

TEBM35C02-6/B BMR® Headset Driver

Features

- Full range: 100Hz – 35kHz
- Extremely wide directivity; 180°
- Nominal Impedance: 6 Ω
- Diameter: 47.4mm (49mm OD max)
- Depth: 20.3mm
- Mass: 34g

Applications

- Gaming Headsets, including VR/AR
- Off-Ear Listening
 - Comfortable solution for long term listening
 - Where awareness of environmental surroundings is required
 - Examples: call centre headsets, helmets.

Description

The TEBM35C02-6/B BMR® is an audio drive unit with an extended frequency response and extremely wide directivity. It combines the benefits of Tectonic bending-wave technology and pistonic modes of operation.

In headsets, this device's wide directivity delivers a consistent audio experience regardless of device position to ear. It is ideal for applications where physical contact at the ear must be avoided. The full range bandwidth extends far into the ultrasonic frequencies with performance up to 35kHz.

Parameters

Parameter	Description	min	typ	max	Units
R_e	DC resistance	-10%	5.6	+10%	Ohms
L_e	Inductance (@ 10kHz)	-10%	0.09	+10%	mH
BL	Force factor	-10%	2.39	+10%	Tm
f_s	Resonant frequency	-20%	156	+20%	Hz
SPL	Sound Pressure Level @ 1W, 1m	76.9	78.4	79.9	dB
dDrv	Voice coil diameter	-	20.4	-	mm
M_{ms}	Moving mass	-15%	1.24	+15%	g
C_{ms}	Compliance	-15%	0.85	+15%	mmN ⁻¹
R_{ms}	Suspension Loss	-15%	0.28	-15%	Nsm ⁻¹
$X_{mech\ max}$	Maximum coil excursion (p-p)	-	5.0	-	mm
Sd	Effective piston area	-	11.04	-	cm ²
V_{AS}	Equivalent volume	-	0.16	-	L
Q_{ms}	Mechanical quality factor	-15%	4.37	+15%	
Q_{es}	Electrical quality factor	-15%	1.19	+15%	
Q_{ts}	Total quality factor	-20%	0.93	+20%	

Audiomatica CLIO generator at 0 dBu loop-back mode and delta mass method.

Operating conditions

Condition	Value
Power handling (continuous, IEC268-5 noise, 150Hz high-pass filter, 96 hours)	2W
Operating temperature range	-20 to 55° C

Measured Response – on axis SPL

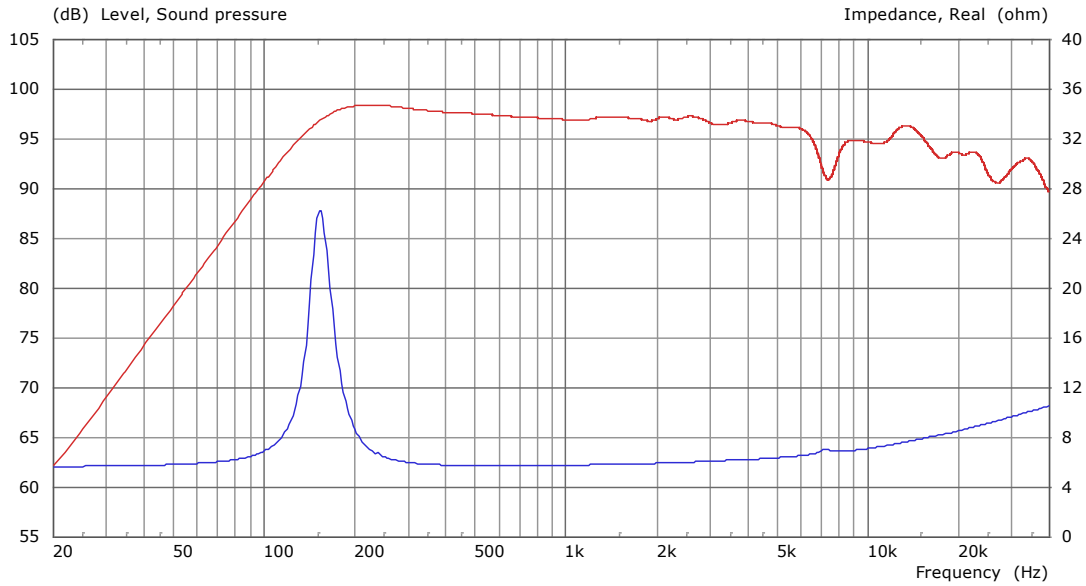


Figure 1: Red: on-axis SPL at 100mW/3cm (1/3-octave smoothed/spliced anechoic measurement) Blue: Impedance

Measured Response – adjusted power response over frontal hemisphere

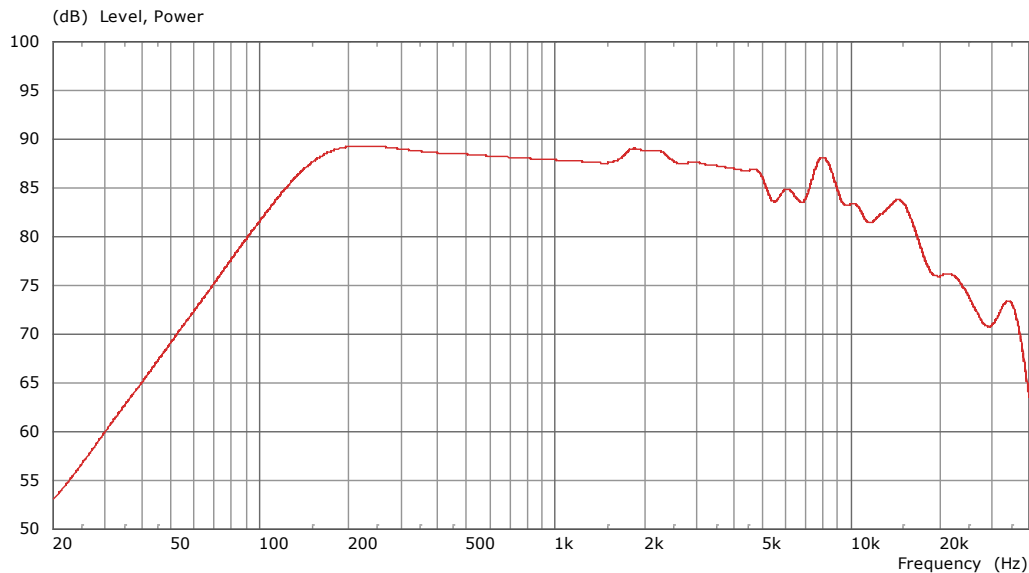


Figure 2: Power Response calculated across -90 -> +90 degrees, 1W/1m, (1/3-octave smoothed/spliced)

Polar – off axis measurements in anechoic chamber at various angles

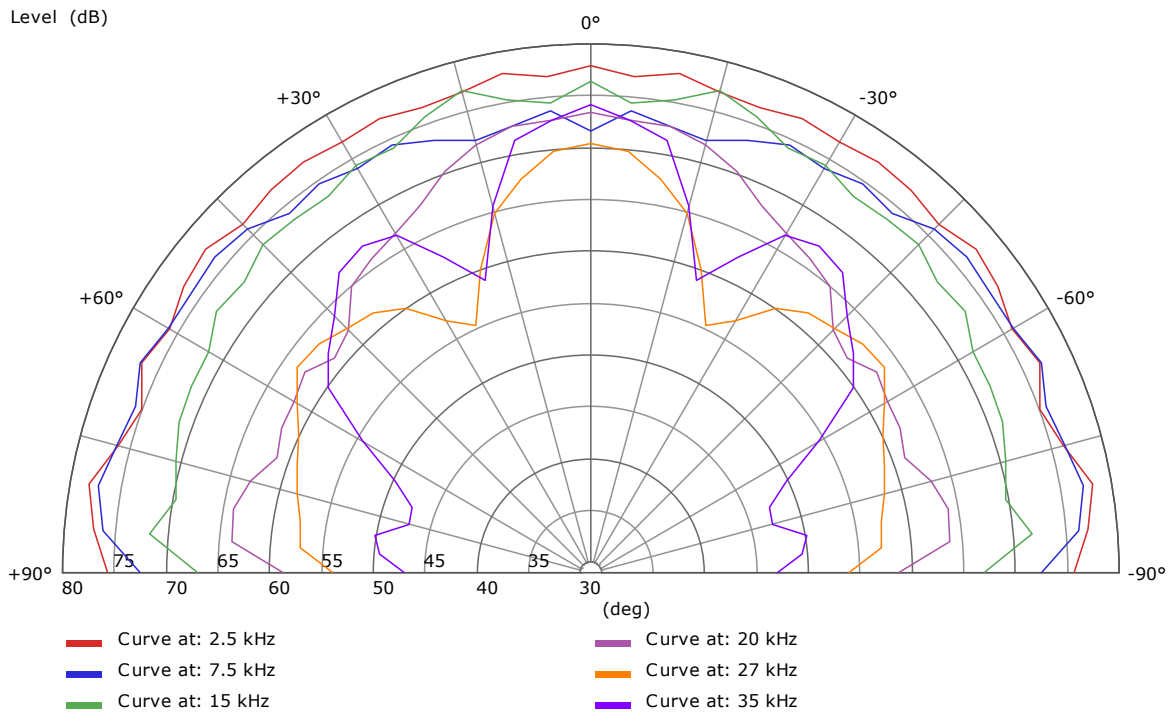


Figure 3: Polar response at 1 meter, angle/dB SPL, input level 1 Watt (1/3rd octave smoothing)

Outline Drawing

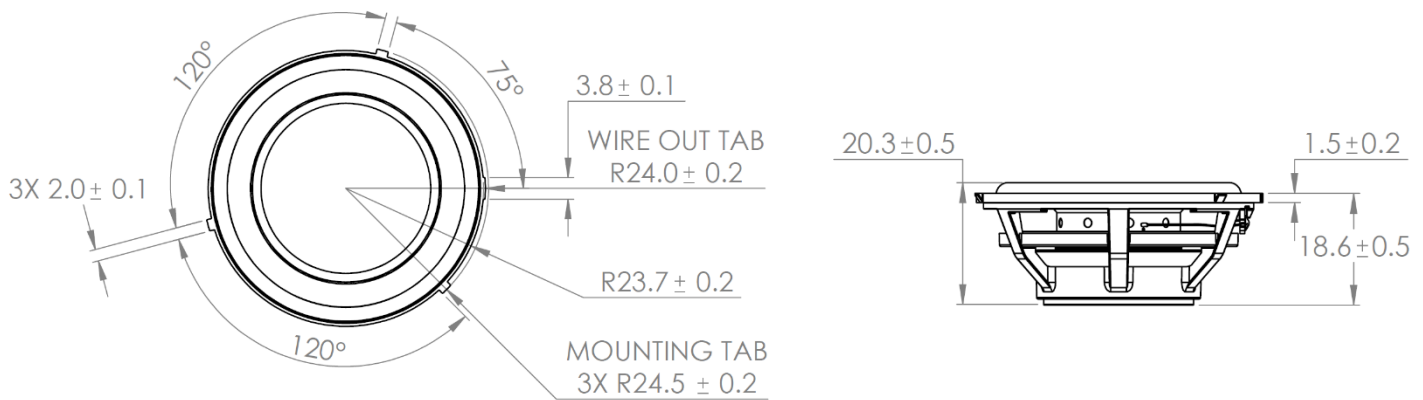


Figure 4: Nominal dimensions

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