

HIGH-END TOROIDAL PUSH-PULL OUTPUT TRANSFORMER

Type and Application	:	VDV-8020-PP (PAT-4000)	
Primary Impedance	:	Raa = 8	[kΩ]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 40	[]
UL-tap	:	tap = 33	[%]
Cathode Feedback Ratio	:	cfb = 0	[%]
-.1 dB Frequency Range [Hz to kHz] (3)	:	flf = 8.554	fhf = 42.028
-1 dB Frequency Range [Hz to kHz] (3)	:	fl1 = 3.648	fh1 = 93.801
-3 dB Frequency Range [Hz to kHz] (3)	:	fl3 = 1.857	fh3 = 174.416
Nominal Power (1)	:	Pn = 20	[W]
- 3 dB Power Bandwidth starting at	:	fu = 28.5	[Hz]
Total primary Inductance (2)	:	Lp = 466	[H]
Primary Leakage Inductance	:	lsp = 2.52	[mH]
Effective Primary Capacitance	:	cip = 0.193	[nF]
Total Primary DC Resistance	:	Rip = 143	[Ω]
Total Secondary DC Resistance	:	Ris = 0.123	[Ω]
Tubes Plate Resistance per section	:	ri = 8	[kΩ]
Insertion Loss	:	lloss = 0.181	[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.487	[]
HF roll-off Specific Frequency (5)	:	Fo = 281.475	[kHz]
Quality Factor (5)	:	QF = 1.849 × 10 ⁵	[]
Quality Decade Factor = log(QF) (5)	:	QDF = 5.267	[]
Tuning Factor (5)	:	TF = 0.508	[]
Tuning Decade Factor = log(TF) (5)	:	TDF = -0.294	[]
Frequency Decade Factor (4,5)	:	FDF = 4.973	[]

- (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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