

6040-PP

The wide bandwidth toroidal push-pull output transformer 6040 is meant for extreme high quality tube amplifiers with a supply voltage in the environment of 350 V. Its primary impedance of 6 kOhm creates an almost horizontal low distortion load line. Ultra Linear taps of 40 % are present. The secondary impedance is standardized at 5 Ohm. The 40 Watt power bandwidth ranges from 25 Hz up to 130 kHz, without any internal resonances. Good tubes are EL34, KT66,KT90 and 6550. In case you wish to apply the KT88, oscillation might occur around 640 kHz, which can be damped by means of an 100pF capacitor between the screen grids. See (*) for a detailed description of this special amplifier set up

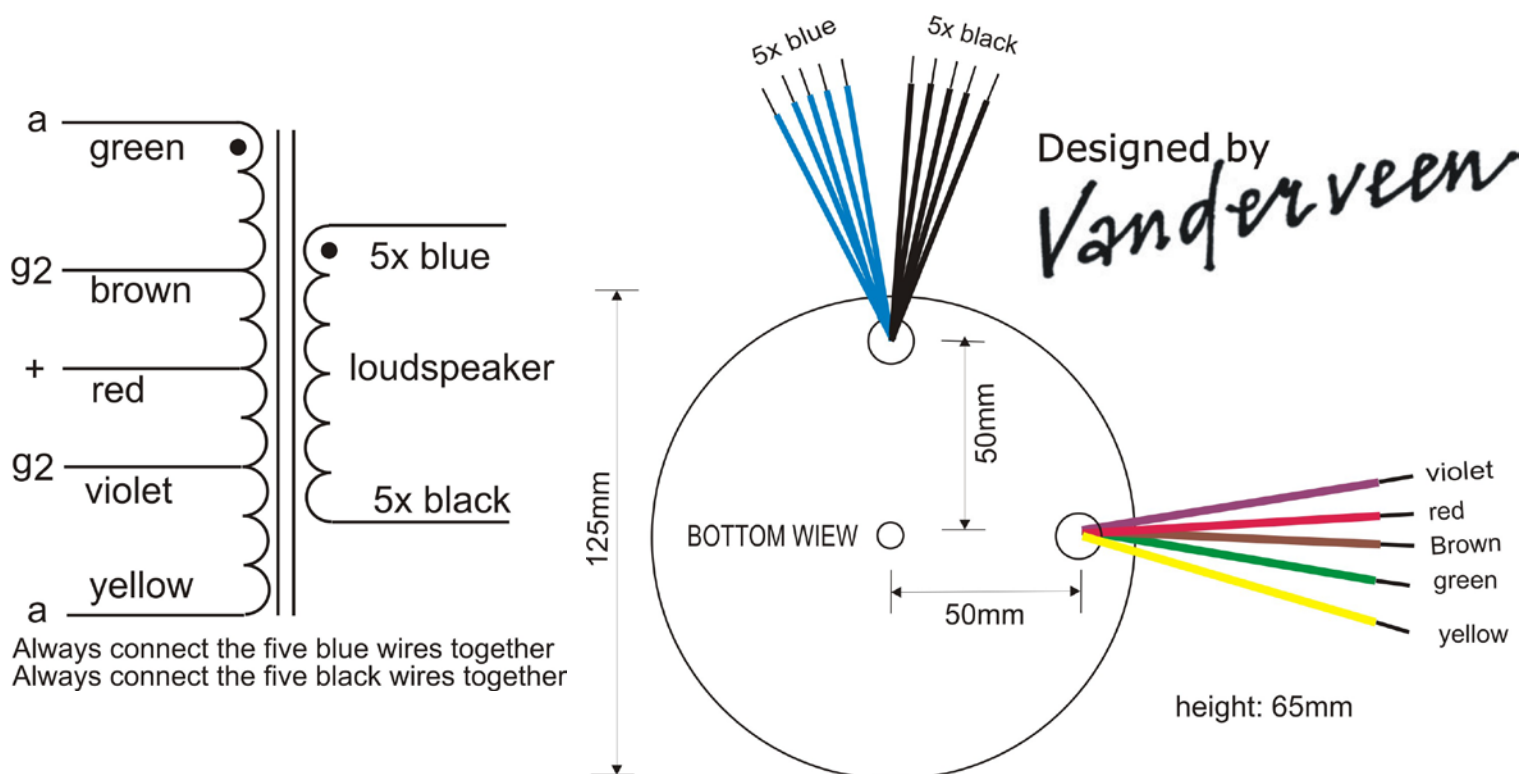
(*) Menno van der Veen: Modern High-end Valve Amplifiers based on toroidal output transformers; Elektor, ISBN: 978-0-905705-63-7; chapter 11.

dimensions: 125mm x 65mm

weight: 2 Kg.

price: 214€

technical data:



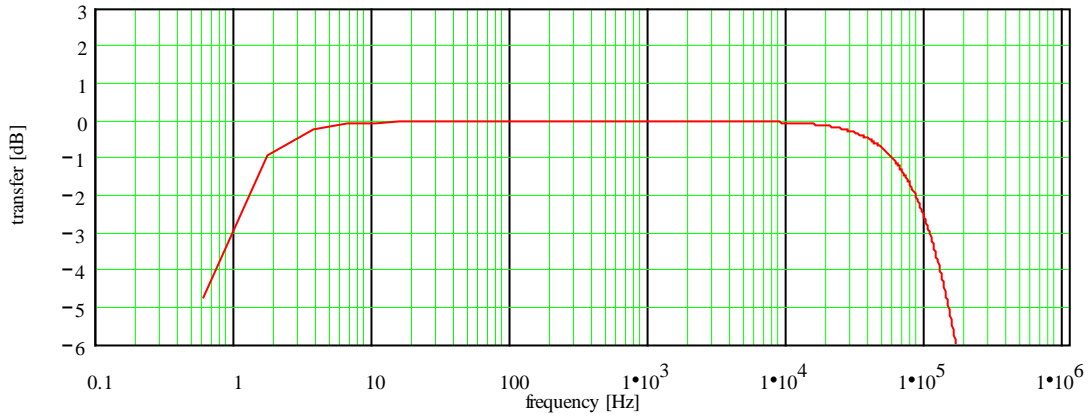
WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

Type and Application		VDV-6040.	
Primary Impedance	:	Raa = 5.878	[kΩ]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 34.286	[]
UL-tap:		tap = 40	[%]
Cathode Feedback Ratio	:	cfb = 0	[%]
-1 dB Frequency Range [Hz to kHz] (3)	:	flf = 3.902	fhf = 24.04
-1 dB Frequency Range [Hz to kHz] (3)	:	fl1 = 1.664	fh1 = 53.502
-3 dB Frequency Range [Hz to kHz] (3)	:	fl3 = 0.847	fh3 = 98.841
Nominal Power (1)	:	Pn = 40	[W]
- 3 dB Power Bandwidth starting at	:	fu = 25	[Hz]
Total primary Inductance (2)	:	Lp = 535	[H]
Primary Leakage Inductance	:	lsp = 3.7	[mH]
Effective Primary Capacitance	:	cip = 0.613	[nF]
Total Primary DC Resistance	:	Rip = 68.1	[Ω]
Total Secondary DC Resistance	:	Ris = 0.158	[Ω]
Tubes Plate Resistance per section	:	ri = 2.65	[kΩ]
Insertion Loss	:	Iloss = 0.184	[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.496	[]
HF roll-off Specific Frequency (5)	:	Fo = 155.203	[kHz]
Quality Factor (5)	:	QF = 1.446•10 ⁵	[]
Quality Decade Factor = log(QF) (5)	:	QDF = 5.16	[]
Tuning Factor (5)	:	TF = 0.807	[]
Tuning Decade Factor = log(TF) (5)	:	TDF = -0.093	[]
Frequency Decade Factor (4,5)	:	FDF = 5.067	[]

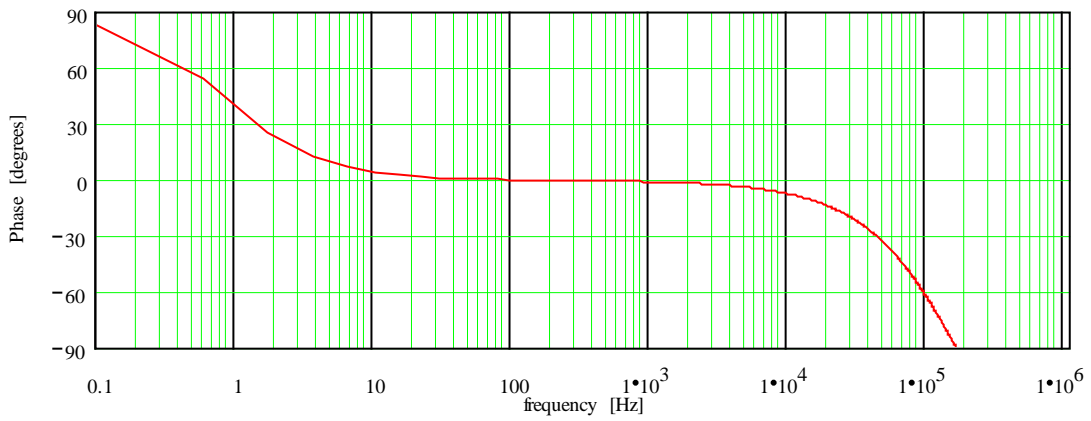
- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the powertubes driving the transformer
- (2): measured at 230Vrms at 50Hz over total primary
- (3): calculation at 1 Watt in Rls; ri and Rls are pure Ohmic
- (4): defined as FDF = log(fh3/fl3) = number of frequency decades transferred
- (5): ir. Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers: preprint 3887. 97th AES Convention San Francisco
- (C): Copyright 1994 Vanderveen; Version 1.7; results date 2-2-2012.
Final specs can deviate 15% or improve without notice

TRAFCO TOROIDAL PUSH-PULL TRANSFORMER ; VDV-6040

Frequency Response; Vertical 1 dB/div, Horizontal .1 Hz to 1 MHz (3)



Phase Response; Vertical 30 deg./div, Horizontal .1 Hz to 1 MHz



Differential Phase Distortion; vert. 30 deg./div, hor .1 Hz to 1 MHz

See: W.M.Leach, Differential Time Delay..; JAES sept.89 pp.709-715

