



ELECTRONIC TUBE REFERENCE

YD1012

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Directly heated thoriated-tungsten very-high-power RF triode for transmitting, industrial, and Class B applications. Its exceptional approximately 180 kW plate-dissipation capability and high transconductance suit major high-power RF installations.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	18 V / 280 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.13 S
AMPLIFICATION FACTOR	55
MAXIMUM PLATE DISSIPATION	180000 W
Published electrical data additionally captured in parameter rows.	

Directly heated thoriated-tungsten R.F. power triode. The Philips sheet publishes filament data, interelectrode capacitances, static characteristics, limiting ratings, and operating conditions for R.F. and/or Class B service.

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage A% f	18	Filament voltage A% f 18
Filament current I	280	Filament current I 280
Amplification factor	55	Amplification factor 55
Mutual conductance	130 mA	Mutual conductance 130 mA/V
Cooling data for anode dissipation W,	180 kW	Cooling data for anode dissipation W, = 180 kW
Frequency) f upto	30 MHz	Frequency) f upto 10 upto 30 MHz
Negative grid voltage -Vg = m'ax	1200 V	Negative grid voltage -Vg = m'ax. 1200 1200 V
Frequency f	30 MHz	Frequency f = 10 10 30 30 MHz
Anode voltage Va	12 kv	Anode voltage Va = 15 15 12 12 kv
Grid voltage Vg	-720 V	Grid voltage Vg = -520 -800 -480 -720 V
Anode current I,	24.7 A	Anode current I, = 29.3 24.7 29.3 24.7 A
Grid current Ig	5.5 A	Grid current Ig = 5.4 5.2 5.9 5.5 A
Peak driving voltage Vgp	1290 V	Peak driving voltage Vgp = 1090 1370 1050 1290 V
Anode input power Wi,	296 kW	Anode input power Wi, = 440 371 353 296 kW
Anode dissipation W,	51 kW	Anode dissipation W, = 80 61 68 51 kW
Output power W,	245 kW	Output power W, = 360 310 285 245 kW
Efficiency n	82.6	Efficiency n = 81.8 83.5 80.8 82.6 %
Frequency f upto	30 MHz	Frequency f upto 30 MHz
Frequency f	30 MHz	Frequency f = 30 30 30 MHz
Anode voltage Va	8 kv	Anode voltage Va = 11 10 8 kv
Grid voltage Vg = =170	-100 V	Grid voltage Vg = =170 -140 -100 V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current I_a	18 A	Anode current $I_a = 19.3$ 18 A
Grid current I_g	7.6 A	Grid current $I_g = 7.4$ 6.9 7.6 A
Peak driving voltage V_{gp}	855 V	Peak driving voltage $V_{gp} = 1000$ 930 855 V
Anode input power $W_{i a}$	144 kW	Anode input power $W_{i a} = 209$ 173 144 kW
Anode dissipation W_i	34 kW	Anode dissipation $W_i = 44$ 38 34 kW
Output power W_o	110 kW	Output power $W_o = 165$ 135 110 kW
Efficiency η	76.5	Efficiency $\eta = 79$ 78 76.5 %
Frequency	30 MHz	Frequency 30 30 30 MHz
Anode voltage	6 kV	Anode voltage 10 6 kV

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage $V_e = \max$	12 kv	Anode voltage $V_e = \max.$ 15 12 kv
Anode dissipation $W_a = \max$	180 kW	Anode dissipation $W_a = \max.$ 180 180 kW
Grid dissipation $W_g = \max$	4 kW	Grid dissipation $W_g = \max.$ 4 4 kW
Anode current	33 A	Anode current $I_a = \max.$ 33 33 A
Grid current $I_g = \max.$ '8	8 A	Grid current $I_g = \max.$ '8 8 A
Anode dissipation $W_a, \max$	120 kW	Anode dissipation $W_a, \max.$ 120 kW
Negative grid voltage $-V_g \max$	1000 V	Negative grid voltage $-V_g \max.$ 1000 V
Grid dissipation $W_g \max$	4 kW	Grid dissipation $W_g \max.$ 4 kW
Anode current $I_a, \max$	22 A	Anode current $I_a, \max.$ 22 A
Grid current $I_g \max$	8 A	Grid current $I_g \max.$ 8 A

TUBE TINKER

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