

## SPECIALIST TOROIDAL PUSH-PULL OUTPUT TRANSFORMER

Type and Application	:	VDV-4070-CFB-PPS.	
Primary Impedance	:	Raa = 3.995	[kΩ]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 28.267	[ ]
UL-tap	:	tap = 33	[%]
Cathode Feedback Ratio	:	cfb = 7.1	[%]
-.1 dB Frequency Range [Hz to kHz] (3)	:	flf = 1.249	fhf = 56.104
-1 dB Frequency Range [Hz to kHz] (3)	:	fl1 = 0.533	fh1 = 117.211
-3 dB Frequency Range [Hz to kHz] (3)	:	fl3 = 0.271	fh3 = 196.755
Nominal Power (1)	:	Pn = 70	[W]
- 3 dB Power Bandwidth starting at	:	fu = 14	[Hz]
Total primary Inductance (2)	:	Lp = 813	[H]
Primary Leakage Inductance	:	lsp = 2.55	[mH]
Effective Primary Capacitance	:	cip = 0.514	[nF]
Total Primary DC Resistance	:	Rip = 93.4	[Ω]
Total Secondary DC Resistance	:	Ris = 0.125	[Ω]
Tubes Plate Resistance per section	:	ri = 1	[kΩ]
Insertion Loss	:	lloss = 0.205	[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.588	[ ]
HF roll-off Specific Frequency (5)	:	Fo = 244.534	[kHz]
Quality Factor (5)	:	QF = 3.188 × 10 <sup>5</sup>	[ ]
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 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 29-08-2011.  
Final specs can deviate 15% or improve without notice



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