

ELECTRONIC TUBE REFERENCE

ECH11

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

CONSOLIDATED TECHNICAL DATA

2 SECTIONS
CONSTRUCTION
HEXODE-TRIODE

Triode-hexode frequency changer for superheterodyne receivers. The triode generates the local oscillator signal while the hexode mixes it with incoming RF to produce the intermediate frequency.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 200 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.003 S
AMPLIFICATION FACTOR	18
MAXIMUM PLATE VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	10 mA
Published ratings and characteristics promoted from the approved German source.	

SECTION2 Hexode	
PLATE RESISTANCE	1000000 Ω
TRANSCONDUCTANCE	0.00065 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	125 V
MAXIMUM PLATE DISSIPATION	1.8 W
MAXIMUM SCREEN DISSIPATION	0.6 W
MAXIMUM CATHODE CURRENT	18 mA
<i>Published ratings and characteristics promoted from the approved German source.</i>	

Triode-hexode for remote-cutoff frequency-changer stages.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1953 RFT Rundfunk Technik

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1953 RFT RUNDFUNK TECHNIK

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	200 mA	Nominal
Maximum Plate Voltage	150 V	—
Maximum Plate Dissipation	1.5 W	—
Maximum Cathode Current	10 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor	22	Typical

1953 RFT RUNDFUNK TECHNIK

Section 2 · Hexode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	200 mA	Nominal
Maximum Plate Voltage	300 V	—
Maximum Screen Voltage	100 V	—
Maximum Plate Dissipation	1.5 W	—
Maximum Screen Dissipation	0.6 W	—
Maximum Cathode Current	20 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1600 μ S	Typical

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	1000000 ohm	Typical



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1959 Telefunken

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1959 TELEFUNKEN

Section 1 · Triode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Oscillator	—

1959 TELEFUNKEN

Section 2 · Hexode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Remote-cutoff mixer	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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
Chauffage: indirect par C.A. ou C.C.; $V_e = W$	3 V	Published datasheet value

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
$\phi <$	1.6 pF	Published datasheet value
caH	9.1 pF	Published datasheet value
$g <$	0.001 pF	Published datasheet value
$g < 0,001 \text{ pF } c(gT+g3) - f <$	0.3 pF	Published datasheet value
$g <$	0.25 pF	Published datasheet value
$21 = 53$	0 pF	Published datasheet value
Cg1f <	0.001 pF	Published datasheet value
$Cg1f < 0,001 \text{ pF } C(gT+g3) - a u <$	0.06 pF	Published datasheet value
caT	3.7 pF	Published datasheet value
$caT = 3,7 \text{ pF } aT\text{-all} <$	0.0045 pF	Published datasheet value
<	0.035 pF	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
$y = 100 \text{ } 200$	250 V	Published datasheet value
$I_a = 1,2 \text{ } 2,6$	3.4 mA	Published datasheet value
$V_a = 64 \text{ } 122$	148 V	Published datasheet value
$gT+g3 \text{ } 165 \text{ } 330$	330 w	Published datasheet value
$V_{osc} = 4 \text{ } 8,5$	8.5 V	Published datasheet value
$V_a < V_p = 100 \text{ } 200$	250 v	Published datasheet value
$V_{ose} = 4 \text{ } f,5$	8.5 V	Published datasheet value
$V_{gr} = 16,8 \text{ } T2 \text{ } 15,8 \text{ } 2$	16 w	Published datasheet value
$V_{g2.g4} = 40 \text{ } 72 \text{ } 87 \text{ } 146 \text{ } 95$	156 V	Published datasheet value
$S_{\phi} = 470 \text{ } 4,7 \text{ } 590 \text{ } 5,9 \text{ } 640$	6.4 μ A	Published datasheet value
$V_{ao} = \max$	550 V	Published datasheet value
$V_a = \max$	300 V	Published datasheet value
$V_{ia} = \max$	1.8 W	Published datasheet value
$V(ga+ga)o = \max$	550 V	Published datasheet value
$g2+ed \text{ } E_{la} <$	1 mA	Published datasheet value
$g2+ed \text{ } E_{la} < 1 \text{ mA})\} = \max$	300 V	Published datasheet value
$V_{go+g4} (I_a = 2,3 \text{ mh}) = \max$	125 V	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Weneps = max	0.6 W	Published datasheet value
I _y = max	18 mA	Published datasheet value
V _{e1} (I _{gl} = +0,3 u A) max	-1.3 V	Published datasheet value
ggT+g3 (I _{gT} +g3= +0	3 μA	Published datasheet value
ggT+g3 (I _{gT} +g3= +0 3 uA) max	-1.3 V	Published datasheet value
V _{ik} = max	100 V	Published datasheet value
v max	550 V	Published datasheet value
a	0 ma	Published datasheet value
a0 max	150 V	Published datasheet value
W, max	1 w	Published datasheet value
e	-1.3 V	Published datasheet value

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