



ELECTRONIC TUBE REFERENCE

QQE045

Power - Tetrode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TETRODE-TETRODE

Internally neutralized double tetrode designed for oscillator, frequency-tripler, and amplifier service. Two tetrode sections provide high-frequency paired power operation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	6.3 V / 600 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.0105 S
AMPLIFICATION FACTOR	26
MAXIMUM PLATE VOLTAGE	400 V
MAXIMUM SCREEN VOLTAGE	225 V
Identical repeated sections compressed to one row. Internally neutralized double tetrode for oscillator, frequency-tripler and amplifier service.	

SECTION2 Tetrode	
No fixed ratings recorded.	

Internally neutralized double tetrode for oscillator, frequency-tripler and amplifier 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 · Tetrode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode: oxide coated Vf	6.3 V	Cathode: oxide coated Vf = 6.3 V t 10 % 12.6 V t 10 %
Cathode: oxide coated Vf	12.6 V	Cathode: oxide coated Vf = 6.3 V t 10 % 12.6 V t 10 %
Cathode: oxyde If	600 mA	Cathode: oxyde If - 0.6 A
Katode : Oxyd	300 mA	Katode : Oxyd 0.3 A

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate capacitance	35 pF	Capacitances Capacitances (each system) Ca = 1 .35 pF
Grid-to-plate capacitance	0.145 pF	Capacitances Cag1 = 0.145 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical characteristics	350 V	Typical characteristics Typical characteristics 350 V
Kenndaten Vg	200 V	Typical characteristics Kenndaten Vg2 = 200 V
Plate current	25 mA	Typical characteristics Ia = 25 mA
Transconductance	10.5 mA/V	Typical characteristics S = 10.5 mA/V
Va P	0 V	Class C telegraphy Va P0 Va To Va To Va To
Temperatures Scellements des broches max	220 °C	Class C telegraphy Temperatures Scellements des broches max.220°C
Bulb. ampoule. Kolben max	220 °C	Class C telegraphy Bulb. ampoule. Kolben max.220°C

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical value	960 MHz	Class C telegraphy 960 Mc/s
Published electrical value	960 MHz	Class C telegraphy 960 MHz
bei	960 MHz	Class C telegraphy bei 960 MHz
f = max	960 ma	Maximum ratings f = max. 960 max. 960 Me/s
Plate voltage	400 ma	Maximum ratings Va = max. 400 max. 400 V
Plate voltage	400 V	Maximum ratings Va = max. 400 max. 400 V
Plate current	45 ma	Maximum ratings Ia = max. 2x 45 max. 2 x 50 mA
Plate current	50 mA	Maximum ratings Ia = max. 2x 45 max. 2 x 50 mA
max	8 ma	Maximum ratings = max. 2x 8 max. 2 x 10 W
max	10 W	Maximum ratings = max. 2x 8 max. 2 x 10 W
Wia = max	10 ma	Maximum ratings Wia = max. 2 x 10 max. 2 x 12 W
Wia = max	12 W	Maximum ratings Wia = max. 2 x 10 max. 2 x 12 W
Screen-grid voltage	225 ma	Maximum ratings Vg2 = max. 225 max. 225 V
Screen-grid voltage	225 V	Maximum ratings Vg2 = max. 225 max. 225 V
Wg	1.5 ma	Maximum ratings Wg2 = max. 2 x 1.5 max. 2 x 1.75 W
Wg	1.75 W	Maximum ratings Wg2 = max. 2 x 1.5 max. 2 x 1.75 W
pg	100 ma	Maximum ratings -pg1 = max. 100 max. 100 V
pg	100 V	Maximum ratings -pg1 = max. 100 max. 100 V
max	4 ma	Maximum ratings = max. 2x 4 max. 2 x 5 mA
max	5 mA	Maximum ratings = max. 2x 4 max. 2 x 5 mA
Plate voltage	250 V	Maximum ratings Va = 250 250 V
Control-grid voltage	-15 V	Maximum ratings Vg1 -15 -15 V
Plate current	40 mA	Maximum ratings Ia = 2x35 2x 40 mA
Ig	15 mA	Maximum ratings Ig2 15 15 mA
Control-grid current	0.75 mA	Maximum ratings Ig1 = 2 x 0.75 2 x 0.75 mA
Wia	10 W	Maximum ratings Wia = 2 x 8.8 2 x 10 W
qa	5.4 W	Maximum ratings qa = 2 x 5.4 2 x 5.4 W
Published electrical value	2.9 W	Maximum ratings 3g2 2.5 2.9 W

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Wdr	1.4 W	Maximum ratings Wdr3) 1.4 1.4 W
Wo	8 W	Maximum ratings Wo 7 8 W
w~	5 W	Maximum ratings w~ 4) 4 5 W
Adjust Vg	35 mA	Maximum ratings Adjust Vg2 until Ia = 2x35 mA at Wo max.
Kegler Vg	35 mA	Maximum ratings Kegler Vg2 jusqu'a ce que Ia = 2x35 mA a Wo max.
Vg	35 mA	Maximum ratings Vg2 einstellen his Ia = 2x35 mA wenn Wo max. 1st.
Vg	1 s	Maximum ratings Vg2 einstellen his Ia = 2x35 mA wenn Wo max. 1st.
Adjust Vg	40 mA	Maximum ratings Adjust Vg2 until Ia = 2x40 mA at Wo max.
Regler Vg	40 mA	Maximum ratings Regler Vg2 jusqu'a ce que Ia = 2x40 mA a Wo max.



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
Cathode: oxide coated Ve [1]	6.3 V	FrequencyTripler
Cathode: oxide coated Ve [2]	12.6 V	FrequencyTripler
I, = maX. 2 X 45 max. 2 x	50 mA	—
Wa = max. 2 X 8 max 2x	10 W	—
Wia = max. 2 x 10 max 2x	12 W	—
Vgz = max. 225 max	225 V	—
wg2 = max. 2 X 1,5 max. 2 x	1.75 W	—
Vg1 = max. 100 max	100 V	—
Ig1 = max. 2 X 4 max. 2 x	5 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Vg = 250	250 v	—
Vg = -15	-15 v	—
Igs = 2x 0,75 2 x	0.75 mA	—
e = 2x 8,8 2 x	10 W	—
Va = 2x 5,4 2 X	5.4 W	—
Vg o ® 2,5	2.9 w	—
War?) = 1,4	1.4 W	—
Ho = 7	8 W	—
Wy 4y = 4	5 W	—
Adjust Vg2 until Ia 2x3	5 mA	—
Régler Vgz jusqu' a ce que Ia 2X3	5 mA	—
Vgo einstellen bis Ia 2x3	5 mA	—
Ad just Vg2 until Ia 2x4	0 mA	—
Régler Vg2 jusqu' a ce que Ia 2x4	0 mA	—
Vg2 einstellen bis Ia = 2x4	0 mA	—
Va = max 400 mmax	400 V	—
Ia = max 2 x 40 max 2 x	40 mA	—
Vg = max. 2x8 max. 2x	10 W	—
Vg2 = max. 225 max	250 V	—
Vgh = max. 100 max	100 V	—
f = 320/960 320/	960 Mc/s	—
Va = 250	250 V	—
Vgg = 150	170 V	—
Ia = 2 x 37,5 2 X	40 mA	—
Ig, = 15	16 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitances (each system) Ca	1.35 pF	—
Cagr	0.145 pF	—
Typical characteristics Va	350 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cag1	0.745 pF	—
Caractéristiques types Va	350 v	—
Kenndaten Vgz	200 V	—
Ia	25 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ia = 25 mA	10.5 mA	—
Températures Scelllements des broches max	220 °C	—
Bulb, ampoule, Kolben max	220 °C	—
Cathode: oxide coated Ve =6,3V10%	12.6 V	FrequencyTripler
Cap301tanc?s (each systemg Ca	1.35 pF	—
Bulbd, ampoule, Kolben max	220 °C	—
circuit connector at	960 Mc/s	—
anode-circuit accorde	960 MHz	—
bel	960 Hz	—

TUBE TINKER

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