



ELECTRONIC TUBE REFERENCE

TB41500

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Directly heated Philips power triode intended particularly for industrial RF-generator service. Rated for approximately 500 W plate dissipation and 4 kV plate voltage, with low-medium gain favoring substantial oscillator and generator applications.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	5 V / 32.5 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0033 S
AMPLIFICATION FACTOR	21
MAXIMUM PLATE VOLTAGE	4000 V
MAXIMUM PLATE DISSIPATION	500 W
<i>Published filament, capacitance, typical characteristics, limiting values and RF/AF operating tables reviewed.</i>	

TB41500 is a Philips industrial RF-generator triode. The supplied datasheet provides direct-filament data, RF/AF ratings, capacitances and high-power operating conditions.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V4

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1963 PHILIPS ELECTRON TUBES HANDBOOK V4

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	5 V	DirectlyHeated
Filament current	32.5 A	DirectlyHeated
Amplification factor	21	Published
Transconductance	3300 μ S	Published

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	4000 V	Published limit

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate capacitance	0.2 pF	Published
Grid capacitance	9.2 pF	Published
Grid-to-plate capacitance	5.1 pF	Published



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips E-Z

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1999 PHILIPS E-Z

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Oscillator output power (Wo~Wseedn), typical Wose 1.58 kW	1.58 s	Oscillator output power (Wo~Wseedn), typical Wose 1.58 kW
Frequency for full ratings f max. 50 MH	50 a	Frequency for full ratings f max. 50 MH
Oscillator output power (Wo_wfeedb) Wose 1.55 1.58 1.55 kW	1.55 s	Oscillator output power (Wo_wfeedb) Wose 1.55 1.58 1.55 kW
Anode output power W, 1640 1670 1650 W	1650 A	Anode output power W, 1640 1670 1650 W
Anode efficiency Ma 78 78 77 9%	9 A	Anode efficiency Ma 78 78 77 9%
Oscillator efficiency Mosc 74 73.5 72.5 %	72.5 s	Oscillator efficiency Mosc 74 73.5 72.5 %
Anode current I max. 560 mA	560 A	Anode current I max. 560 mA
Anode input power Wia max. 2.5 kW	2.5 A	Anode input power Wia max. 2.5 kW
Anode dissipation Wy max. 500	500 A	Anode dissipation Wy max. 500
Grid voltage ~Vg max. 1250	1250 v	Grid voltage ~Vg max. 1250
Grid current, on load Ig max. 210 mA	210 a	Grid current, on load Ig max. 210 mA
Grid dissipation Wg max. 100	100 s	Grid dissipation Wg max. 100
Grid circuit resistance Rg max. 15 k&	15 s	Grid circuit resistance Rg max. 15 k&
Cathode current, mean Iy max. 850 mA	850 a	Cathode current, mean Iy max. 850 mA
Envelope temperature Tenv max. 350 oC	350 v	Envelope temperature Tenv max. 350 oC
Seal temperature t max. 220 oc	220 S	Seal temperature t max. 220 oc
Oscillator output power (W, ~Weooq) Wosc 3.05 2.28 kW	2.28 s	Oscillator output power (W, ~Weooq) Wosc 3.05 2.28 kW
Anode output power W, 3200 2400 W	2400 A	Anode output power W, 3200 2400 W
Anode efficiency N 76 7% %	7 A	Anode efficiency N 76 7% %

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Oscillator efficiency T _{osc} 72.5 72.5 G	72.5 s	Oscillator efficiency T _{osc} 72.5 72.5 G
Anode voltage vV, max. 7 kv	7 A	Anode voltage vV, max. 7 kv
Anode current I max. 750 mA	750 A	Anode current I max. 750 mA
Anode input power W, max. 5 kW	5 A	Anode input power W, max. 5 kW
Anode dissipation A max. See Fig. 2	2 A	Anode dissipation A max. See Fig. 2
Grid voltage -V _g max. 1250 V	1250 v	Grid voltage -V _g max. 1250 V
Grid current, on load I _g max. 185 mA	185 a	Grid current, on load I _g max. 185 mA
Grid dissipation 'gg max. 100 W	100 s	Grid dissipation 'gg max. 100 W
Grid circuit resistance R _g max. 15 kQ@	15 s	Grid circuit resistance R _g max. 15 kQ@
Cathode current, mean I max. 1.1 A	1.1 a	Cathode current, mean I max. 1.1 A
Envelope temperature T _{env} max. 330 °C	330 v	Envelope temperature T _{env} max. 330 °C
Seal temperature t max. 220 °cC	220 S	Seal temperature t max. 220 °cC
Oscillator output power (W,~W _{feedb}) 1.525	1.525 s	Oscillator output power (W,~W _{feedb}) 1.525
Anode output power W _i 1635 1600	1600 A	Anode output power W _i 1635 1600
Anode efficiency N ₄ 77 76	76 A	Anode efficiency N ₄ 77 76
Oscillator efficiency M _{osc} 74 73	73 s	Oscillator efficiency M _{osc} 74 73
Oscillator output power (W _o -W _{reedh}) W _{ose} 990	990 s	Oscillator output power (W _o -W _{reedh}) W _{ose} 990

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency f 50 50 50 MHz	50 MHz	Frequency f 50 50 50 MHz
Anode vootage V _a 6 5 4 kv	4 A	Anode vootage V _a 6 5 4 kv
Anode current I _y 350 430 535 mA	535 A	Anode current I _y 350 430 535 mA
Anode input power W _{ia} 2100 2150 2140 W	2140 A	Anode input power W _{ia} 2100 2150 2140 W

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode dissipation W, 460 480 490 W	490 A	Anode dissipation W, 460 480 490 W
Grid resistor Rg 4.2 3.5 2.7 kQ	2.7 s	Grid resistor Rg 4.2 3.5 2.7 kQ
Grid current, on load Ig 120 130 150 mA	150 a	Grid current, on load Ig 120 130 150 mA
Grid voltage, negative -Vg 500 456 405 V	405 v	Grid voltage, negative -Vg 500 456 405 V
Grid dissipation Wg 23 29 41 W	41 s	Grid dissipation Wg 23 29 41 W
Grid resistor dissipation Wrg 60 59 61 W	61 s	Grid resistor dissipation Wrg 60 59 61 W
Frequency for full ratings f up to 50 MHz	50 a	Frequency for full ratings f up to 50 MHz
RF power triode TB4 /l 500	500 w	RF power triode TB4 /l 500
Frequency f S0 50 MHz	50 S	Frequency f S0 50 MHz
Anode voltage Vi 6 6 kV	6 A	Anode voltage Vi 6 6 kV
Anode current I 700 630 mA	630 A	Anode current I 700 630 mA
Anode input power W, 4200 3150 W	3150 A	Anode input power W, 4200 3150 W
Anode dissipation W, 1000 7350 W	7350 A	Anode dissipation W, 1000 7350 W
Grid resistor Rg 3.3 2.7 k@	2.7 s	Grid resistor Rg 3.3 2.7 k@
Grid current, on load I 170 160 mA	160 a	Grid current, on load I 170 160 mA
Grid voltage, negative Vg 560 432V	432 v	Grid voltage, negative Vg 560 432V
Grid dissipation Wg 55 48 W	48 s	Grid dissipation Wg 55 48 W
Grid resistor dissipation WRg 95 69 W	69 s	Grid resistor dissipation WRg 95 69 W
Anode voltage a . 4.5	4.5 A	Anode voltage a . 4.5
Anode current I, 320 380	380 A	Anode current I, 320 380
Anode input power Wia 2125 2100	2100 A	Anode input power Wia 2125 2100
Anode dissipation w 490 500	500 A	Anode dissipation w 490 500
Grid resistor Rg 4.2 3.5	3.5 s	Grid resistor Rg 4.2 3.5

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid current, on load Ig 11(2) 120	120 a	Grid current, on load Ig 11(2) 120
Grid voltage, negative 420	420 v	Grid voltage, negative 420
Grid dissipation 25	25 s	Grid dissipation 25
Grid resistor dissipation WRg 50 50	50 s	Grid resistor dissipation WRg 50 50
RF power triode TB4 /1500	1500 w	RF power triode TB4 /1500
Frequency f 50 MHz	50 MHz	Frequency f 50 MHz
Transformer voltage, RMS Vir 4.5 kV	4.5 a	Transformer voltage, RMS Vir 4.5 kV

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes,
and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker