PURIFI

6.5" Woofer

PURE SOUND

6mm Linear Stroke Woofer with Ultra Low Distortion

PTT6.5W04-NFA-01
DATA SHEET

- Negligible Force Factor Modulation and Surround Radiation Distortion
- Low Magnetic Hysteresis Distortion
- Best mix of volume displacement and midrange efficiency
- Uncompromised midrange performance
- Designed and Manufactured in Denmark

KEY SPECIFICATIONS

Driver size	6.5"
DC resistance, R_{DC}	3.7 Ω
Resonance freq., f_s	33 Hz
Total Q factor, Q_{ts}	0.26
Effective piston area	133 cm^2
Equivalent volume, V_{as}	29 L
SPL@2.83V_{rms}/1m	90.3 dB
Linear X_{max}	+/- 5.9 mm
Mechanical X_{max}	+/- 14.5 mm
IEC Power handling	250 W
Cone material	Proprietary Fibre Mix

1 Specifications

1.1 Electrical & Acoustical Parameter

Parameter		Typ	Unit
Z_n	Nominal impedance	4	Ω
Z_{min}	Minimum impedance above resonance	4.15	Ω
f_{min}	Frequency for minimum impedance	310	Hz
Z_o	Maximum impedance	88	Ω
R_{DC}	DC resistance	3.7	Ω
L_e	Voice Coil inductance @ 1kHz 0mm	0.32	mH
SPL	SPL@2.83V_{rms}/1m, 300Hz-800Hz, ref. 20µPa	90.3	dB
	SPL@1W(Z_{min})/1m, 300Hz-800Hz, ref. 20µPa	87.5	dB

Table 1 Electrical & Acoustical Parameters

1.2 T/S & Lumped Parameters

Parameter		Typ	Unit
f_s	Resonance frequency	33	Hz
Q_{ms}	Mechanical Q factor	6.3	-
Q_{es}	Electrical Q factor	0.27	-
Q_{ts}	Total Q factor	0.26	-
V_{as}	Equivalent volume	28.9	L
S_d	Effective piston area	132.7	cm^2
D	Effective piston diameter	13.0	cm
Bl	Force factor	7.7	N/A
R_{ms}	Mechanical resistance	0.7	kg/s
M_{ms}	Moving mass	21.1	g
C_{ms}	Suspension compliance	1.10	mm/N

Table 2 T/S & Lumped Parameters

1.3 Mechanical Properties

Parameter		Typ	Unit
Excursion Properties			
X_{max}	Linear excursion = (Voice Coil length – Airgap height) / 2	+/- 5.9	mm
	Mechanical excursion	+/- 14.5	mm
Physical Dimensions			
	Basket diameter	176	mm
	Cutout diameter	145	mm
	Mounting hole pattern diameter	166	mm
	Mounting hole diameter	5.1	mm
	Magnet diameter	100	mm
	Outer flange height	3.6	mm
	Build-in depth	85.2	mm
Voice Coil Properties			
	Voice Coil diameter	39	mm
	Voice Coil length	15.8	mm
	Voice Coil layers	4	-
	Airgap height	4	mm
	Winding material	CCAW	-

Table 3 Mechanical Properties

1.4 Power Handling

Parameter		Typ	Unit
	Long term maximum power (IEC268-5 18.2)	250	W
	Rated noise power, 100h (IEC268-5 18.4)	80	W

Table 4 Power Handling

1.5 Typical Performance, Graphs

Figure 1 Impedance Response @ 2.83V

Figure 2 Force Factor and Stiffness vs Voice Coil Position

Figure 3 Inductance vs Voice Coil Position

Figure 4 Axial Frequency Response @ 1m, 2.83Vrms

Figure 5 Frequency Response @ 1m, 94dB

Figure 6 Current Harmonic Distortion @ 2.83Vrms

Figure 7 Current Harmonic Distortion @ 1kHz, 0-28.3Vrms

Figure 8 Sound Pressure Harmonic Distortion @ 1m, 0-28.3Vrms

Figure 9 Intermodulation Distortion @ 30Hz 80dB, 255Hz 80dB

Figure 10 Intermodulation Distortion @ 50Hz 80dB, 425Hz 80dB

2 Drawings

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