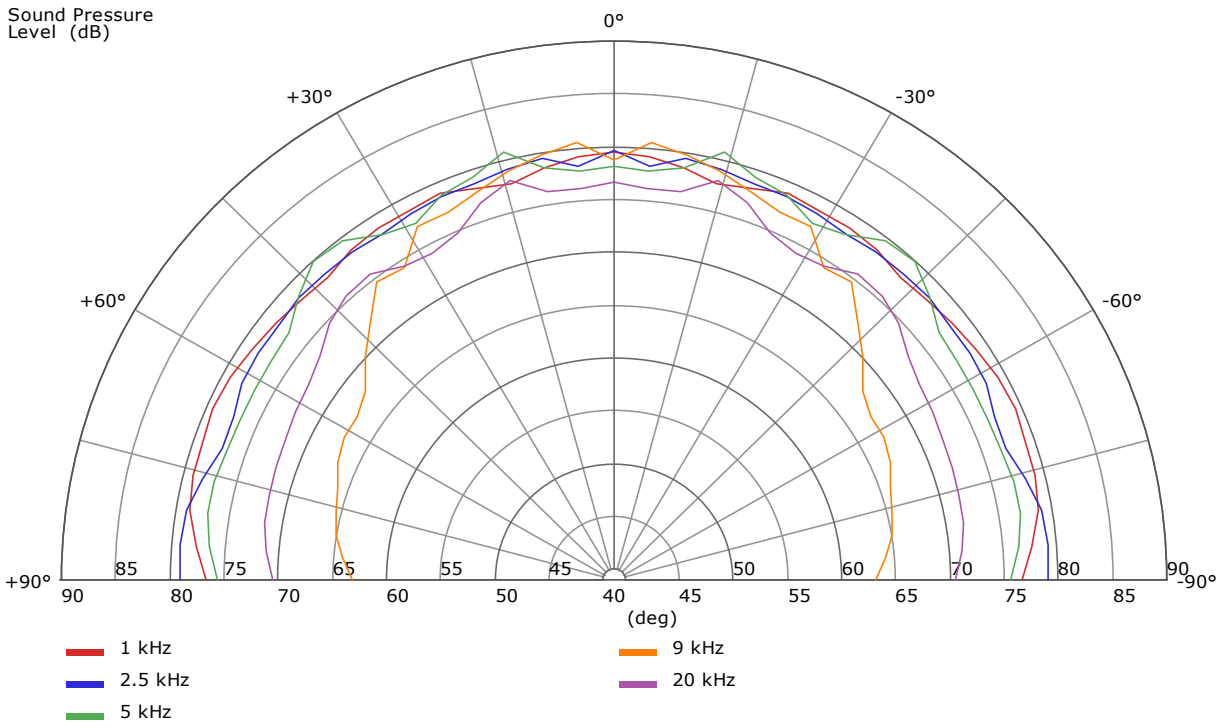

Figure 3: Polar response, angle/dB SPL, input level 1 Watt (1/3rd octave smoothing)

Outline Drawing

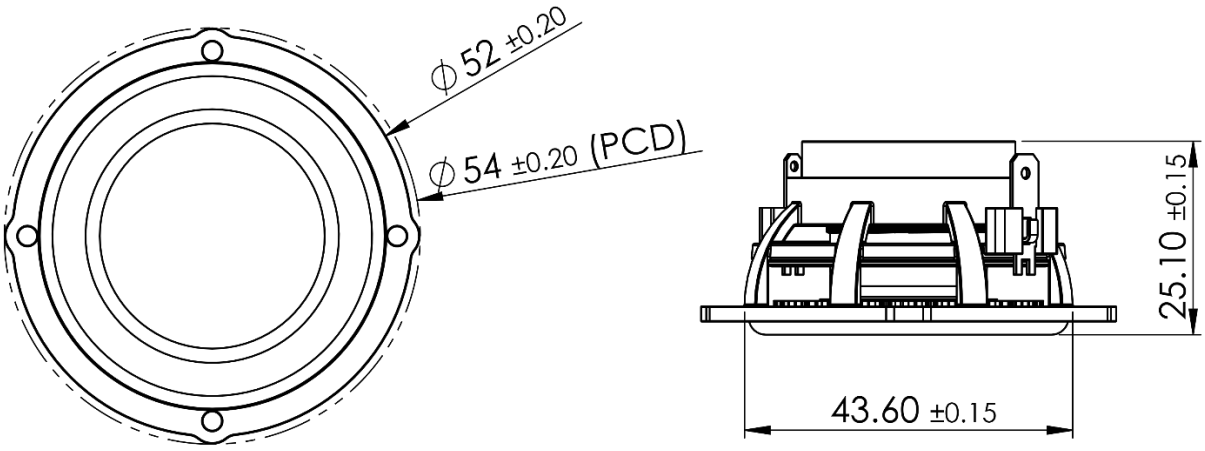

Figure 4: Nominal dimensions