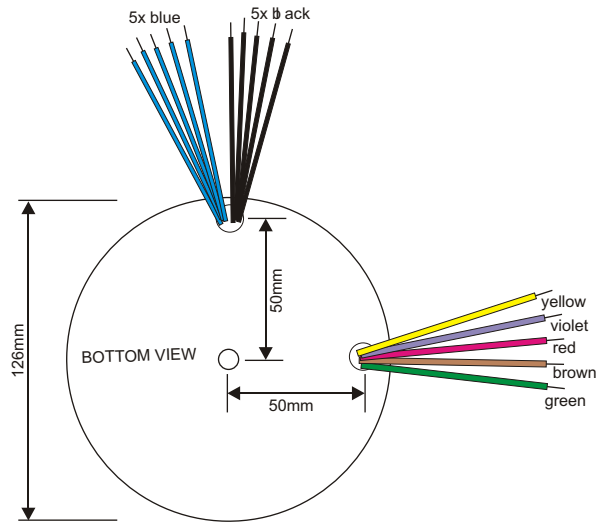


WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

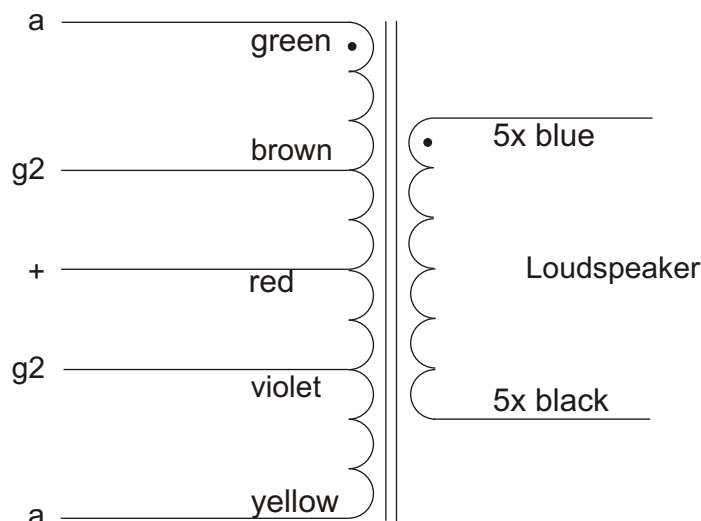
Type and Application	:	VDV3070PP=PAT4004	4 x EL34
Primary Impedance	:	Raa	2.756 [k ]
Secondary Impedance	:	Rls	5 [ ]
Turns Ratio Np/Ns	:	Ratio	23.478 [ ]
Ultra Linear Tapping at	:	tap	40 [%]
-1 dB Frequency Range [Hz to kHz] (3):	:	flf	1.845 flh 63.679
-1 dB Frequency Range [Hz to kHz] (3):	:	fl1	0.787 fh1 120.637
-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 [ ]
Total Secondary DC Resistance	:	Ris	0.168 [ ]
Tubes Plate Resistance per section	:	ri	1 [k ]
Insertion Loss	:	lloss	0.401 [dB]
Q-factor 2nd order HF roll-off (5)	:	Q	0.639 [ ]
HF roll-off Specific Frequency (5)	:	Fo	209.39 [kHz]
Quality Factor (5)	:	QF	$1.885 \cdot 10^5$ [ ]
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 [ ]

VANDESIGNED BY  
VANDERVEEN



- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the powertubes driving the transformer
- (2): maximum value, measured over secondary, transferred to primary
- (3): calculation at 1 mWatt 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; reprint 3887. 97th AES Convention San Francisco
- (C): Copyright 1994 Vanderveen; Version 1.7; design date.....

Always connect the five blue wires together  
Always connect the five black wires together  
diameter approx.126mm  
height approx.65mm  
Lead length solid leads approx. 200mm  
fully potted in aluminium black textured shell



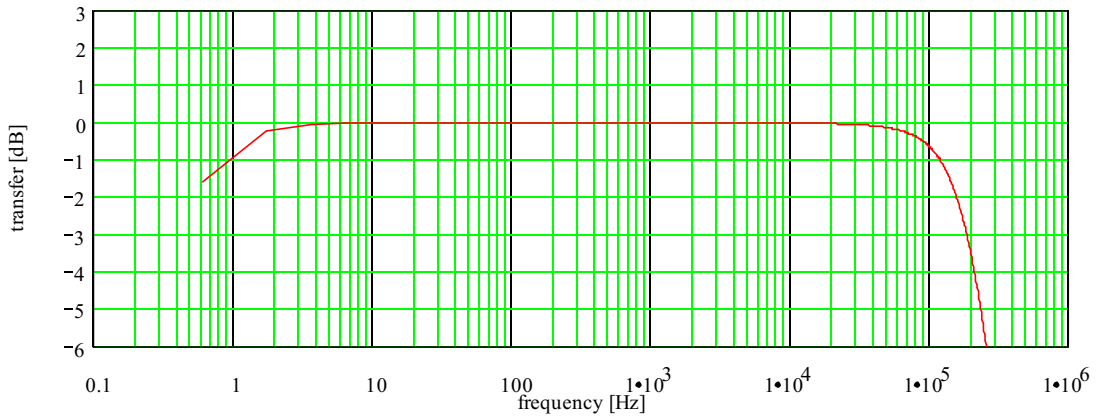
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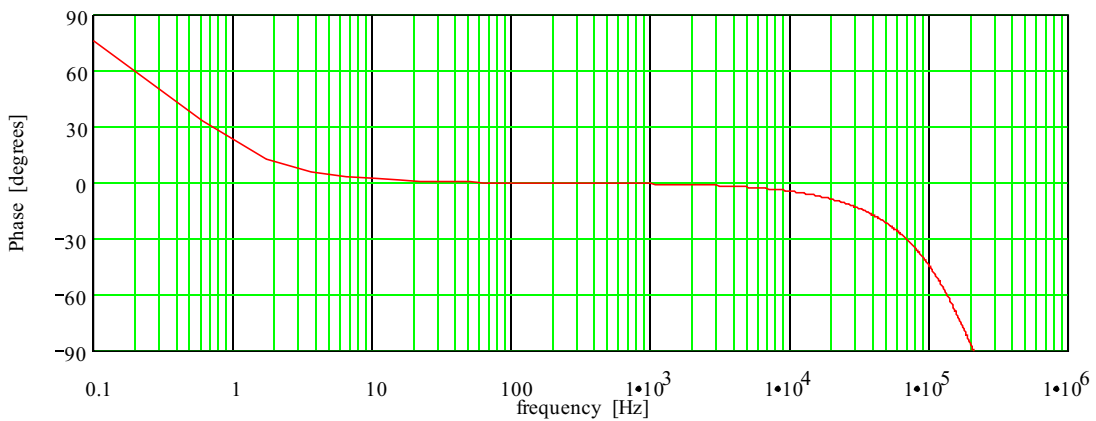
VDV3070PP / PAT4004  
  
WIDE BANDWIDTH TOROIDAL  
PUSH-PULL TUBE OUTPUT TRANSFORMER

WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER VDV3070=PAT400

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

