

3070-PP

The wide bandwidth (250 kHz) toroidal push-pull output transformer 3070 is meant for high power (70 Watt) high quality tube amplifiers. Either two output tubes can be used at a supply voltage from 450 to 600 V, or four paralleled power tubes at a supply voltage around 350 V. Screen grid taps at 40 % are present and the primary impedance is close to 3 kOhm. The secondary is at the standardized 5 Ohm impedance. Good power tubes are the KT88 or KT90. This transformer is meant for loud high quality sound reproduction with lower efficiency bas-reflex or closed box loudspeakers. Due to its resonance free high frequency bandwidth higher than normal feedback ratios are allowed to create low distortion and high speaker damping. See (*) for a detailed description of this special amplifier set up

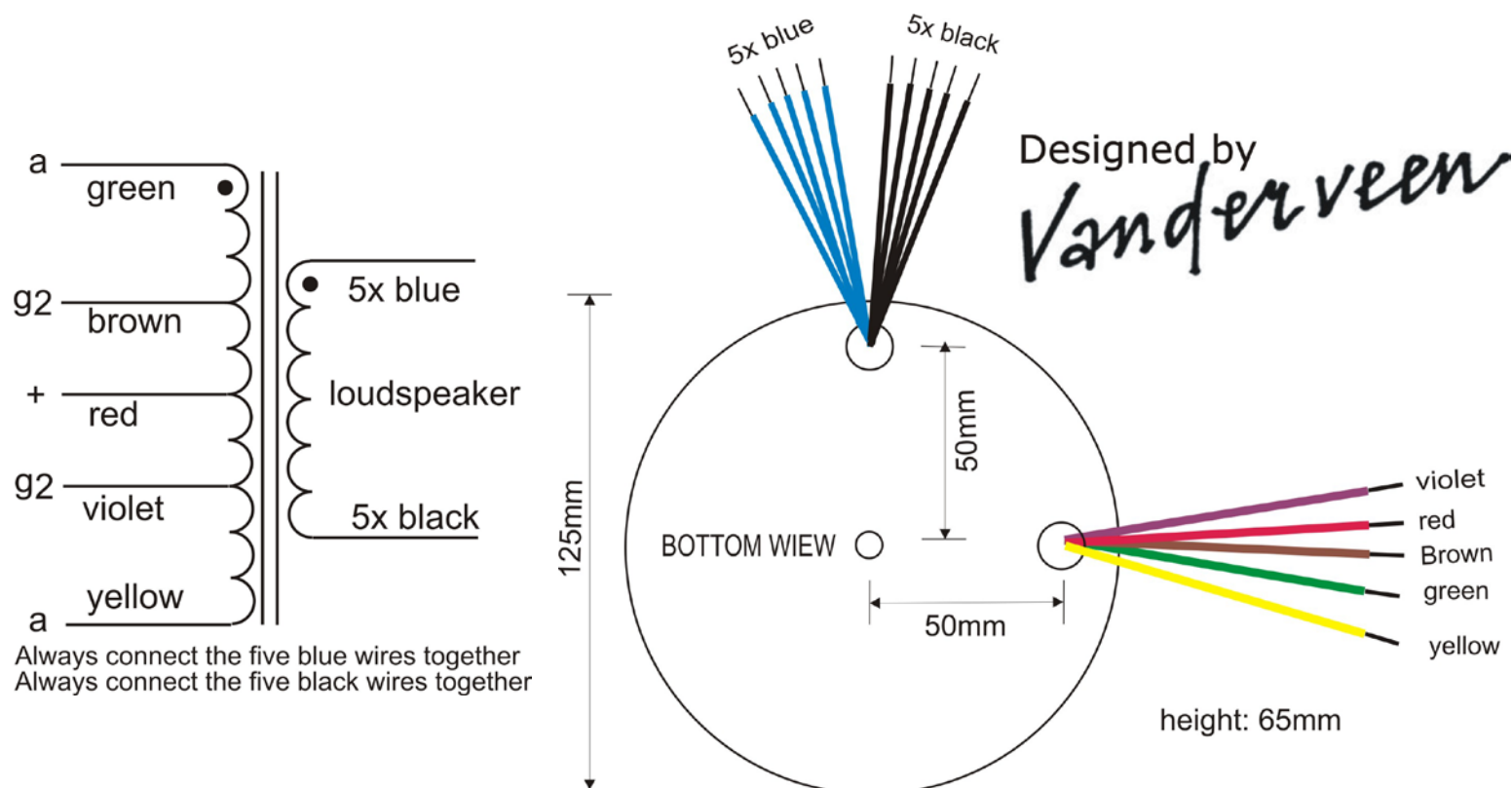
(*) Menno van der Veen: Modern High-end Valve Amplifiers based on toroidal output transformers; Elektor, ISBN: 978-0-905705-63-7; chapter 11.

dimensions: 125mm x 65mm

weight: 1,9 Kg.

price: 203€

technical data:



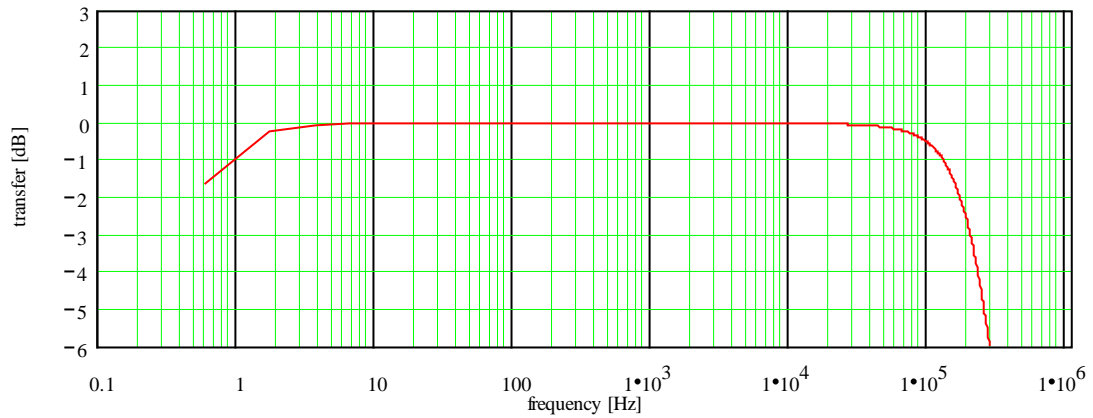
WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

Type and Application		VDV-3070.	
Primary Impedance	:	Raa = 2.756	[kΩ]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 23.478	[]
UL-tap:		tap = 40	[%]
Cathode Feedback Ratio	:	cfb = 0	[%]
-1 dB Frequency Range [Hz to kHz] (3)	:	flf = 1.845	fhf = 63.678
-1 dB Frequency Range [Hz to kHz] (3)	:	fl1 = 0.787	fh1 = 120.636
-3 dB Frequency Range [Hz to kHz] (3)	:	fl3 = 0.4	fh3 = 187.37
Nominal Power (1)	:	Pn = 70	[W]
- 3 dB Power Bandwidth starting at	:	fu = 22.7	[Hz]
Total primary Inductance (2)	:	Lp = 490	[H]
Primary Leakage Inductance	:	lsp = 2.6	[mH]
Effective Primary Capacitance	:	cip = 0.558	[nF]
Total Primary DC Resistance	:	Rip = 173.7	[Ω]
Total Secondary DC Resistance	:	Ris = 0.168	[Ω]
Tubes Plate Resistance per section	:	ri = 1	[kΩ]
Insertion Loss	:	Iloss = 0.401	[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.639	[]
HF roll-off Specific Frequency (5)	:	Fo = 209.392	[kHz]
Quality Factor (5)	:	QF = 1.885•10 ⁵	[]
Quality Decade Factor = log(QF) (5)	:	QDF = 5.275	[]
Tuning Factor (5)	:	TF = 2.483	[]
Tuning Decade Factor = log(TF) (5)	:	TDF = 0.395	[]
Frequency Decade Factor (4,5)	:	FDF = 5.67	[]

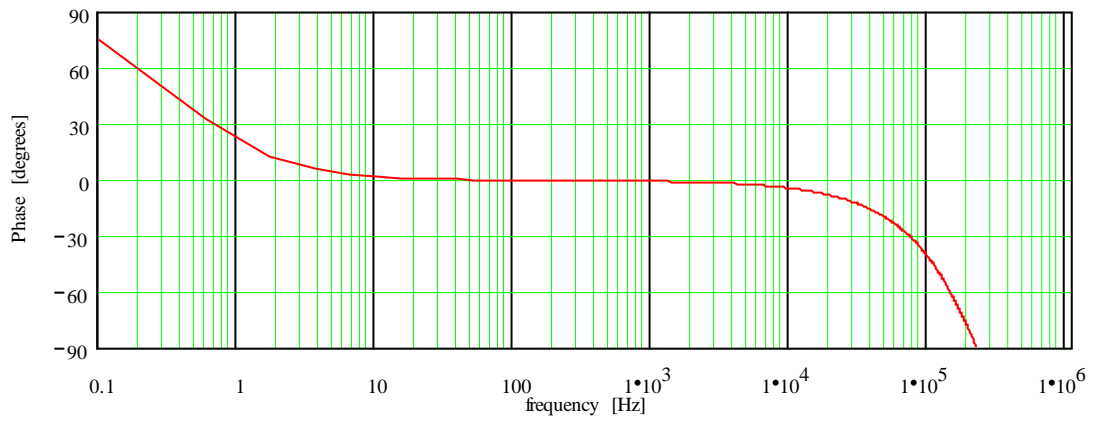
- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the powertubes driving the transformer
- (2): measured at 230Vrms at 50Hz over total primary
- (3): calculation at 1 Watt in Rls; ri and Rls are pure Ohmic
- (4): defined as FDF = log(fh3/fl3) = number of 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-3070

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

