PAT–4145-00

Ratings

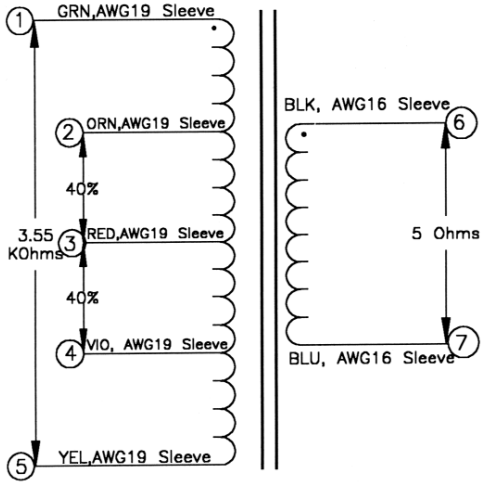
Type & Application	:	**Plitron / VDV PAT-4145-00**		
Primary Impedance	:	Raa = 3.553		[kΩ]
Seconday Impedance	:	Rls = 5		[Ω]
Turns Ratio Np/Ns	:	Ratio = 26.658		[ ]
Ultra Linear Tapping at	:	tap=40		[%]
-.1 dB Frequency Range [Hz to KHz](3)	:	flf = 2.369	fhf = 39.09	
-1 dB Frequency Range [Hz to KHz](3)	:	fl1 = 1.011	fh1 = 77.43	
-3 dB Frequency Range [Hz to KHz](3)	:	fl3 = 0.514	fh3 = 123.923	
Nominal Power (1)	:	Pn = 70		[W]
-3 dB Power Bandwidth starting at	:	fu = 14		[Hz]
Total Primary Inductance (2)	:	Lp = 778		[H]
Primary Leakage Inductance	:	Isp = 3		[mH]
Effective Primary Capacitance	:	Cip = 0.6		[nF]
Total Primary DC Resistance	:	Rip = 100		[Ω]
Total Secondary DC Resistance	:	Ris = 0.13		[Ω]
Tubes Plate Resistance per section	:	ri = 4		[kΩ]
Insertion Loss	:	Iloss = 0.229		[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.62		[ ]
HF roll-off Specific Frequency (5)	:	Fo = 143.74		[kHz]
Quality Factor (5)	:	QF = $2.593 \cdot 10^5$		[ ]
Quality Decade Factor = log(QF) (5)	:	QDF = 5.414		[ ]
Tuning Factor (5)	:	TF = 0.929		[ ]
Tuning Decade Factor = log(TF) (5)	:	TDF = –0.032		[ ]
Frequency Decade Factor (4, 5)	:	FDF = 5.382		[ ]

(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, transfered 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 transfered
(5): ir. Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers; preprint 3887, 97th AES Convention San Fransico
(C): Copyright 1994 Vanderveen; Version 1.7; design date November 16, 1994

Special Toroidal Output Transformer Designs

PAT4145-00 Application: 6550 70 W
This transformer is especially designed for the popular 6550 tube in Push Pull configuration with 40 % Ultra Linear Taps and an output power of 70 Watts. The primary impedance is 3550 Ohms with a secondary output tap at 5 Ohms. The -3 dB (IW) bandwidth is extremely wide, from 0. 5Hz up to 124 kHz and the -3 dB power bandwidth starts at 14Hz. Phase distortion is low, less than 5 degrees up to 100 kHz.

Schematic



Toroidal Output Transformer for Tube Amplifiers

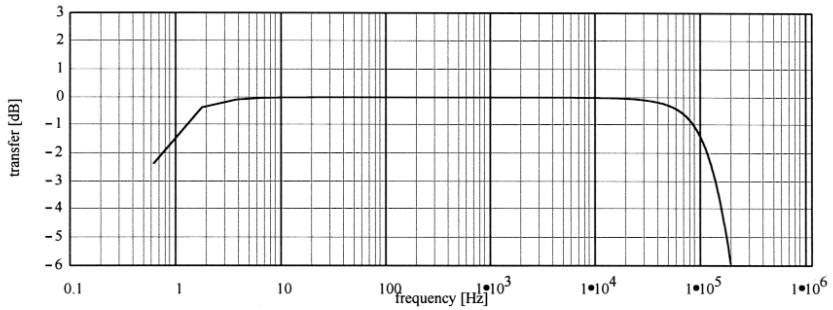
Visit us on the web:
www.plitron.com

Plitron Manufacturing Inc. 8 – 601 Magnetic Dr. Toronto, Ontario, Canada M3J 3J3 1-800-PLITRON (1-800-754-8766) Tel. 416-667-9914 FAX 416-667-8928

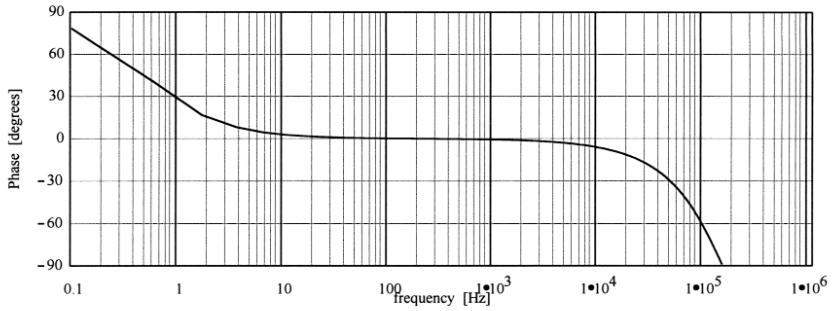
PAT–4145-00

Response Curves

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

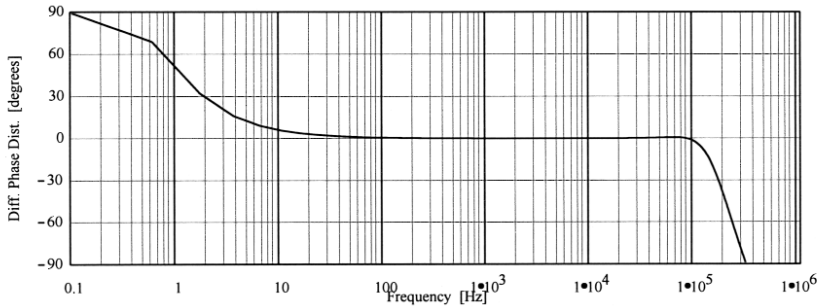


Phase Response; Vertical 30 deg./div; Horizontal .1 Hz to 1 MHz

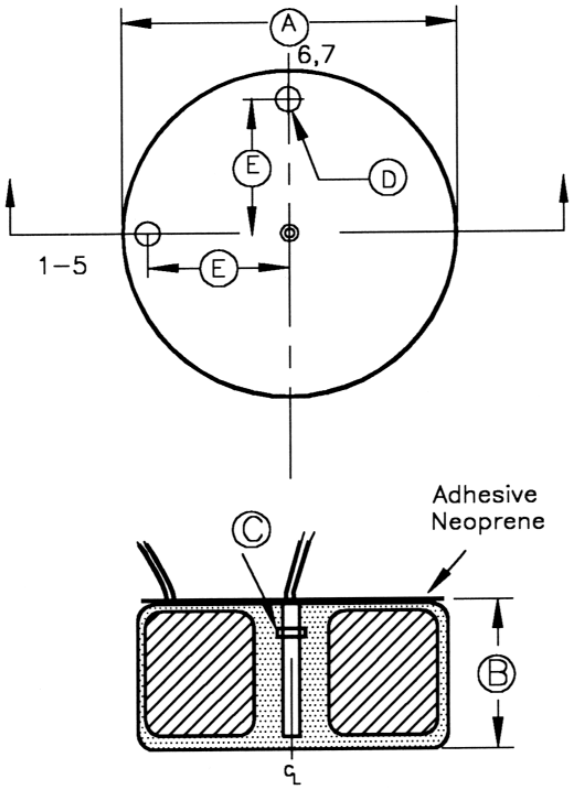


Differential Phase Distortion; vert. 30 deg./div; hor .1 Hz to 1 MHz

See: W.M.Leach, Differential Time Delay..; JAES sept.89 pp.709-715



Mechanical



REF	Dimension, in mm
A	152.0mm nominal
B	89.0mm nominal
C	5/16-18 T-NUT
D	20.0mm +/- 5
E	70.0mm +/- 5

Weight: 5.6kg
Lead Length: 200mm (+/- 10mm)

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