



ELECTRONIC TUBE REFERENCE

TAL1220

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Forced-air-cooled directly heated Philips transmitting triode for high-frequency amplifier and oscillator service. Approximately 18 kW plate dissipation and 12 kV capability provide major professional transmitter power.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	21.5 V / 78 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.01 S
AMPLIFICATION FACTOR	38
MAXIMUM PLATE VOLTAGE	12000 V
MAXIMUM PLATE DISSIPATION	18000 W
Forced-air-cooled directly heated transmitting triode for HF amplifier and oscillator service.	

Forced-air-cooled directly heated transmitting triode for HF amplifier and oscillator service.

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
If	78 A	Cooling If = 78 A)
Starting heater current	160 A	Cooling Starting current must never exceed 160 A
Le courant de demarrage ne doit jamais exc~der	160 A	Cooling Le courant de demarrage ne doit jamais exc~der 160 A
sein als	160 A	Cooling sein als 160 A

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	1 A	Typical characteristics Caractdristiques typiques S (Ia = 1 A)= 10 mA/V
Plate current	10 mA/V	Typical characteristics Caractdristiques typiques S (Ia = 1 A)= 10 mA/V
Kenndaten last	11 A	Typical characteristics Kenndaten last = 11 A
a value of	11 A	Class C telegraphy a value of 11 A
tion de	11 A	Class C telegraphy tion de 11 A
Published electrical value	11 A	Class C telegraphy 11 A Erhalt
Capacitancea Oaf	1.9 pF	Class C telegraphy Capacitancea Oaf = 1.9 pF
Capacitds Cgf	23.5 pF	Class C telegraphy Capacitds Cgf = 23.5 pF
MapazitAten Cag	25 pF	Class C telegraphy MapazitAten Cag = 25 pF
Plate voltage	12 kV	Maximum ratings Va = max. 12 kV ti=20
Wa = max	18 kW	Maximum ratings Wa = max. 18 kW
on the grid seals at frequencies higher than	20 MHz	Maximum ratings on the grid seals at frequencies higher than 20 Mc/s

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
frdquences ddpaseant	20 MHz	Maximum ratings frdquences ddpaseant 20 Mc/s
Bei Frequenzen h&her ale	20 MHz	Maximum ratings Bei Frequenzen h&her ale 20 MHz ist em n schwacher
Plate voltage	12 kV	Maximum ratings Va = max. 12 kV to max. 60 °C
Plate voltage	60 °C	Maximum ratings Va = max. 12 kV to max. 60 °C
Wa = max	18 kW	Maximum ratings Wa = max. 18 kW to-ti = max. 14 °C
Wa = max	14 °C	Maximum ratings Wa = max. 18 kW to-ti = max. 14 °C
Wg = max	500 W	Maximum ratings Wg = max. 500 W q (Wa=18 kW)= min. 20 1/min
Wg = max	18 kW	Maximum ratings Wg = max. 500 W q (Wa=18 kW)= min. 20 1/min
points de scellement = max	150 °C	Maximum ratings points de scellement = max. 150 °C
fr	20 MHz	Maximum ratings fr6quences ddpassant 20 Mc/s
S	1 S	Maximum ratings S 503/01 S 504/01
Betriebsdaten H.F	10 a	Maximum ratings Betriebsdaten H.F. 10 asse C
Plate voltage	10 kV	Class C telegraphy Va = 12 10 10 kV
vg	-900 V	Class C telegraphy vg = -600 -500 -900 V
Ia	1.4 A	Class C telegraphy Ia 2.7 2.7 1.4 A
Ig	500 mA	Class C telegraphy Ig = 0.4 0.42 0.5 A
Vgp	2100 V	Class C telegraphy Vgp = 1800 1600 2100 V
Wig	1050 W	Class C telegraphy Wig = 720 670 1050 W
Wia	14 kW	Class C telegraphy Wia 32.4 27 14 kW
Wa	4.5 kW	Class C telegraphy Wa 10.4. 9 4.5 kW
Wo	9.5 kW	Class C telegraphy Wo 22 18 9.5 kW
Wmod	7 kW	Class C telegraphy Wmod 7 kW
Plate voltage	12 kV	Class C telegraphy Va = 12 kV
Vg	-200 V	Class C telegraphy Vg = -200 V
Plate current	1.54 A	Class C telegraphy Ia = 1.54 A
Vgp	435 V	Class C telegraphy Vgp = 435 V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
wia	18.5 kW	Class C telegraphy wia = 18.5 kW
Wa	13.5 kW	Class C telegraphy Wa = 13.5 kW
Power output	5 kW	Class C telegraphy Wo = 5 kW
Ig	240 mA	Class C telegraphy Ig = 0.24 A
Wig	210 W	Class C telegraphy Wig = 210 W
Plate voltage	10 kV	Class C telegraphy Va = 12 10 kV
Vg	-200 V	Class C telegraphy Vg = -250 -200 V
Plate current	1.1 A	Class C telegraphy Ia = 2x0.32 2x2.45 2x0.25 2x1.1 A
Ig	170 mA	Class C telegraphy Ig = 0 2x0.33 0 2x0.17 A
Wig	85 W	Class C telegraphy Wig = 0 2x280 0 2x85 W
Published electrical value	11 kW	Class C telegraphy = 2x3.8 2x29 2x2.5 2x11 kW
Wa	3 kW	Class C telegraphy Wa = 2x3.8 2x8 2x2.5 2x3 kW
Power output	16 kW	Class C telegraphy Wo = 0 42 0 16 kW
Published electrical value	15 V	Class C telegraphy 0 10 15 Va kV 20
Plate voltage	12 kV	Class C telegraphy Va =12kV
Published electrical value	15 V	Class C telegraphy 15 Va 40kV •■■UUV
Published electrical value	40 kV	Class C telegraphy 15 Va 40kV •■■UUV
Published electrical value	500 V	Class C telegraphy 250 500 750 100 250 1500Vgp(v)

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitances Caf	1.4 pF	Capacitances Capacitances Caf = 1.4 pF
Capacit	6 s	Capacitances Capacit6s Cgf = 23.5 pF
Capacit	23.5 pF	Capacitances Capacit6s Cgf = 23.5 pF
Kapazitäten Cag	25 pF	Capacitances Kapazitäten Cag = 25 pF



SOURCE DATA APPENDIX

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
Saturation current	11 A	—
Anode-filament capacitance	1.9 pF	—
Grid-filament capacitance	23.5 pF	—
Anode-grid capacitance	25 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid dissipation maximum	500 W	—