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wavecor
The new wave in speaker innovations

SW223BD01 8¾" die cast, alu cone subwoofer, 4 ohm

BALANCED DRIVE

The 8¾" transducer SW223BD01 was designed specifically for high performance compact subwoofer applications where sound quality and low distortion are the priorities.

Frequency resp.
Specifications
Dimensions
Ordering info

FEATURES

MORE INFO

PDF data sheet (XXMB)

Balanced **D**rive technical paper (2.34MB)

SW223BD01 pictures

Specs and measurements in electronic file formats

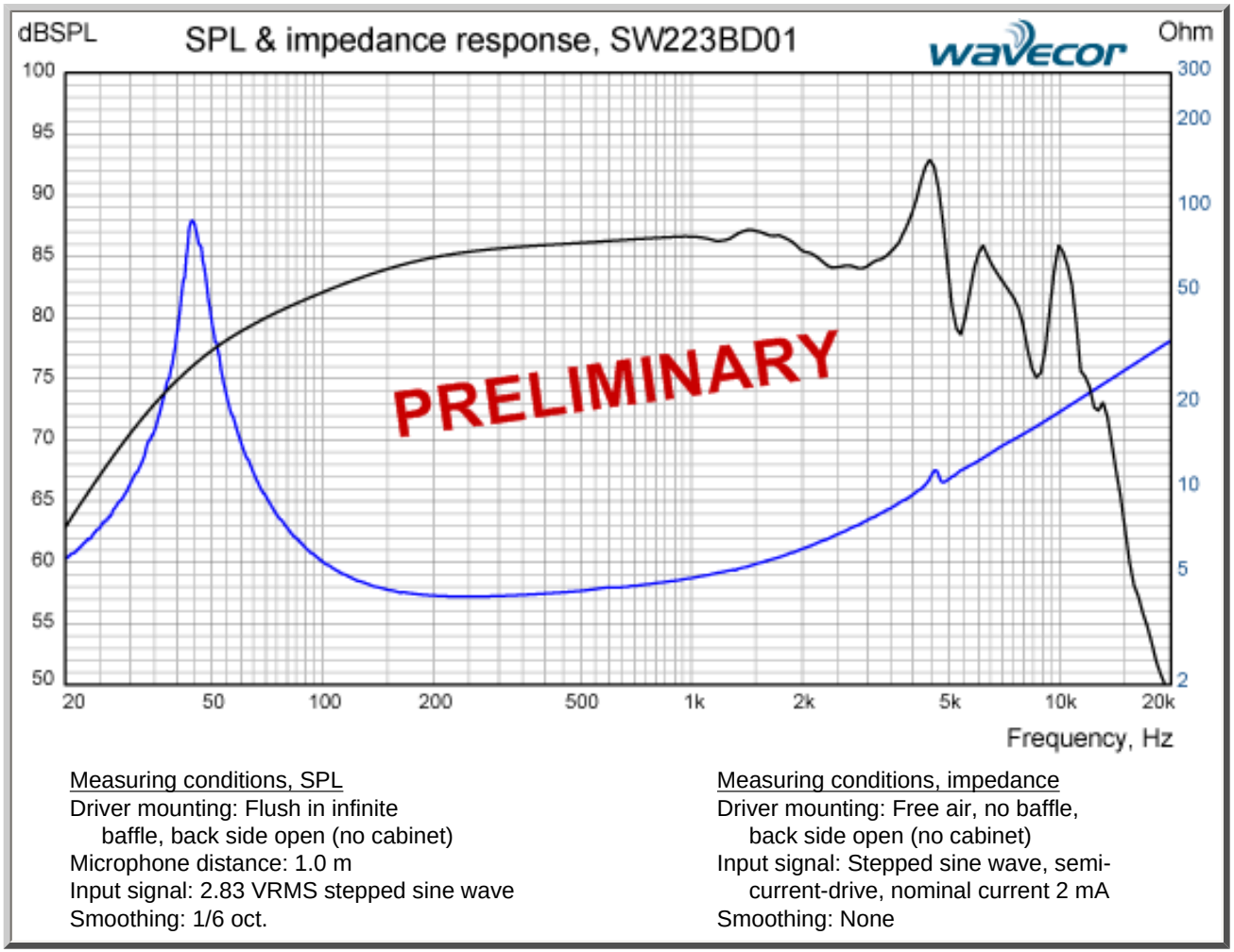
8½" passive BD radiator

All Wavecor subwoofers

All Wavecor drive units

- Balanced Drive motor structure for optimal drive force symmetry resulting in largely reduced even order harmonic distortion
- Extremely large linear stroke, Xmax = ± 10.7 mm, ensuring low distortion at high output levels
- Very rigid black aluminium cone to ensure piston motion at high levels and for better heat transfer at high continuous power levels
- Rigid die cast alu chassis with extensive venting for lower air flow speed reducing audible distortion
- Vented center pole with dual flares for reduced noise level at large cone excursions
- Heavy-duty black fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor with 2” voice coil diameter for better control and power handling
- Built-in alu field-stabilizing ring for reduced distortion at high levels
- Low-loss suspension (high Qm) for better reproduction of details and dynamics
- Black plated cone and motor parts for better heat transfer to the surrounding air
- Conex spider for better durability under extreme conditions
- Gold plated terminals to ensure long-term trouble free connection

FREQUENCY RESPONSE



Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 VRMS stepped sine wave
Smoothing: 1/6 oct.

Measuring conditions, impedance
Driver mounting: Free air, no baffle, back side open (no cabinet)
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
Smoothing: None

PRELIMINARY NOMINAL SPECIFICATIONS

Notes	Parameter	Before burn-in	After burn-in	Unit
	Nominal size	8½		[inch.]
	Nominal impedance	4		[ohm]
	Recommended max. upper frequency limit	1,000		[Hz]
1, 3	Sensitivity, 2.83V/1m (calculated from T/S parameters)	87		[dB]
2	Power handling, short term, IEC 268-5, no additional filtering			[W]
2	Power handling, long term, IEC 268-5, no additional filtering			[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	200		[W]
	Effective radiating area, Sd	214		[sq.cm]
3, 6	Resonance frequency (free air, no baffle), Fs	24		[Hz]
	Moving mass, incl. air (free air, no baffle), Mms	87.5		[g]
3	Force factor, Bxl	10.7		[N/A]
3, 6	Suspension compliance, Cms	0.50		[mm/N]
3, 6	Equivalent air volume, Vas	32		[lit.]
3, 6	Mechanical resistance, Rms	1.2		[Ns/m]
3, 6	Mechanical Q, Qms	11		[-]
3, 6	Electrical Q, Qes	0.37		[-]
3, 6	Total Q, Qts	0.36		[-]
4	Voice coil resistance, RDC	3.2		[ohm]
5	Voice coil inductance, Le (measured at 1 kHz)	0.5		[mH]
	Voice coil inside diameter	51		[mm]
	Voice coil winding height	29.4		[mm]
	Air gap height	8		[mm]
	Magnet weight			[g]
	Total unit net weight excl. packaging			[kg]
3, 5	Krm	1.33		[mohm]
3, 5	Erm	0.80		[-]
3, 5	Kxm	3.5		[mH]
3, 5	Exm	0.76		[-]

Note 1 *Measured in infinite baffle.*

Note 2 *Tested in free air (no cabinet).*

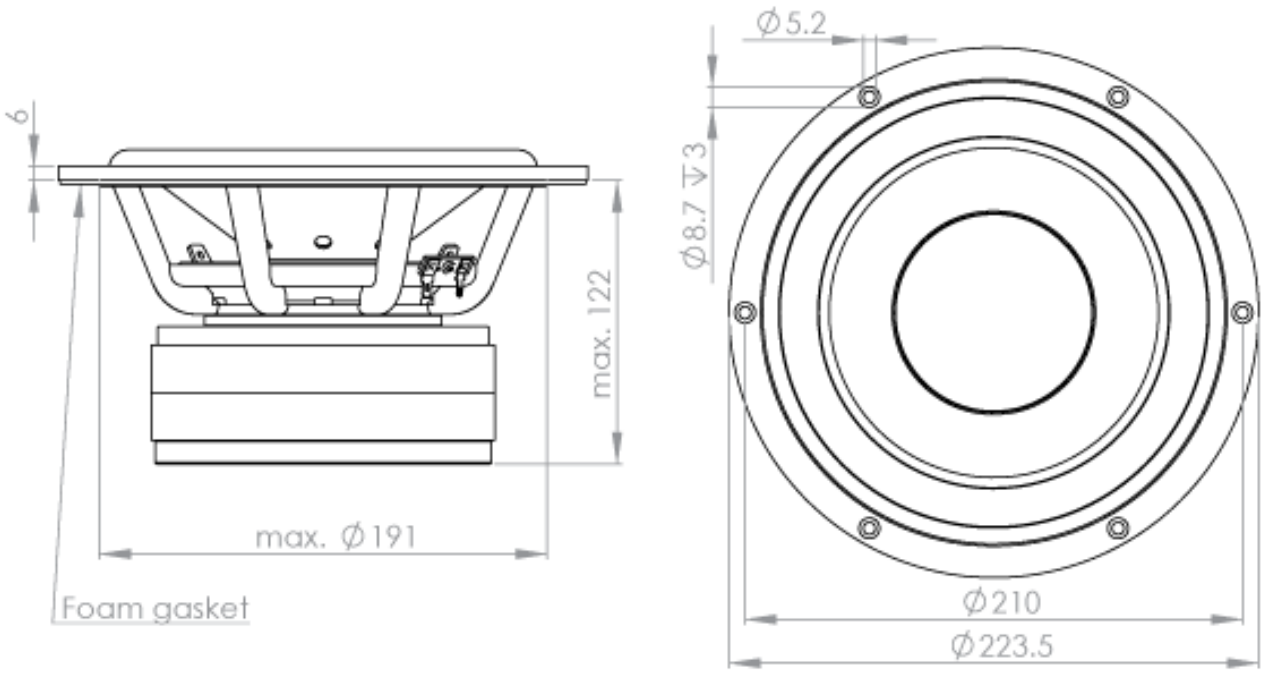
Note 3 *Measured using a semi-constant current source, nominal level 2 mA.*

Note 4 *Measured at 20 deg. C*

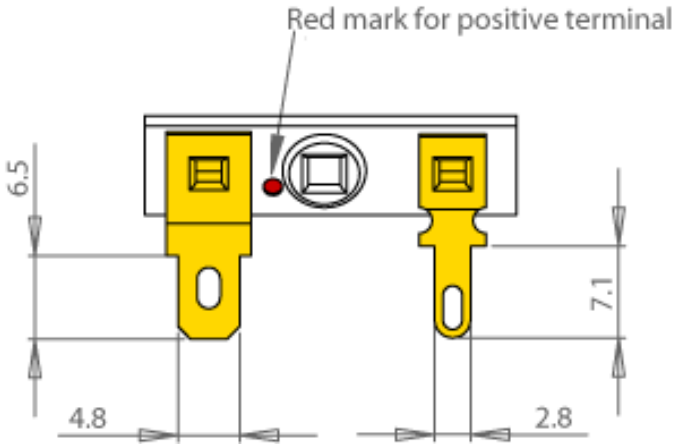
Note 5 *It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the "Wright empirical model", also used in LEAP-4 as the TSL model (www.linearx.com), involving parameters Krm, Erm, Kxm, and Exm. This more accurate transducer model is described in a technical paper (PDF) here.*

Note 6 *After burn-in specifications are measured 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 10 VRMS. The unit is not burned in before shipping.*

OUTLINE DRAWING AND NOMINAL DIMENSIONS (mm)



TERMINAL NOMINAL DIMENSIONS (mm)



Thickness, both terminals: 0.5mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. SW223BD01-01	Individual packaging (one piece per box)

Latest update: Apr. 20, 2010