

ELECTRONIC TUBE REFERENCE

YL1440

Power - Tetrode (NOT beam) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TETRODE

Forced-air-cooled metal-ceramic VHF power tetrode for television and broadcast transmitters, transposers, and modulation service. Its comparatively high amplification factor and roughly 1.5 kW plate dissipation provide useful gain in professional RF power stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	4.2 V / 53 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.025 S
AMPLIFICATION FACTOR	16
MAXIMUM PLATE VOLTAGE	4000 V
MAXIMUM SCREEN VOLTAGE	700 V
MAXIMUM PLATE DISSIPATION	1500 W
MAXIMUM SCREEN DISSIPATION	50 W
MAXIMUM GRID DISSIPATION	30 W
MAXIMUM CATHODE CURRENT	1.5 A
VHF RF power tetrode	

Forced-air-cooled metal-ceramic VHF power tetrode for television transmitters, broadcast, modulation,

and transposer applications.

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 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency f 175,	25 MHz	ClassAB
Anode voltage Va	3 kv	ClassAB
Output power in load w1	1.55 kW	ClassAB
Frequency f	260 MHz	ClassB
Anode voltage Va	3.5 kv	ClassB
Output power in load Wy	2.4 kW	ClassB
Frequency f	175 to 225 MHz	Transposer
Anode voltage Va	2.5 kV	Transposer
Output power in load Wy	0.55 kW	Transposer
Filament voltage Vg	4.2 V	—
Filament current I	53 A	—
Filament peak starting current lfp max	300 A	—
Waiting time Ty, min	1 S	—
Absolute max. erve.ope temperature tenv max	240 °c	—
Frequency f up to	260 MHz	—
Anode voltage max	4 kv	—
Grid no. 2 voltage max	700 V	—
Anode current max	1.2 A	—
Anode input power max	4 KW	—
Anode dissipation max	1.5 kW	—
Grid no. 2 dissipation max	50 W	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid no. 1 dissipation max	30 W	—
Cathode current max	1.5 A	—
Frequency up to	260 MHz	—
Anode voltage	3.5 kV	—
Anode current, no signal condition	100 mA	—
Anode current	980 mA	—
Grid no. 2 current	70 mA	—
Grid no. 1 current	120 mA	—
Anode input power	3.43 KW	—
Anode dissipation	0.9 kW	—
Output power in load	2.4 kW	—
Driving power	90 W	—
Anode dissipation W, max	1.5 kw	—
Frequency of vision carrier f 175,	25 MHz	—
Bandwidth (	-1 dB	—
Frequency of vision carrier f 35,	25 MHz	—
Bandwidth ([1]	-1 dB	—
Bandwidth ([2]	6 MHz	—
Grid no. 2 voltage Vga 600 600	600 V	—
Grid no. 1 voltage Vg1 -21 -20	21 V	—
Anode current, no signal condition Ia 200 200	200 mA	—
Anode current, black [1]	1 a	—
Anode current, black [2]	900 mA	—
Grid no. 2 current, black Ig9 black 45 40	50 mA	—
Ig1 black 80 50	9 mA	—
Output power in load, sync f 1170 670	1500 W	—
black Wy black 700 400	0 W	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Driving power, sync War sync 83 42	94 W	—
black Wdr black 46 24	50 W	—
Frequency of vision carrier f	83.25 MHz	—
Bandwidth ([2]	7 MHz	—
Anode voltage Va 2,5	2 kV	—
Grid no. 2 voltage Ve 600	600 V	—
Grid no. 1 voltage Vg	~21 -20 V	—
200	200 mA	—
Anode current, black I3 black 900	610 mA	—
Grid no. 2 current, black g2 plack	45 mA	—
g1 black	45 mA	—
Output power in toad, sync W, sync	670 W	—
Driving power, sync War sync	39 W	—
black Wdr black	2 W	—
Frequency f	175 to 225 MHz	—
Bandwidth ([2]	8 MHz	—
Anode voltage vV,	2.5 kV	—
Grid no. 2 voltage Vgz	600 v	—
Anode current, no signal condition I,	550 mA	—
Anode current 6) Ia	730 mA	—
Grid no. 2 current 6) Ig2	50 mA	—
Grid no. I current 6) Igy	35 mA	—
Driving power, sync Wdr	18 W	—
Output power in load, sync WI	0.55 kW	—
Intermodulation products 7) d	-52 dB	—
with superimposed a 4,	43 MHz	—
6) At ϕ .w. output power = S5	0 W	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
") Three-tone test method (vision carrier [1]	8 dB	—
") Three-tone test method (vision carrier [2]	-7 dB	—
0 RN S	0 S	—
1 ' t	1 S	—
(D)	1 W	—
v) I52	600 mA	—
o)]	400 mA	—
A1	8 A	—
Tt . —	1-3.5 A	—
i e Tl0	6 A	—
T . —	3 A	—
>0 -t > i = [T)	2.5 A	—
0 _	200 mA	—
2 LA	15 A	—
—	1 A	—
I45	400 mA	—
Vga92	600 V	—
W > L	3 A	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage Va	4 kV	—
Grid no. 2 voltage Vg2	500 v	—
Anode current I	400 mA	—
Transconductance S	25 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ct(a)	24 pF	—
Nutput Ca(g1) 9 Caf)	9 pF	—
Anode to grid no. 1 Cagi	0.1 pF	—



TUBE TINKER

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and their source documents.

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