## WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

Type and Application	:		VDV-PP300B	
Primary Impedance	:		Raa = 3.453	$[k_\Omega]$
Secondary Impedance	:		Rls = 4	$[\Omega]$
Turns Ratio Np/Ns		:	Ratio = 29.382	[]
Ultra Linear Tapping at	:		tap = 0	[%]
1 dB Frequency Range [Hz to kHz]	(3)	:	flf = 1.273	fhf = 46.153
-1 dB Frequency Range [Hz to kHz]	(3)	:	f11 = 0.543	fh1 = 96.715
-3 dB Requency Range [Hz to kHz]	(3)	:	f13 = 0.276	fh3 = 162.888
Nominal Power (1)		:	Pn = 30	[W]
- 3 dB Power Bandwidth starting at	:		fu = 14	[Hz]
Total primary Inductance (2)		:	Lp = 620	[H]
Primary Leakage Inductance		:	lsp = 3.2	[mH]
Effective Primary Capacitance	:		cip = 0.7	[nF]
Total Primary DC Resistance	:		Rip = 137	$[\Omega]$
Total Secondary DC Resistance	:		Ris = 0.161	$[\Omega]$
Tubes Plate Resistance per section	:		ri = 0.7	$[k\Omega]$
Insertion Loss	:		Iloss = 0.334	[dB]
Q-factor 2nd order HF roll-off (5)	:		Q = 0.585	[]
HF roll-off Specific Frequency (5)	:		Fo = 203.545	[kHz]
Quality Factor (5)	:		$QF = 1.938 \cdot 10^5$	[]
Quality Decade Factor = $log(QF)$ (5)	:		QDF = 5.287	[]
Tuning Factor (5)	:		TF = 3.043	[]
Tuning Decade Factor = $log(TF)$ (5)	:		TDF = 0.483	[]

(1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the powertubes driving the transformer

FDF = 5.77

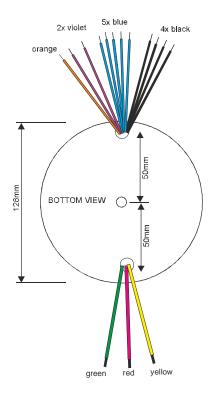
[]

(2): (3): measured at 120Vrms at 60Hz over total primary

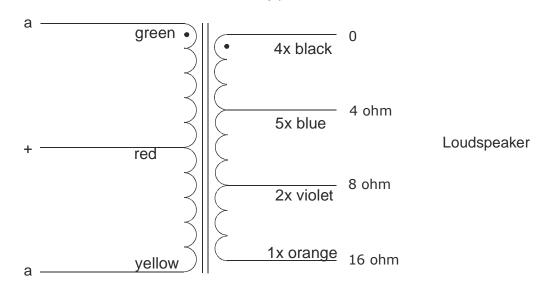
Frequency Decade Factor (4,5)

- calculation at 1 mWatt in Rls; ri and Rls are pure Ohmic defined as FDF = log(fh3/fi3) = number of frequency decades transfered ir. Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers; preprint 3887, 97th AES Convention San Francisco (4): (5):
- (C): Copyright 1994 Vanderveen; Version 1.7; results date 20-4-2009 Final specs can deviate 15% or improve without notice





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





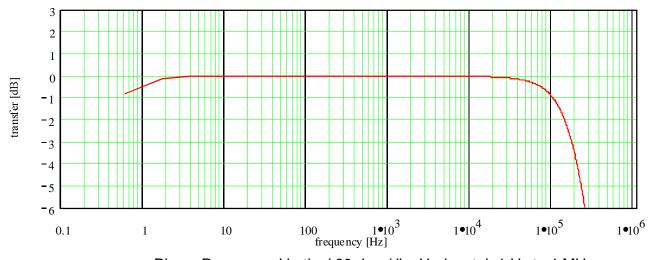
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VDV-PP-300B

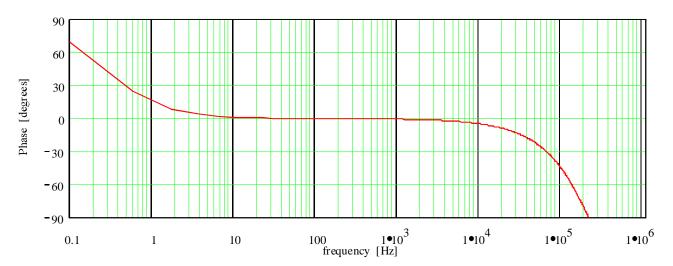
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## TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER; VDV-PP300B

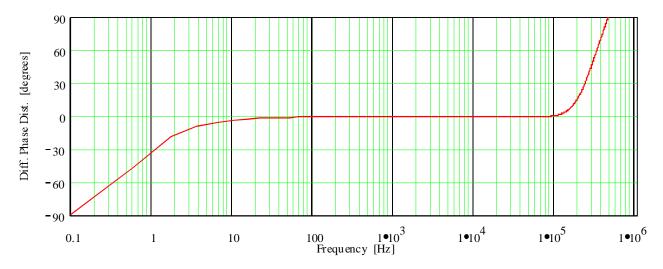
Frequency Response; Vertical 1 dB/div; Horizontal .1 Hz to 1 MHz (3)



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



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