



ELECTRONIC TUBE REFERENCE

ECH2

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL
DATA

2 SECTIONS
CONSTRUCTION
HEPTODE-TRIODE

Early triode-hexode frequency changer for superheterodyne reception. The triode serves as local oscillator while the multi-grid section performs frequency conversion with useful isolation between signal and oscillator circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 950 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0055 S
AMPLIFICATION FACTOR	17.5
MAXIMUM PLATE VOLTAGE	125 V
MAXIMUM PLATE DISSIPATION	1 W
<i>Published ratings and characteristics extracted from supplied datasheet. Philips ECH2 oscillator-triode section. Typical oscillator characteristics at 100 V anode voltage, zero grid bias and no oscillation: transconductance 5.5 mA/V and amplification factor 17.5. The second physical section is a heptode frequency converter; section-specific ratings must not be conflated.</i>	

SECTION2 Heptode	
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	125 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	25 mA
<i>Published ratings and characteristics extracted from supplied datasheet.</i>	

Triode-heptode/hexode frequency-converter tube for oscillator, mixer, and amplifier service. The supplied manufacturer datasheet provides heater data, electrical characteristics, ratings, capacitances, operating conditions, and application information where published.

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
tung Vf	6.3 V	Published datasheet value
denteil CaT-gIH <	0.06 pF	Published datasheet value

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacites entre les parties heptode it triode CaT-al	0.9 pF	Published datasheet value
section CgT-gIH	0.16 pF	Published datasheet value
Kapazitäten des Heptodenteiles CaH-gIH 0	0.015 pF	Published datasheet value
Capacites de Is partie heptode CgIH	8.4 pF	Published datasheet value
Capacities of the heptode section Call	13.8 pF	Published datasheet value
Kapazitäten des Triodenteiles CaT-8T	3.4 pF	Published datasheet value
Capacites de Is partie triode CST	17 pF	Published datasheet value
Capacities of the triode section CaTk	3.5 pF	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Va	250 V	Published datasheet value
Vg2 4	100 V	Published datasheet value
Vg3 (Vosc)	8 V	Published datasheet value
Ig3	200 µA	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
V _{gl}	-2.5 V	Published datasheet value
V _{gl} -2,5 V _t) .251')	-34 V	Published datasheet value
I _{s3}	25 mA	Published datasheet value
I _{g2} }I _{g4}	6 mA	Published datasheet value
S _c	750 μA	Published datasheet value
S _c 750 μA/V	7 μA	Published datasheet value
S _c 750 μA/V 7 μA[V	2 μA	Published datasheet value
V _a	100 V	Published datasheet value
I _s (R _{g3} = 50.000 32. V _{osc}	8 V	Published datasheet value
I _s (R _{g3} = 50.000 32. V _{osc} = 8 V(eff))	9.5 mA	Published datasheet value
I _a (V _g	0 V	Published datasheet value
I _a (V _g 0 V, V _{osc}	0 V	Published datasheet value
I _a (V _g 0 V, V _{osc} = 0 V)	24 mA	Published datasheet value
S (V _g	0 V	Published datasheet value
S (V _g = 0 V, V _{oso}	0 V	Published datasheet value
S (V _g = 0 V, V _{oso} = 0 V)	5.5 mA/V	Published datasheet value
μ (V _g S	0 V	Published datasheet value
μ (V _g S 0 V. V _{osc}	0 V	Published datasheet value
V _{FaHo} max	550 V	Published datasheet value
V _{aH} max	300 V	Published datasheet value
W _{a1} max	1 W	Published datasheet value
V _{g2,4o} max	550 V	Published datasheet value
V _g	2.4 ma	Published datasheet value
V _{g2,4} max	125 V	Published datasheet value
W _g	2.4 ma	Published datasheet value
W _{g2,4} max	0.5 W	Published datasheet value
I _{g2} } 3g ₄ (V _{02,4}	100 V	Published datasheet value
I _{g2} } 3g ₄ (V _{02,4} = 100 V, V _{gl}	-2.5 V	Published datasheet value
V _{g3} (V _{osc})	8 V	Published datasheet value
V _{g3} (V _{osc}) = 8 V(eff), R _{g3} = 50.000 Cl). max	7.5 mA	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
$I_{g3} \pm I_{g4} (V_{g2,4})$	100 V	Published datasheet value
$I_{g3} \pm I_{g4} (V_{g2,4} 100 \text{ V}, V_{gl} \text{ -- })$	2.5 V	Published datasheet value
$V_{g3}(V_{oec})$	8 V	Published datasheet value
$V_{g3}(V_{oec}) = 8 \text{ V(eff)}. R_{g3} - 50.000 (3) \text{ . . min}$	4.5 mA	Published datasheet value
$V_{gl} (I_{gl} = \pm 0,3 ; \&A) t_{nax}$	-1.3 V	Published datasheet value
$V_{gl} (I_{g3} \pm 0,3 \text{ p,A}) \text{ max}$	-1.3 V	Published datasheet value
$I_{k} \text{ max}$	25 mA	Published datasheet value
$V_{fk} \text{ max}$	50 V	Published datasheet value
$V_{aTe} \text{ . . max}$	550 V	Published datasheet value
$V_{aT} \text{ max}$	125 V	Published datasheet value
$W_{aT} \text{ . _ . . . max}$	1 W	Published datasheet value
$V_{gT} (I_{gT} = \pm 0,3 ,iA) \text{ max}$	-1.3 V	Published datasheet value
V_a	250 V	Published datasheet value
2,5	1000 V	Published datasheet value
2,5 1000 $V_{ga,a}$	100 V	Published datasheet value
$V_{gi} = -$	2.5 V	Published datasheet value
0 5 10	15 V	Published datasheet value