

TEBM36S05-4 Balanced Mode Radiator



Features

- Full range: 100Hz – 20kHz
- Extremely wide directivity; 180°
- Nominal Impedance: 4 Ω
- Dimensions: 58.00mm x 58.00mm
- Depth: 20.6mm
- Mass: 65g

Applications

- Docking stations
- Smart speakers
- Sound bars
- Computer speakers

Description

The TEBM36S05-4 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%	3.7	+10%	Ohms
L_e	Inductance (@ 10kHz)	-10%	0.05	+10%	mH
BL	Force factor	-10%	2.59	+10%	Tm
f_s	Resonant frequency	-20%	170	+20%	Hz
SPL	Sound Pressure Level @ 1W, 1m	79	80	82	dB
dDrv	Voice coil diameter	-	25.4	-	mm
M_{ms}	Moving mass	-10%	2.1	+10%	g
C_{ms}	Compliance	-12%	0.42	+12%	mmN ⁻¹
R_{ms}	Suspension Loss	-15%	0.42	-15%	Nsm ⁻¹
$X_{mech\ max}$	Maximum coil excursion (p-p)	-	6.0	-	mm
Sd	Effective piston area	-	17.6	-	cm ²
V_{AS}	Equivalent volume	-	0.18	-	L
Q_{ms}	Mechanical quality factor	-15%	5.29	+15%	
Q_{es}	Electrical quality factor	-15%	1.23	+15%	
Q_{ts}	Total quality factor	-20%	1.00	+20%	

Operating conditions

Condition	Value
Power handling (continuous, weighted pink noise)	5W
Operating temperature range	-20 to 55° C
Audio frequency range	100Hz to 20kHz

Measured Response – on axis SPL

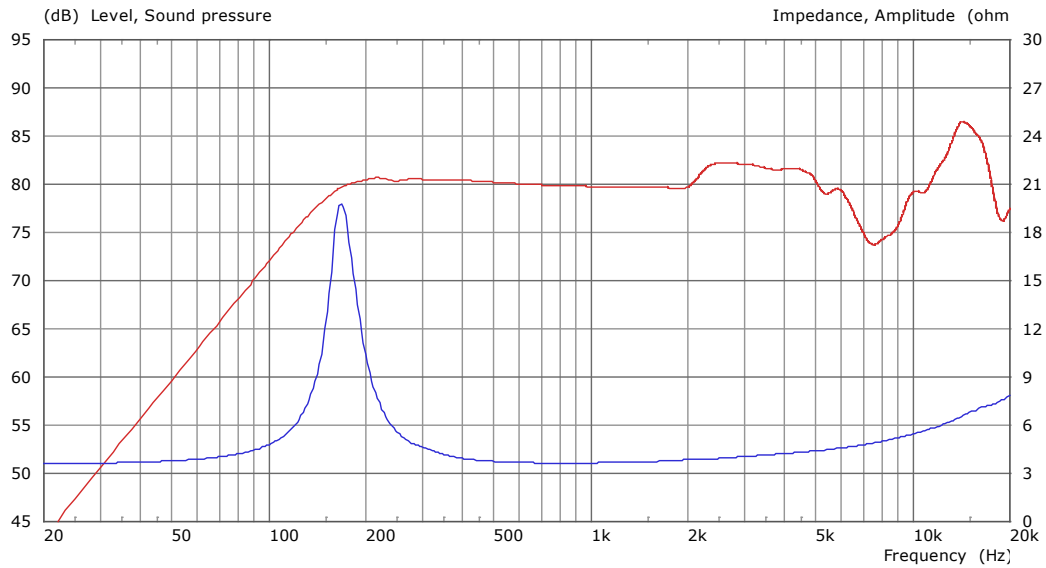


Figure 1: Red: on-axis SPL at 1W/1m (1/3-octave smoothed/spliced anechoic measurement) Blue: Impedance

Measured Response – adjusted power response over frontal hemisphere

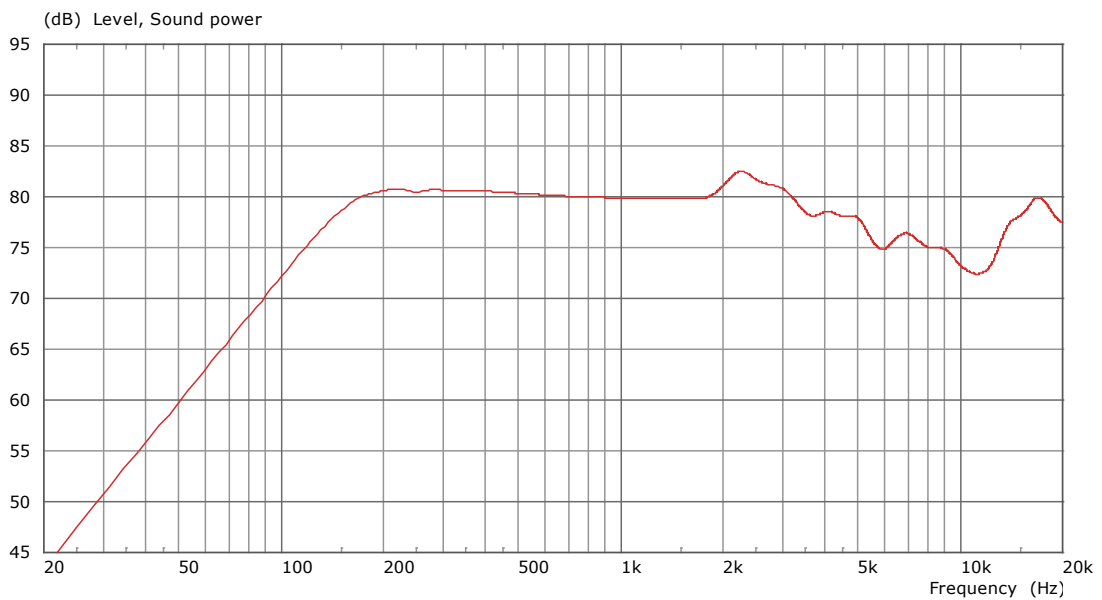


Figure 2: Power Response calculated across -90 -> +90 degrees, 1W/1m, (1/3-octave smoothed/spliced, -11 dB)

Outline Drawing

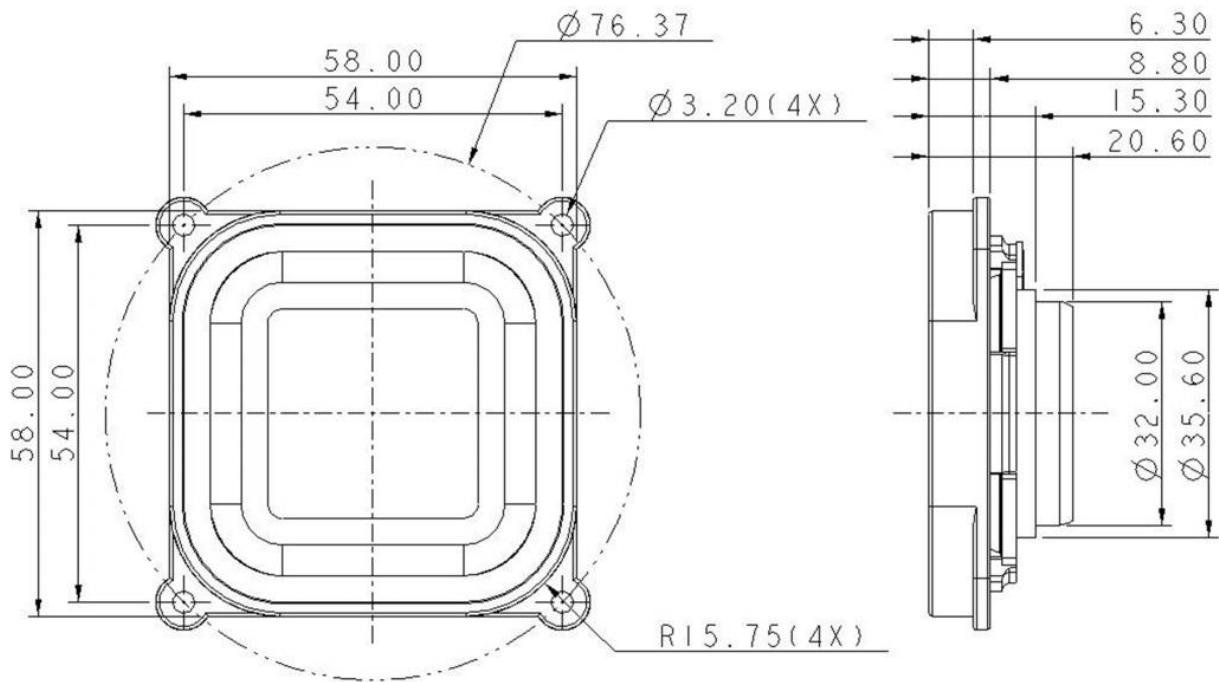


Figure 3: Nominal dimensions

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