



ELECTRONIC TUBE REFERENCE

QEL2250

Power - Tetrode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TETRODE

VHF/UHF power tetrode for RF amplifier, oscillator, frequency-multiplier, and modulator service to approximately 500 MHz. Designed for substantial professional high-frequency output.

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

SECTION 1 Tetrode	
TRANSCONDUCTANCE	0.012 S
AMPLIFICATION FACTOR	5.2
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 des frequences jusqu'a	500 MHz	modulatrice des frequences jusqu'a 500 MHz
quenzen bis zu	500 MHz	quenzen bis zu 500 MHz
Heating : indirect If	2.6 A	Heating : indirect If = 2.6A
L'utilisation du support	40222 a	Cooling L'utilisation du support 40222 avec la cheminee est
Published electrical value	40222 a	Cooling 40222 avec la cheminee
f	300 MHz	Cooling f 300 Mc/s 300-400 Mc/s 400-500 Mc/s
f	-400 MHz	Cooling f 300 Mc/s 300-400 Mc/s 400-500 Mc/s
f	-500 MHz	Cooling f 300 Mc/s 300-400 Mc/s 400-500 Mc/s

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Kapazitäten Cg	15.7 pF	Capacitances Kapazitäten Cg 1 = 15.7 pF
Grid-to-plate capacitance	0.06 pF	Capacitances Cag1 < 0.06 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical characteristics Va	500 V	Typical characteristics Typical characteristics Va = 500V
Plate current	200 mA	Typical characteristics Ia = 200 mA
Transconductance	12 mA/V	Typical characteristics S = 12 mA/V
Va W	0 V	Class C telegraphy Va W0 Va Wo Va Wo Va W0

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	2000 V	Maximum ratings $V_a = \text{max. } 2000 \text{ V}$ $V_{g2} = \text{max. } 300 \text{ V}$
Plate voltage	300 V	Maximum ratings $V_a = \text{max. } 2000 \text{ V}$ $V_{g2} = \text{max. } 300 \text{ V}$
$W_{ia \text{ max}}$	500 W	Maximum ratings $W_{ia \text{ max. } 500 \text{ W}}$ $W_{g2} = \text{max. } 12 \text{ W}$
$W_{ia \text{ max}}$	12 W	Maximum ratings $W_{ia \text{ max. } 500 \text{ W}}$ $W_{g2} = \text{max. } 12 \text{ W}$
$W_a = \text{max}$	250 W	Maximum ratings $W_a = \text{max. } 250 \text{ W}$ $-V_{B1} = \text{max. } 250 \text{ V}$
$W_a = \text{max}$	250 V	Maximum ratings $W_a = \text{max. } 250 \text{ W}$ $-V_{B1} = \text{max. } 250 \text{ V}$
Plate current	250 mA	Maximum ratings $I_a = \text{max. } 250 \text{ mA}$ $W_{g1} = \text{max. } 2 \text{ W}$
Plate current	2 W	Maximum ratings $I_a = \text{max. } 250 \text{ mA}$ $W_{g1} = \text{max. } 2 \text{ W}$
I	500 MHz	Maximum ratings $I = 175 \text{ } 175 \text{ } 175 \text{ } 175 \text{ } 500 \text{ Mc/s}$
Plate voltage	2000 V	Maximum ratings $V_a = 2000 \text{ } 1500 \text{ } 1000 \text{ } 500 \text{ } 2000 \text{ V}$
Screen-grid voltage	300 V	Maximum ratings $V_{g2} = 250 \text{ } 250 \text{ } 250 \text{ } 250 \text{ } 300 \text{ V}$
Control-grid voltage	-90 V	Maximum ratings $V_{g1} = -90 \text{ } -90 \text{ } -90 \text{ } -90 \text{ } -90 \text{ V}$
Plate current	250 mA	Maximum ratings $I_a = 250 \text{ } 250 \text{ } 250 \text{ } 250 \text{ } 250 \text{ mA}$
Published electrical value	25 mA	Maximum ratings $35 \text{ } 25 \text{ mA}$
W_g	3 a	Maximum ratings $W_{g2} = 4.75 \text{ } 5.25 \text{ } 9.5 \text{ } 8.75 \text{ } 3 \text{ a}$
W_{ia}	500 W	Maximum ratings $W_{ia} = 500 \text{ } 375 \text{ } 250 \text{ } 125 \text{ } 500 \text{ W}$
Published electrical value	225 W	Maximum ratings $= 225 \text{ W}$
Plate voltage	1500 V	Maximum ratings $V_a = \text{max. } 1500 \text{ V}$ $V_{g2} = \text{max. } 300 \text{ V}$
Plate voltage	300 V	Maximum ratings $V_a = \text{max. } 1500 \text{ V}$ $V_{g2} = \text{max. } 300 \text{ V}$
$W_{ia} = \text{max}$	300 W	Maximum ratings $W_{ia} = \text{max. } 300 \text{ W}$ $W_{g2} = \text{max. } 12 \text{ W}$
$W_{ia} = \text{max}$	12 W	Maximum ratings $W_{ia} = \text{max. } 300 \text{ W}$ $W_{g2} = \text{max. } 12 \text{ W}$

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control-grid voltage	165 W	Maximum ratings Wa = max. 165 W -Vg1 = max. 250 V
Control-grid voltage	250 V	Maximum ratings Wa = max. 165 W -Vg1 = max. 250 V
Plate current	200 mA	Maximum ratings Ia = max. 200 mA Wg 1 = max. 2 W
Plate current	2 W	Maximum ratings Ia = max. 200 mA Wg 1 = max. 2 W
f	175 MHz	Maximum ratings f = 175 175 175 Mc/s
Plate voltage	500 V	Maximum ratings Va = 1500 1000 500 V
Vg	118 V	Maximum ratings Vg1p = 117 117 118 V
Plate current	200 mA	Maximum ratings Ia = 200 200 200 mA
Screen-grid current	31 mA	Maximum ratings Ig2 = 20 22 31 mA
Control-grid current	15 mA	Maximum ratings Ig1 = 14 14 15 mA
Wia	100 W	Maximum ratings Wia = 300 200 100 W
Wa	40 W	Maximum ratings Wa 65 55 40W
Wmod	50 W	Maximum ratings Wmod = 150 100 50 W
Plate voltage	2000 V	Maximum ratings Va = max. 2000 V = max. 400 V
Plate voltage	400 V	Maximum ratings Va = max. 2000 V = max. 400 V
Elm = max	500 W	Maximum ratings Elm = max. 500 W = max. 12W
Elm = max	12 W	Maximum ratings Elm = max. 500 W = max. 12W
Wa = max	250 W	Maximum ratings Wa = max. 250W Wg1 = max. 2W
Wa = max	2 W	Maximum ratings Wa = max. 250W Wg1 = max. 2W
Plate current	250 mA	Maximum ratings Ia = max. 250 mA
Plate voltage	1000 V	Maximum ratings Va = 2000 1500 1000 V
Vg t	-55 mA	Maximum ratings Vg t = -55 -55 -55 mA
Vg	25 V	Maximum ratings Vg1p = 25 25 25V
Plate current	100 mA	Maximum ratings Ia = 100 100 100 mA
Screen-grid current	-3 mA	Maximum ratings Ig2 = -4 -3 -3 mA
Wg	1 W	Maximum ratings Wg2 = 1.4 1 1 W

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Wia	100 W	Maximum ratings Wia = 200 150 100 W
Plate voltage	2000 V	Maximum ratings Va = max. 2000 V
Wia = max	500 W	Maximum ratings Wia = max. 500 W
Wa = max	250 W	Maximum ratings Wa = max. 250 W
Screen-grid voltage	400 V	Maximum ratings Vg2 = max. 400 V
Wg	12 W	Maximum ratings Wg2 = max. 12 W
Control-grid voltage	250 V	Maximum ratings -Vg1 = max. 250 V
f	175 MHz	Maximum ratings f = 175 175 Mc/s
Plate voltage	1500 V	Maximum ratings Va = 2000 1500 V
Control-grid voltage	-45 V	Maximum ratings Vg 1 = -47 -45 V
Plate current	165 mA	Maximum ratings Ia = 75 250 160 75 250 165 mA
Screen-grid current	-5 mA	Maximum ratings Ig2 = -1 -7 -5 -2 -4 -5 mA
Control-grid current	0 mA	Maximum ratings Ig1 = 0 0 0 0 0 0 mA
Wia	250 W	Maximum ratings Wia = 150 500 320 115 375 250 W
'Aig	0 W	Maximum ratings 'Aig1 = 0 0 0 0 0 0 W
Wa	140 W	Maximum ratings Wa = 150 200 170 115 155 140 W
Ao	110 W	Maximum ratings Ao = 0 300 150 0 220 110 W
Wo peg	220 W	Maximum ratings Wo peg3)= - - 300 - - 220 W
f	175 MHz	Maximum ratings f = 175 Mc/s



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	—
Transconductance	12000 μ S	—
Screen-grid amplification factor	5.2	—
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	400 V	—
Maximum plate/anode dissipation	250 W	—
Maximum screen-grid dissipation	12 W	—
Operating plate voltage	2000 V	ClassC;Telegraphy;175MHz
RF output power	390 W	ClassC;Telegraphy;175MHz
Operating plate voltage	2000 V	ClassC;Telegraphy;500MHz
RF output power	225 W	ClassC;Telegraphy;500MHz

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate/anode capacitance	4.5 pF	—
Control-grid capacitance	15.7 pF	—
Plate-grid capacitance	0.06 pF	—

TUBE TINKER

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

