

HIGH-END TOROIDAL PUSH-PULL OUTPUT TRANSFORMER

Type and Application	:	VDV-6040-PP (PAT-4002)	
Primary Impedance	:	Raa = 5.878	[k Ω]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 34.286	[]
UL-tap	:	tap = 40	[%]
Cathode Feedback Ratio	:	cfb = 0	[%]
-.1 dB Frequency Range [Hz to kHz] (3)	:	f1f = 4.257	f1h = 29.467
-1 dB Frequency Range [Hz to kHz] (3)	:	f11 = 1.816	f1h1 = 66.312
-3 dB Frequency Range [Hz to kHz] (3)	:	f13 = 0.924	f1h3 = 125.885
Nominal Power (1)	:	Pn = 40	[W]
- 3 dB Power Bandwidth starting at	:	fu = 25	[Hz]
Total primary Inductance (2)	:	Lp = 488	[H]
Primary Leakage Inductance	:	lsp = 2.16	[mH]
Effective Primary Capacitance	:	cip = 0.483	[nF]
Total Primary DC Resistance	:	Rip = 61	[Ω]
Total Secondary DC Resistance	:	Ris = 0.112	[Ω]
Tubes Plate Resistance per section	:	ri = 2.65	[k Ω]
Insertion Loss	:	lloss = 0.14	[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.448	[]
HF roll-off Specific Frequency (5)	:	Fo = 228.226	[kHz]
Quality Factor (5)	:	QF = 2.259 $\times 10^5$	[]
Quality Decade Factor = log(QF) (5)	:	QDF = 5.354	[]
Tuning Factor (5)	:	TF = 0.603	[]
Tuning Decade Factor = log(TF) (5)	:	TDF = -0.22	[]
Frequency Decade Factor (4,5)	:	FDF = 5.134	[]

- (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/f13) = 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



Copyright 2018 ir. bureau Vanderveen; Version 1.8. Design Date: 07-05-2018.
Final specs can deviate 15% or improve without notice