

ELECTRONIC TUBE REFERENCE

QEL1150

Power - Tetrode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TETRODE

VHF/UHF power tetrode designed for RF amplification, oscillator, frequency multiplication, and modulation to approximately 500 MHz. A versatile professional high-frequency power tube.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	8
NOMINAL HEATER	6 V / 2.6 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.012 S
AMPLIFICATION FACTOR	5
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	250 W
MAXIMUM SCREEN DISSIPATION	12 W
MAXIMUM CATHODE CURRENT	250 mA
VHF/UHF tetrode for RF amplifier, oscillator, frequency-multiplier and modulator service to 500 MHz.	

VHF/UHF tetrode for RF amplifier, oscillator, frequency-multiplier and modulator service to 500 MHz.

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
Published electrical value	500 MHz	500 Mc/s
modulatrice a des frequences jusqu'a	500 MHz	modulatrice a des frequences jusqu'a 500 MHz
Published electrical value	81 s	81s zu 500 MHz
Published electrical value	500 MHz	81s zu 500 MHz
Chauffage: indirect	2.6 A	Chauffage: indirect 2.6A
L'usagedu support de tube	40222 a	Cooling L'usagedu support de tube 40222 avec la cheminee 56 590 81/40
malen Loctalfassung nicht gesichert	1 s	Cooling malen Loctalfassung nicht gesichert 1st. wird die Ver-
en utilisantle support	40222 a	Cooling en utilisantle support 40222 avec la cheminee 56 590 81/40

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitances Ca	4.5 pF	Capacitances Capacitances Ca = 4.5 pF
Kapazitäten	15.5 pF	Capacitances Kapazitäten 15.5 pF
Cagl	0.03 pF	Capacitances Cagl = 0.03 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Kenndaten Va	500 V	Typical characteristics Kenndaten Va = 500 V
S Vg	250 V	Typical characteristics S Vg2 = 250 V 12 mA/V
S Vg	12 mA/V	Typical characteristics S Vg2 = 250 V 12 mA/V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	200 mA	Typical characteristics Ia = 200 mA
Va wo Va	10 V	Class C telegraphy Va wo Va 10 Va wo4)
Seal temperature max	150 °C	Cooling Seal temperature max. 150°C
Temperature des scellements max	150 °C	Cooling Temperature des scellements max. 150°C
Temperatur der Einschmelzungen max	150 °C	Cooling Temperatur der Einschmelzungen max. 150°C
Plate voltage	1250 V	Maximum ratings Va = max. 1250 V Vg2 = max. 300V
Plate voltage	300 V	Maximum ratings Va = max. 1250 V Vg2 = max. 300V
Wia = max	300 W	Maximum ratings Wia = max. 300 W Wg2 = max. 12 W
Wia = max	12 W	Maximum ratings Wia = max. 300 W Wg2 = max. 12 W
Control-grid voltage	150 W	Maximum ratings Wa = max. 150 W -Vg 1 = max. 250V
Control-grid voltage	250 V	Maximum ratings Wa = max. 150 W -Vg 1 = max. 250V
Plate current	250 mA	Maximum ratings Ia = max. 250 mA WgI = max. 2W
Plate current	2 W	Maximum ratings Ia = max. 250 mA WgI = max. 2W
Plate voltage	600 V	Maximum ratings Va = 1250 1000 750 600 V
Screen-grid voltage	250 V	Maximum ratings Vg2 = 250 250 250 250 V
Control-grid voltage	-75 V	Maximum ratings Vg1 = -90 -80 -80 -75 V
Vg l p	90 V	Maximum ratings Vg l p = 105 95 95 90 V
Plate current	200 mA	Maximum ratings Ia = 200 200 200 200 mA
Screen-grid current	37 mA	Maximum ratings Ig2 = 20 30 37 37 mA
Igt	10 mA	Maximum ratings Igt = 10 10 10 10 mA
Wig	0.7 W	Maximum ratings Wig1 1) = 0.8 0.7 0.7 0.7 W
Wg	9.3 W	Maximum ratings Wg2 = 5 7.5 9.3 9.3 W
Wia	120 W	Maximum ratings Wia = 250 200 150 120 W
Wa	35 W	Maximum ratings Wa = 55 50 40 35W
W	85 W	Maximum ratings W0 = 195 150 110 85 W
f	500 MHz	Class C telegraphy f 500 500 500 500 Mc/s

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	600 V	Class C telegraphy Va = 1250 1000 800 600 V
Screen-grid voltage	250 V	Class C telegraphy Vg2 = 250 250 250 250 V
Control-grid voltage	-80 V	Class C telegraphy Vg1 = -80 -80 -80 -80 V
la	200 mA	Class C telegraphy la = 200 200 200 200 mA
Published electrical value	7 mA	Class C telegraphy 152 = 7 7 7 7mA
lg	10 mA	Class C telegraphy lg1 = 10 10 10 10 mA
Wigt	10 W	Class C telegraphy Wigt = 10 10 10 10 W
Wia	120 W	Class C telegraphy Wia = 250 200 160 120 W
Plate voltage	1000 V	Maximum ratings Va = max. 1000 V Vg2 = max. 300 V
Plate voltage	300 V	Maximum ratings Va = max. 1000 V Vg2 = max. 300 V
Wia = max	200 W	Maximum ratings Wia = max. 200 W Wg2 = max. 12 W
Wia = max	12 W	Maximum ratings Wia = max. 200 W Wg2 = max. 12 W
Control-grid voltage	100 W	Maximum ratings Wa = max. 100 W -Vg 1 = max. 250 V
Control-grid voltage	250 V	Maximum ratings Wa = max. 100 W -Vg 1 = max. 250 V
Published electrical value	1 a	Maximum ratings 1a = max. 200 mA Wg 1 max. 2 W
Published electrical value	200 mA	Maximum ratings 1a = max. 200 mA Wg 1 max. 2 W
Published electrical value	1 ma	Maximum ratings 1a = max. 200 mA Wg 1 max. 2 W
Published electrical value	2 W	Maximum ratings 1a = max. 200 mA Wg 1 max. 2 W
Plate voltage	400 V	Maximum ratings Va = 1000 800 600 400 V
Control-grid voltage	-90 V	Maximum ratings Vg1 = -105 -100 -95 -90 V
Vgip	110 V	Maximum ratings Vgip = 125 120 120 110 V
Za	200 mA	Maximum ratings Za = 200 200 200 200 mA
Published electrical value	40 mA	Maximum ratings 182 = 20 25 35 40 mA
Published electrical value	7 mA	Maximum ratings 1g1 = 15 10 8 7 mA
Wig	1 W	Maximum ratings Wig1 = 2 1.5 1 1 W
Wg	10 W	Maximum ratings Wg2 = 5 6.3 8.8 10 W

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Wia	80 W	Maximum ratings Wia = 200 160 120 80 W
Wa	25 W	Maximum ratings Wa = 60 60 40 25W
Vg	140 V	Maximum ratings Vg2p = 170 160 150 140 V
Wmod	40 W	Maximum ratings Wmod = 100 80 60 40 W
f _ _ m x _	250 mA	Maximum ratings f _ _ m x _2~0_M0/B Ia = max. 250 mA
Plate voltage	1250 V	Maximum ratings Va = max. 1250 V Wa = max. 150 W
Plate voltage	150 W	Maximum ratings Va = max. 1250 V Wa = max. 150 W
Screen-grid voltage	400 V	Maximum ratings Vg2 = max. 400 V Wg2 = max. 12 W
Screen-grid voltage	12 W	Maximum ratings Vg2 = max. 400 V Wg2 = max. 12 W
Control-grid voltage	250 V	Maximum ratings -Vg1 = max. 250 V Wgi = max. 2W
Control-grid voltage	2 W	Maximum ratings -Vg1 = max. 250 V Wgi = max. 2W
f	216 MHz	Maximum ratings f 216 216 216 Mc/s
B	5 MHz	Maximum ratings B = 5 5 5 Mc/s
Plate voltage	750 V	Maximum ratings Va = 1250 1000 750 V
Vg	300 V	Maximum ratings Vg2 300 300 300 V



SOURCE DATA APPENDIX

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	6 V	—
Heater/filament current	2.6 A	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12000 μ S	—
Screen-grid amplification factor	5	—
Typical plate voltage	500 V	—
Typical screen-grid voltage	250 V	—
Typical plate current	200 mA	—
Minimum waiting time	30 sec	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate/anode voltage	2000 V	—
Maximum screen-grid voltage	300 V	—
Maximum plate/anode dissipation	250 W	—
Maximum screen-grid dissipation	12 W	—
Operating plate voltage	1250 V	ClassC;Telegraphy;169MHz
RF output power	195 W	ClassC;Telegraphy;169MHz
Operating plate voltage	1250 V	ClassC;Telegraphy;500MHz
RF output power	170 W	ClassC;Telegraphy;500MHz

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate/anode capacitance	4.5 pF	—
Control-grid capacitance	15.5 pF	—
Plate-grid capacitance	0.03 pF	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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