

# 1070-UC

This special transformer is designed for 2 EL34 tubes in the famous Unity Coupled mode. The effective primary impedance is 4 kOhm and the secondary is at the standard 5 Ohm impedance. The 70 Watt power bandwidth ranges from 14 Hz up to 440 kHz. A separate feedback winding allows advanced feedback topologies. See (\*) for a description of this transformer.

(\*) Menno van der Veen: High-end Valve Amplifiers 2, New models and applications; Elektor; ISBN: 978-0-905705-90-3; chapter 3.13

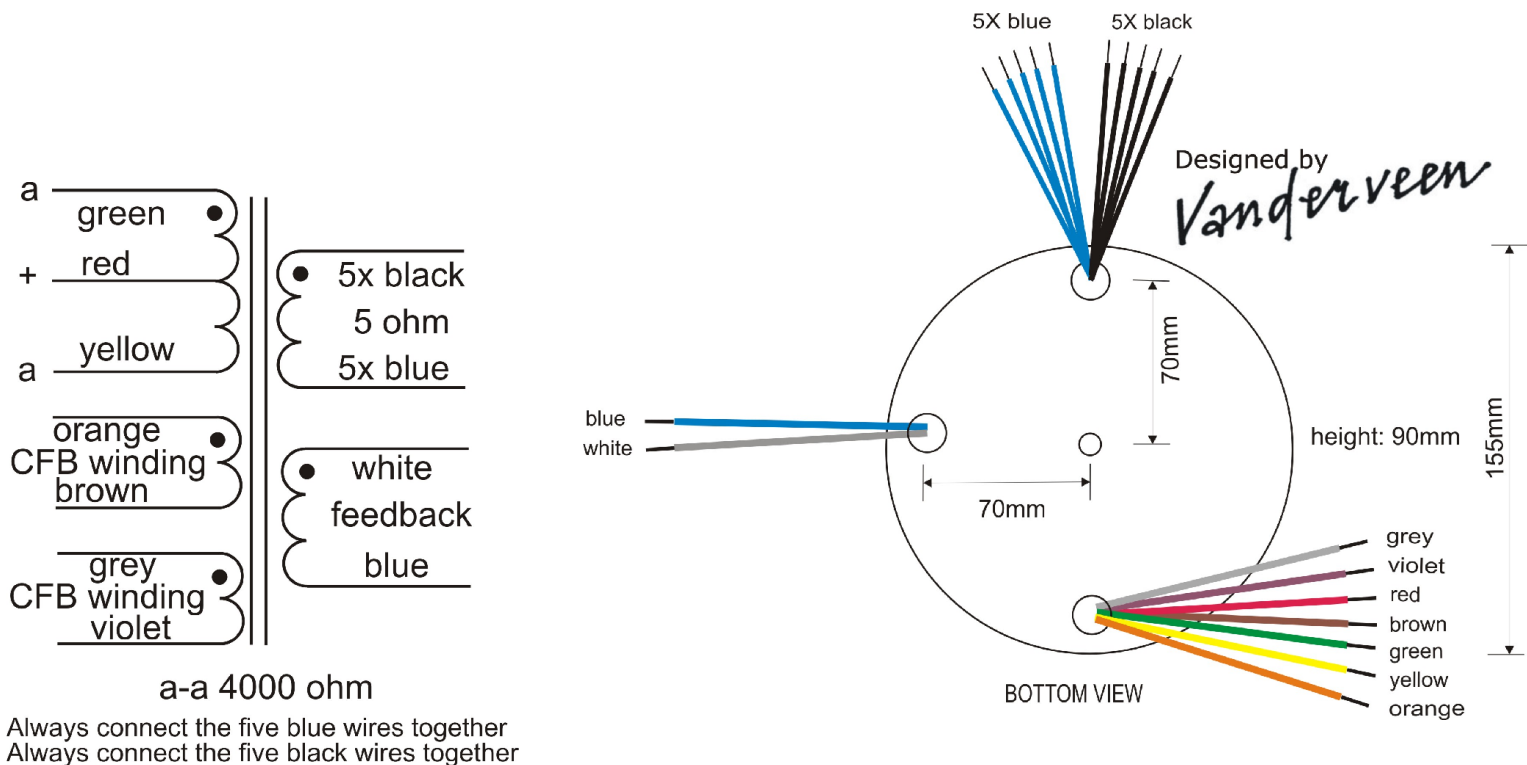
dimensions: 155mm x 90mm

weight: 4,6 Kg.

price: 235€

Transformer is fully potted in aluminium black textured shell.

technical data:



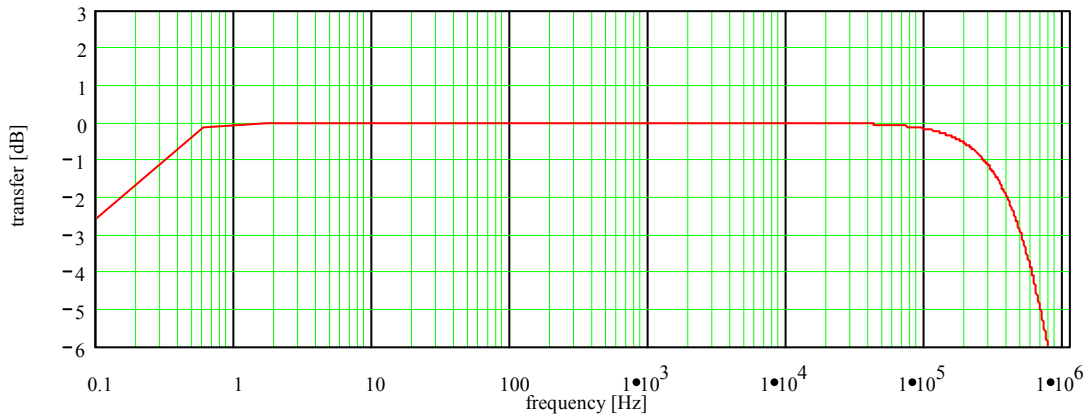
## WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

Type and Application	VDV-1070-UC.
Primary Impedance :	Raa = 4 [kΩ]
Secondary Impedance :	Rls = 5 [Ω]
Turns Ratio Np/Ns :	Ratio = 28.284 [ ]
UL-tap:	tap = -100 [%]
Cathode Feedback Ratio :	cfb = 100 [%]
-1 dB Frequency Range [Hz to kHz] (3) :	flf = 0.416 fhf = 110.074
-1 dB Frequency Range [Hz to kHz] (3) :	fl1 = 0.177 fh1 = 244.565
-3 dB Frequency Range [Hz to kHz] (3) :	fl3 = 0.09 fh3 = 450.161
Nominal Power (1) :	Pn = 70 [W]
- 3 dB Power Bandwidth starting at :	fu = 14 [Hz]
Total primary Inductance (2) :	Lp = 1.574*10 <sup>3</sup> [H]
Primary Leakage Inductance :	lsp = 0.67 [mH]
Effective Primary Capacitance :	cip = 0.388 [nF]
Total Primary DC Resistance :	Rip = 78.4 [Ω]
Total Secondary DC Resistance :	Ris = 0.18 [Ω]
Tubes Plate Resistance per section :	ri = 0.53 [kΩ]
Insertion Loss :	lloss = 0.235 [dB]
Q-factor 2nd order HF roll-off (5) :	Q = 0.501 [ ]
HF roll-off Specific Frequency (5) :	Fo = 696.834 [kHz]
Quality Factor (5) :	QF = 2.349*10 <sup>6</sup> [ ]
Quality Decade Factor = log(QF) (5) :	QDF = 6.371 [ ]
Tuning Factor (5) :	TF = 2.122 [ ]
Tuning Decade Factor = log(TF) (5) :	TDF = 0.327 [ ]
Frequency Decade Factor (4,5) :	FDF = 6.698 [ ]

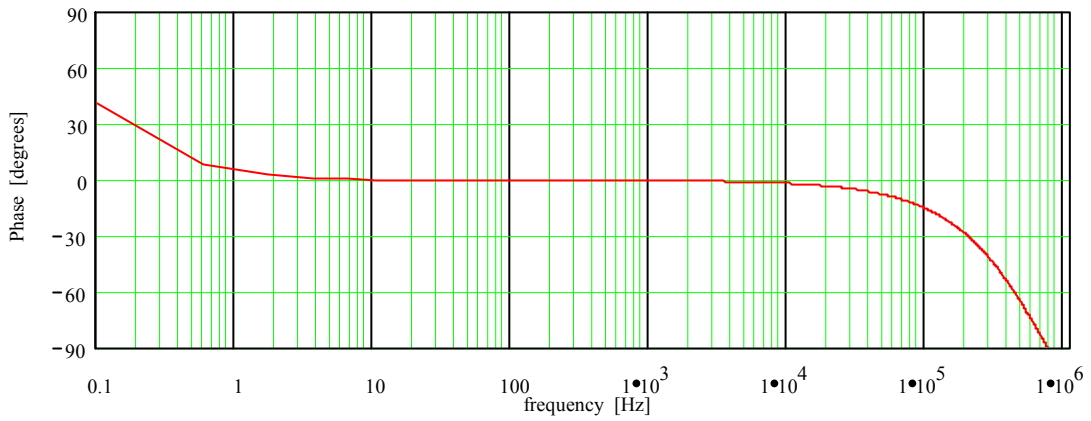
- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the powertubes driving the transformer
- (2): measured at 230Vrms at 50Hz over total primary
- (3): calculation at 1 Watt in Rls; ri and Rls are pure Ohmic
- (4): defined as FDF = log(fh3/fl3) = number of 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-1070-UC

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

