



ELECTRONIC TUBE REFERENCE

TB25300

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Directly heated Philips RF and AF transmitting triode for power-amplifier service. Rated for approximately 135 W plate dissipation and 2.5 kV plate voltage, with moderate gain and manufacturer operating data for transmitting applications.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 5.4 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.0028 S
AMPLIFICATION FACTOR	25
MAXIMUM PLATE VOLTAGE	2500 V
MAXIMUM PLATE DISSIPATION	135 W
MAXIMUM CATHODE CURRENT	250 mA
<i>Published filament, capacitance, typical characteristics, limiting values and RF/AF operating tables reviewed.</i>	

TB25300 is a Philips RF/AF transmitting 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	6.3 V	DirectlyHeated
Filament current	5.4 A	DirectlyHeated
Amplification factor	25	Published
Transconductance	2800 μ S	Published

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	2500 V	Published limit
Maximum plate dissipation	135 W	Published limit
Maximum cathode/plate current	250 mA	Published limit

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate capacitance	0.1 pF	Published
Grid capacitance	4.3 pF	Published
Grid-to-plate capacitance	5.2 pF	Published

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage Ve	6.3 a	Filament voltage Ve = 6.3V
Filament current If	5.4 a	Filament current If = 5.4 A
Anode to all other elements except grid Cag	100 mA	Anode to all other elements except grid Cag = 0.1 pF
Grid to all other elements except anode Cg	4.3 a	Grid to all other elements except anode Cg = 4.3 pF
Anode to grid Cag	5.2 A	Anode to grid Cag = 5.2 pF
Anode connector 40624	40624 A	Anode connector 40624
Socket with grounded grid connections 40215/01	1 S	Socket with grounded grid connections 40215/01
* Anode red hot, temperature	850 A	* Anode red hot, temperature = 850 °C.
RF power triode TB2.5/7300	7300 w	RF power triode TB2.5/7300
Wavelength	4 W	Wavelength = 4 4 4 4 m
Anode voltage 15 00 1000 V	1000 A	Anode voltage 15 00 1000 V
Grid voltage -1 10 -80 V	-80 v	Grid voltage -1 10 -80 V
Anode current 2 05 205 mA	205 A	Anode current 2 05 205 mA
Grid current 40 40 mA	40 mA	Grid current 40 40 mA
Grid input power 11 10 W	10 w	Grid input power 11 10 W
Anode input power	205 A	Anode input power = 512 410 3 08 205 W
Anode dissipation	79 A	Anode dissipation = 122 115 98 79 W
Wavelength 4 4 n	4 W	Wavelength 4 4 n
Anode voltage 2500 2000 1500 V	1500 A	Anode voltage 2500 2000 1500 V
Grid voltage -87 -45 Vv	-45 v	Grid voltage -87 -45 Vv
Anode current 77 120 mA	120 A	Anode current 77 120 mA
Anode input power 193 180 W	180 A	Anode input power 193 180 W
Anode dissipation 128 121 W	121 A	Anode dissipation 128 121 W

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid current 52 mA	52 mA	Grid current 52 mA
Grid input power 9.4 W	9.4 w	Grid input power 9.4 W
Wavelength A	4 W	Wavelength A = 4 4 4 m
Anode voltage Va	1000 A	Anode voltage Va = 2000 1500 1000 V
Grid voltage Vg	-130 v	Grid voltage Vg = =225 ~-180 -130 V
Anode current I,	255 A	Anode current I, = 255 255 255 mA
Grid current Ig	80 mA	Grid current Ig = 80 80 80 mA
Grid input power Wig	23 w	Grid input power Wig = 30 27 23 W
Anode input power Wia	255 A	Anode input power Wia = 510 382 255 W
Anode dissipation W,	65 A	Anode dissipation W, = 102 76 65 W
Modulation power Wmod	126 a	Modulation power Wmod = 255 191 126 W
Wavelength A	1.5 W	Wavelength A = 2 2 1.5 m
Anode voltage Va	2000 A	Anode voltage Va = 2500 2000 2000
Anode current I	346 A	Anode current I = 410 410 346 mA
Grid resistor Rg	1875 s	Grid resistor Rg = 2500 1875 1875 Q@
Anode input power Wia	692 A	Anode input power Wia = 1025 820 692 W
Anode dissipation W,	270 A	Anode dissipation W, = 245 230 270 W
Grid input power Wig	26 w	Grid input power Wig = 28 26 26 W
RF power triodes TB2.5/300	300 w	RF power triodes TB2.5/300
Wavelength A	7.3 W	Wavelength A = 7.3 m
Anode voltage vV,	2000 A	Anode voltage vV, = 2000 Vv b
Anode current I,	170 A	Anode current I, = 170 mA
Grid current Ig	34 mA	Grid current Ig = 34 mA
Grid resistor Rg	3750 s	Grid resistor Rg = 3750 @
Anode input power Wi,	420 A	Anode input power Wi, = 420 W
Anode dissipation W,	120 A	Anode dissipation W, = 120 W

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	25 A	Amplification factor = 25
Anode voltage Va max. 2500 V	2500 A	Anode voltage Va max. 2500 V
Anode dissipation™ W, max. 135 W	135 A	Anode dissipation™ W, max. 135 W

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid dissipation Wg max. 16 W	16 s	Grid dissipation Wg max. 16 W
Grid circuit resistance with fixed grid bias Rg max. 0,1 MQ	0.1 s	Grid circuit resistance with fixed grid bias Rg max. 0,1 MQ
Grid circuit resistance with automatic grid bias Rg max. 0,2 MQ2	0.2 s	Grid circuit resistance with automatic grid bias Rg max. 0,2 MQ2
Cathode current Ik max. 250 mA	250 a	Cathode current Ik max. 250 mA
Peak cathode current Ikp max. 1,6 A	1.6 a	Peak cathode current Ikp max. 1,6 A
Temperature of anode seal max. 220 oC	220 a	Temperature of anode seal max. 220 oC
Bottom temperature max. 180 oC	180 a	Bottom temperature max. 180 oC
Peak grid AC voltage 3 00 260 V	260 a	Peak grid AC voltage 3 00 260 V
Output power	126 w	Output power = 390 295 2 10 126 W
Efficiency	5 %	Efficiency = 76 72 68 6L.5 %
Peak grid AC voltage 100 100V	100 a	Peak grid AC voltage 100 100V
Output power 59 W	59 w	Output power 59 W
Efficiency 33 %	33 %	Efficiency 33 %
Peak grid AC voltage Vgp	320 a	Peak grid AC voltage Vgp = 415 370 320V
Output power W,	190 w	Output power W, = 408 306 190
Efficiency n	7.5 %	Efficiency n = 80 80 7.5 %
Output power W,	396 w	Output power W, = 752 564 396 W
Efficiency n	57 %	Efficiency n = 73 69 57 %

TUBE TINKER

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