



ELECTRONIC TUBE REFERENCE

TAL1210

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Forced-air-cooled directly heated transmitting triode for high- and low-frequency amplifier and oscillator service. Approximately 7.5 kW plate dissipation and 12 kV capability support substantial continuous professional RF power.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	22 V / 39 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.007 S
AMPLIFICATION FACTOR	22
MAXIMUM PLATE VOLTAGE	12000 V
MAXIMUM PLATE DISSIPATION	7500 W
Forced-air-cooled directly heated transmitting triode for HF/LF amplifier and oscillator service.	

Forced-air-cooled directly heated transmitting triode for HF/LF 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
Heizung : direct pro Phase If	39 A	Cooling Heizung : direct pro Phase If = 39 A
Starting heater current	78 A	Cooling Starting current must never exceed 78 A per phase
Le courant de ddmarriage ne doit jamais eaceder	78 A	Cooling Le courant de ddmarriage ne doit jamais eaceder 78 A
sein ale	78 A	Cooling sein ale 78 A pro Phase
Plate voltage	12 kV	Modulator operation Va =12kV
Vg	-450 V	Modulator operation Vg =-450V 'W
m . /'	1 A	Modulator operation m . /'1 A')
Plate voltage	8 kV	Modulator operation Va =8kV
Raa =\$	1 W	Modulator operation Raa =\$32kt 1W

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitances Ca	4 pF	Capacitances Capacitances Ca = 4 pF
Capacitds Cg	24.8 pF	Capacitances Capacitds Cg = 24.8 pF
Kapazitäten Cag	22 pF	Capacitances Kapazitäten Cag = 22 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	500 mA	Typical characteristics (Ia=0.5 A)= 7 mA/V
Plate current	7 mA/V	Typical characteristics (Ia=0.5 A)= 7 mA/V
Kenndaten Isat	8 A	Typical characteristics Kenndaten Isat = 8A

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
a value of	8 A	Typical characteristics a value of 8 A
an courant de saturation de	8 A	Typical characteristics an courant de saturation de 8 A est indique h
Published electrical value	8 A	Typical characteristics 8 A erhlt
Plate voltage	12 kV	Maximum ratings Va = max. 12 kV (ti=20 ° C) = sin.
vra = max	4 kW	Maximum ratings vra = max. 4 kW (Wa= 4 kW)
points de scellement = max	150 °C	Maximum ratings points de scellement = max. 150 °C
m r\$c/s Va Wo Va	10 V	Class C telegraphy m r\$c/s Va Wo Va 010 Va Wo Va Wo
Plate voltage	12 kV	Maximum ratings Va = mar.. 12 kV to = max. 50 oC
Wa = max	7.5 kW	Maximum ratings Wa = max. 7.5 kW t o-ti = max. 11 oC
Wg = max	300 W	Maximum ratings Wg = max. 300 W q (Wa=7.5 kW)= min. 12 1/min
Wg = max	7.5 kW	Maximum ratings Wg = max. 300 W q (Wa=7.5 kW)= min. 12 1/min
Vfy	10 kV	Class C telegraphy Vfy = 12 10 kV
Vg	-600 V	Class C telegraphy Vg = -700 -600 V
Plate current	1.45 A	Class C telegraphy Ia = 1.21 1.45 A
Ig	260 mA	Class C telegraphy Ig = 0.28 0.26 A
Vgp	1050 V	Class C telegraphy Vgp = 1100 1050 V
Wia	14.5 kW	Class C telegraphy Wia = 14.5 14.5 kW
Wa	4 kW	Class C telegraphy Wa = 4 4 kW
Published electrical value	10.5 kw	Class C telegraphy = 10.5 10.5 kw
A = >	15 a	Class C telegraphy A = >60 >15 a
Published electrical value	6 kV	Class C telegraphy = 8 6 kV
Vg	-190 V	Class C telegraphy Vg = -300 -190 V
Plate current	1 A	Class C telegraphy Ia = 0.75 1 A
Published electrical value	6 kW	Class C telegraphy 9ia = 6 6 kW
Wa	4 kw	Class C telegraphy Wa = 4 4 kw
Power output	2 kw	Class C telegraphy Wo = 2 2 kw

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Zg	350 mA	Class C telegraphy Zg = 0.26 0.35 A
Va	8 kV	Class C telegraphy Va 10 8 kV
Ig	330 mA	Class C telegraphy Ig 0.44 0.33 A
Vgp	1150 V	Class C telegraphy Vgp 1200 1150 V
Wmod	4 kW	Class C telegraphy Wmod = 5 4 kW
Va	8 kV	Class C telegraphy Va 12 10 8 kV
Vgpp	1300 V	Class C telegraphy Vgpp= 0 1520 0 1350 0 1300 V
Plate current	1.42 A	Class C telegraphy I a =2x0.32 2x0.94 2x0.38 2x1.14 2x0.4 2x1.42 A
Ig	270 mA	Class C telegraphy Ig = 0 2x0.14 0 2x0.14 0 2x0.27 A
Wig	158 W	Class C telegraphy Wig = 0 2x96 0 2x86 0 2x158 W
Wia	11.4 kW	Class C telegraphy Wia = 2 x3. 84 2x11.3 2x3.8 2x11.4 2x3.2 2x11.4 kW
t	7 a	Class C telegraphy t7a =2x3.84 2x2.8 2x3.8 2x3.1 2x3.2 2x3.3 k"I
Wo	16.2 kW	Class C telegraphy Wo 0 17 0 16.6 0 16.2 kW
Plate voltage	4 kV	Class C telegraphy Va = 12 10 6.5 4 kV
Vg	-350 V	Class C telegraphy Vg = -700 -600 -460 -350 V
la	1.7 A	Class C telegraphy la = 1.7 1.7 1.7 1.7 A
Ig	160 mA	Class C telegraphy Ig = 0.35 0.28 0.19 0.16 A
Vgp	775 V	Class C telegraphy Vgp = 1100 1070 885 775 V
Zia	6.8 kw	Class C telegraphy Zia = 20.4 17 11 6.8 kw
Published electrical value	3.3 kw	Class C telegraphy = 5.4 5 4.5 3.3 kw
wo	3.5 kw	Class C telegraphy wo = 15 12 6.5 3.5 kw
Plate voltage	10 kV	Class C telegraphy Va = 12 10 kV
Vg	-360 V	Class C telegraphy Vg = -435 -360 V
Plate current	1 A	Class C telegraphy Ia = 0.93 1 A
Vgp	245 V	Class C telegraphy Vgp = 285 245 V
wia	10 kw	Class C telegraphy wia = 11.2 10 kw
Published electrical value	6.7 kw	Class C telegraphy = 7.5 6.7 kw
wo	3.3 kw	Class C telegraphy wo = 3.7 3.3 kw

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ig	350 mA	Class C telegraphy Ig = 0.35 0.35 A
Plate voltage	8 kV	Class C telegraphy Va = 10 8 kV
Vg	-700 V	Class C telegraphy Vg = -800 -700 V
Plate current	1 A	Class C telegraphy Ia = 1 1 A
Wig	345 W	Class C telegraphy Wig 475 345 W
Wia	8 kW	Class C telegraphy Wia 10 8 kW
Wa	2 kW	Class C telegraphy Wa 2.3 2 kW
Wp	6 kW	Class C telegraphy Wp 7.7 6 kW
Wmod	4 kW	Class C telegraphy Wmod 5 4 kW
Vg	-260 V	Class C telegraphy Vg = -415 -350 -260 V
Vgpp	1400 V	Class C telegraphy Vgpp= 0 1720 0 1560 0 1400V
Plate current	1.75 A	Class C telegraphy Ia =2x0.55 2x1.7 2x0.35 2x1.9 2x0.45 2x1.75 A
Ig	380 mA	Class C telegraphy Ig = 0 2x0.32 0 2x0.18 0 2x0.38 A
Wig	12 W	Class C telegraphy Wig = 0 2x250 0 2x130 0 2x12 W
Published electrical value	50 a	Class C telegraphy 50 a■▶ ■~■~■~■.■.o~■.i■.■.■ 0
Published electrical value	15 V	Class C telegraphy 0 5 15V.kV)
A	6.195 A	Class C telegraphy A 6.6.1950 A
~~	1 A	Class C telegraphy ~~01A
Published electrical value	5 A	Class C telegraphy 05A
Published electrical value	0 mA	Class C telegraphy 0A
Published electrical value	5 V	Class C telegraphy 0 10 5 Va(kV. 20
Plate voltage	8 kV	Class C telegraphy Va =8kV
(kw) Vo	6 kV	Class C telegraphy (kw) Vo=6kV * .
Published electrical value	2 A	Class C telegraphy 2 A- L IJ_.Q 1
N	1 A	Class C telegraphy N. 1 A
Published electrical value	600 V	Class C telegraphy 0 100 200 300 400 500 600Vgp(V)70 o

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
Saturation current	8 A	—
Anode-filament capacitance	4 pF	—
Grid-filament capacitance	24.8 pF	—
Anode-grid capacitance	22 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid dissipation maximum	300 W	—