



ELECTRONIC TUBE REFERENCE

TB25400

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Directly heated Philips transmitting triode for RF and AF power service. Rated for approximately 150 W plate dissipation and 3 kV plate voltage, with manufacturer data covering high-power operating conditions and interelectrode capacitances.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 5.8 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
MAXIMUM PLATE VOLTAGE	3000 V
MAXIMUM PLATE DISSIPATION	150 W
MAXIMUM CATHODE CURRENT	255 mA
<i>Published filament, capacitance, typical characteristics, limiting values and RF/AF operating tables reviewed.</i>	

TB25400 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	5.8 A	DirectlyHeated

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	3000 V	Published limit
Maximum plate dissipation	150 W	Published limit
Maximum cathode/plate current	255 mA	Published limit
Plate voltage	2500 V	ClassC Industrial
Grid bias	-200 V	ClassC Industrial
Plate current	205 mA	ClassC Industrial
Grid current	40 mA	ClassC Industrial

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate capacitance	0.1 pF	Published
Grid capacitance	4.9 pF	Published
Grid-to-plate capacitance	5 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 Vi	6.3 a	Filament voltage Vi = 6.3 V
Filament current If	5.8 a	Filament current If = 5.8 A
Anode to all other elements except grid Ca	100 mA	Anode to all other elements except grid Ca = 0.1 pF
Grid to all other elements except anode Cg	4.9 a	Grid to all other elements except anode Cg = 4.9 pF
Anode to grid Cag	5 A	Anode to grid Cag = 5.0 pF
Anode voltage Va	2500 A	Anode voltage Va = 2500 V
Anode current Iy	60 A	Anode current Iy = 60 mA
Anode connector 40624	40624 A	Anode connector 40624
RF power triode TB2.5/400	400 w	RF power triode TB2.5/400
Frequency 150 150 150 150 MHz	150 MHz	Frequency 150 150 150 150 MHz
Anode voltage 2500 2000 1500 1000 V	1000 A	Anode voltage 2500 2000 1500 1000 V
Grid voltage -200 -150 -110 -80 V	-80 v	Grid voltage -200 -150 -110 -80 V
Anode current 205 205 205 205 mA	205 A	Anode current 205 205 205 205 mA
Grid current 40 40 40 40 mA	40 mA	Grid current 40 40 40 40 mA
Grid input power 14 13 11 10 W	10 w	Grid input power 14 13 11 10 W
Anode input power 512 410 308 205 W	205 A	Anode input power 512 410 308 205 W
Anode dissipation 122 115 98 79 W	79 A	Anode dissipation 122 115 98 79 W
Frequency 150 150 150 MHz	150 MHz	Frequency 150 150 150 MHz
Anode voltage 2500 2000 1500 V	1500 A	Anode voltage 2500 2000 1500 V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid voltage -67 -45 Vv	-45 v	Grid voltage -67 -45 Vv
Anode current 97 120 mA	120 A	Anode current 97 120 mA
Anode input power 193 194 180 W	180 A	Anode input power 193 194 180 W
Anode dissipation 128 130 121 W	121 A	Anode dissipation 128 130 121 W
Grid current 28 52 mA	52 mA	Grid current 28 52 mA
Grid input power .1 9.4 W	9.4 w	Grid input power .1 9.4 W
Anode voltage Va 2000 1500 1000	1000 A	Anode voltage Va 2000 1500 1000
Grid voltage Vg ~225 -180 -130	-130 v	Grid voltage Vg ~225 -180 -130
Anode current I, 128 128 128	128 A	Anode current I, 128 128 128
Grid input power wig 15 14 12	12 w	Grid input power wig 15 14 12
Anode input power Wia 256 192 128	128 A	Anode input power Wia 256 192 128
Frequency { upto 150 MHz	150 MHz	Frequency { upto 150 MHz
Fig. 2 Grounded grid configuration	2 nf	Fig. 2 Grounded grid configuration.
Frequency f	100 MHz	Frequency f = 100 100 100 100 MHz
Anode voltage Vo	1000 A	Anode voltage Vo = 2500 2000 1500 1000 V
Grid voltage Vg	-80 v	Grid voltage Vg = -200 -150 -110 -80 V
Anode current Ia	410 A	Anode current Ia = 410 410 410 410 mA
Grid current Ig	80 mA	Grid current Ig = 80 80 80 80 mA
Grid input power Wig	100 w	Grid input power Wig = 158 136 118 100 W
Anode input power Wia	410 A	Anode input power Wia = 1025 820 615 410 W
Anode dissipation W,	158 A	Anode dissipation W, = 245 230 195 158 W
1) Power transferred from driving stage included	1 w	1) Power transferred from driving stage included
RF power triode TB2 .5/4 00	0 w	RF power triode TB2 .5/4 00

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	25 A	Amplification factor = 25
Temperature of anode seal	220 a	Temperature of anode seal = max. 220 °C

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Bottom temperature	180 a	Bottom temperature = max. 180 °C
Peak grid AC voltage 390 340 300 260 V	260 a	Peak grid AC voltage 390 340 300 260 V
Output power 390 295 210 126 W	126 w	Output power 390 295 210 126 W
Efficiency 76 72 68 61.5 %	61.5 %	Efficiency 76 72 68 61.5 %
Anode voltage max. 3000 V	3000 A	Anode voltage max. 3000 V
Anode current max. 170 mA	170 A	Anode current max. 170 mA
Anode dissipation max. 150 W	150 A	Anode dissipation max. 150 W
Anode input power max. 200 W	200 A	Anode input power max. 200 W
Grid current max. 55 mA	55 ma	Grid current max. 55 mA
Grid circuit resistance with fixed grid bias max. 0.1 MQ	0.1 s	Grid circuit resistance with fixed grid bias max. 0.1 MQ
Grid circuit resistance with automatic grid bias max. 0.2 MQ	0.2 s	Grid circuit resistance with automatic grid bias max. 0.2 MQ
Peak grid AC voltage 100 100 100 VvV	100 a	Peak grid AC voltage 100 100 100 VvV
QOutput power 64 59 W	59 w	QOutput power 64 59 W
Efficiency 33 33 %	33 %	Efficiency 33 33 %
Peak grid AC voltage gp 415 370 320	320 a	Peak grid AC voltage gp 415 370 320
Anode voltage TSV,	30000 A	Anode voltage TSV, = max. 30000V T
Anode current Iy	205 A	Anode current Iy = max. 205 mA
Anode dissipation W,	150 A	Anode dissipation W, = max. 150 W
Anode input power Wija	512 A	Anode input power Wija = max. 512 W
Negative grid voltage -Vg	300 a	Negative grid voltage -Vg = max. 300 V
Grid current Ig	45 ma	Grid current Ig = max. 45 mA
Grid circuit resistance with fixed grid bias Rg	0.1 s	Grid circuit resistance with fixed grid bias Rg = max. 0.1 MR
Grid circuit resistance with automatic grid bias Rg	0.2 s	Grid circuit resistance with automatic grid bias Rg = max. 0.2 MQ
Peak grid A.C. voltage Vgp	260 a	Peak grid A.C. voltage Vgp = 390 340 300 260 V
Output power Wo	1 w	Output power Wo = 780+130 5904110 420496 252480 W 1)
Efficiency n	61.5 %	Efficiency n = 76 72 68 61.5 % 2)

TUBE TINKER

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