

WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

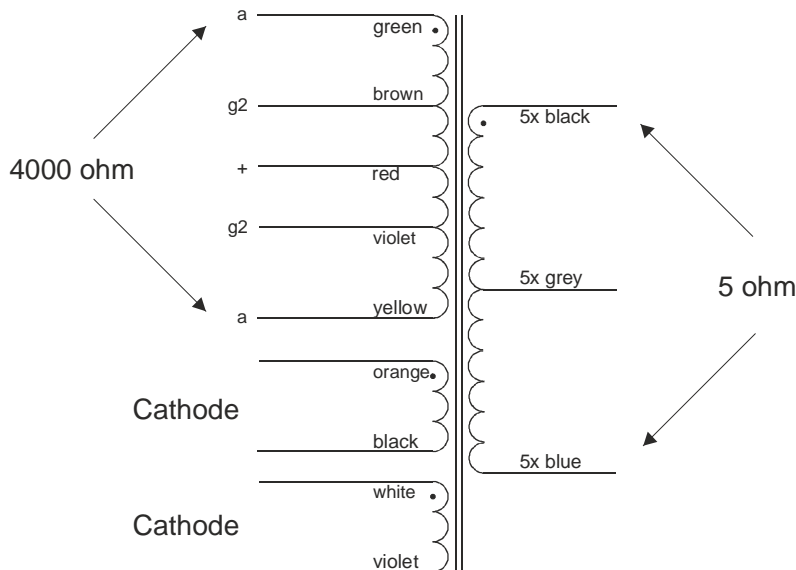
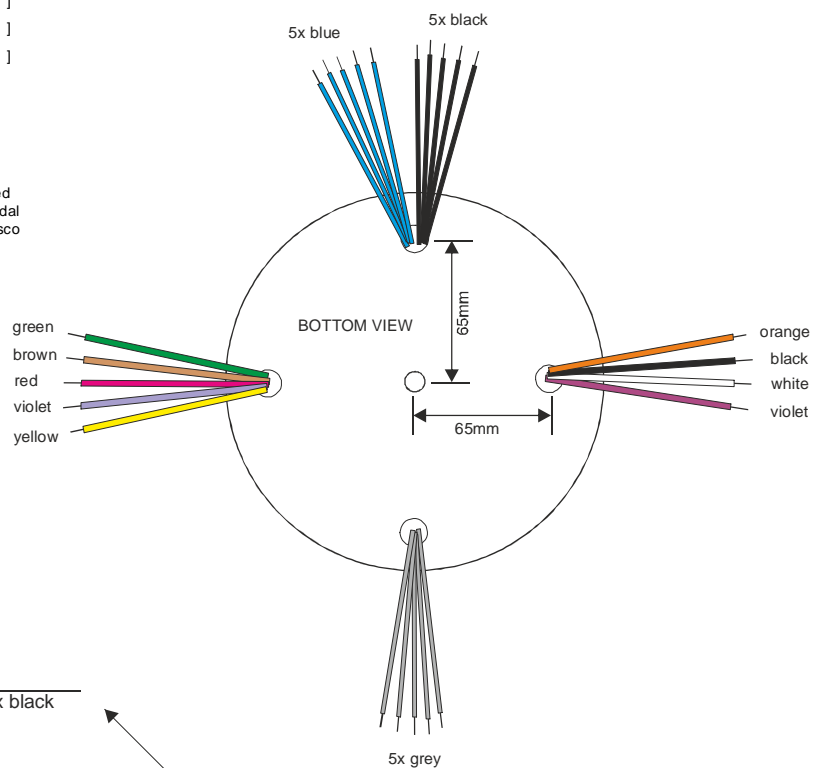
Type and Application	VDV-4070-CFB reference specs.	
Primary Impedance	$R_{aa} = 3.995$	[k Ω]
Secondary Impedance	$R_{ls} = 5$	[Ω]
Turns Ratio N_p/N_s	$Ratio = 28.267$	[]
UL-tap:	$tap = 33$	[%]
Cathode Feedback Ratio	$cfb = 7.1$	[%]
-1 dB Frequency Range [Hz to kHz] (3)	$f_{lf} = 1.249$	$f_{hf} = 56.104$
-1 dB Frequency Range [Hz to kHz] (3)	$f_{l1} = 0.533$	$f_{h1} = 117.211$
-3 dB Frequency Range [Hz to kHz] (3)	$f_{l3} = 0.271$	$f_{h3} = 196.755$
Nominal Power (1)	$P_n = 70$	[W]
-3 dB Power Bandwidth starting at	$f_u = 14$	[Hz]
Total primary Inductance (2)	$L_p = 813$	[H]
Primary Leakage Inductance	$l_{sp} = 2.55$	[mH]
Effective Primary Capacitance	$c_{ip} = 0.514$	[nF]
Total Primary DC Resistance	$R_{ip} = 93.4$	[Ω]
Total Secondary DC Resistance	$R_{is} = 0.125$	[Ω]
Tubes Plate Resistance per section	$r_i = 1$	[k Ω]
Insertion Loss	$l_{loss} = 0.205$	[dB]
Q-factor 2nd order HF roll-off (5)	$Q = 0.588$	[]
HF roll-off Specific Frequency (5)	$F_o = 244.534$	[kHz]
Quality Factor (5)	$QF = 3.18 \times 10^5$	[]
Quality Decade Factor = $\log(QF)$ (5)	$QDF = 5.504$	[]
Tuning Factor (5)	$TF = 2.276$	[]
Tuning Decade Factor = $\log(TF)$ (5)	$TDF = 0.357$	[]
Frequency Decade Factor (4,5)	$FDF = 5.861$	[]

- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the power tubes driving the transformer measured at 230Vrms at 50Hz over total primary
 (2): calculation at 1 Watt in R_{ls} ; r_i and R_{ls} are pure Ohmic
 (3): defined as $FDF = \log(f_{h3}/f_{l3})$ = number of frequency decades transferred
 (4): ir. Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers; preprint 3887, 97th AES Convention San Francisco
 (5): Copyright 1994 Vanderveen; Version 1.7; results date 29-08-2011.
 Final specs can deviate 15% or improve without notice

Specialist Range Series output transformers for tube amplifiers

Designed by

Vanderveen



Always connect the five blue wires together
 Always connect the five black wires together
 Always connect the five grey wires together
 diameter approx. 155mm
 height approx. 89mm
 Lead length solid leads approx. 200mm
 fully potted in aluminium black textured shell



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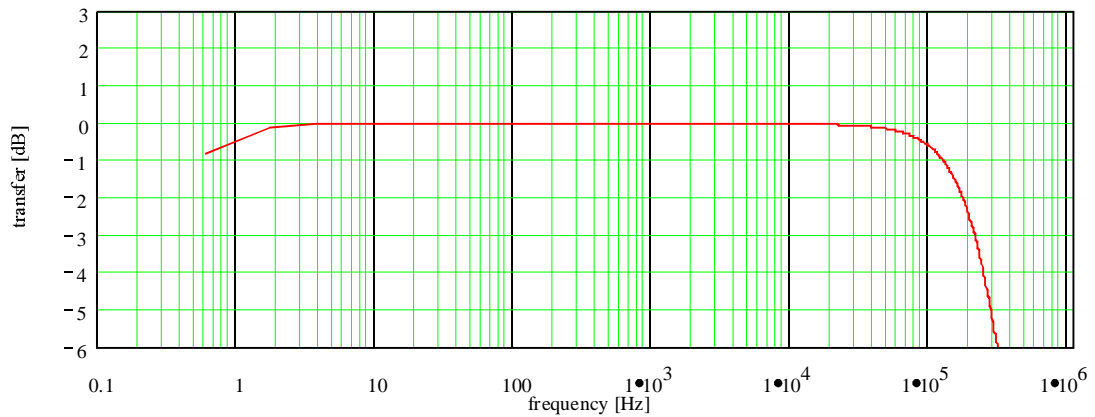
VDV4070CFB

WIDE BANDWIDTH TOROIDAL
SPECIALIST RANGE
TUBE OUTPUT TRANSFORMER

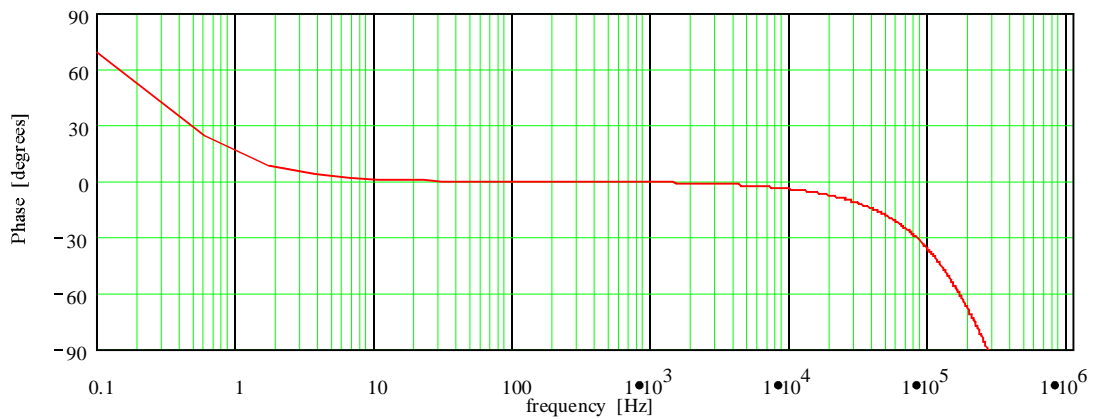
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AMPLIMO TOROIDAL PUSH-PULL TRANSFORMER ; VDV-4070-CFB; reference specs

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

