



ELECTRONIC TUBE REFERENCE

E80CF

Voltage Triode Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Long-life rugged triode-pentode for mixer, RF/AF amplification, oscillator, and multivibrator service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	NOVAL	BASE PINS	9
NOMINAL HEATER	6.3 V / 330 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	3600 Ω
TRANSCONDUCTANCE	0.005 S
AMPLIFICATION FACTOR	18
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM PLATE DISSIPATION	1.75 W
MAXIMUM GRID DISSIPATION	0.1 W
MAXIMUM CATHODE CURRENT	18 mA
Special-quality long-life ruggedized triode-pentode for RF/IF amplifier, mixer, and oscillator service.	

SECTION2 Pentode	
PLATE RESISTANCE	400000 Ω
TRANSCONDUCTANCE	0.0062 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM SCREEN VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	2.15 W
MAXIMUM SCREEN DISSIPATION	0.7 W
MAXIMUM GRID DISSIPATION	0.1 W
MAXIMUM CATHODE CURRENT	18 mA
<i>Special-quality long-life ruggedized triode-pentode for RF/IF amplifier, mixer, and oscillator service.</i>	

Long-life rugged triode-pentode for mixer/RF/AF amplification and oscillator/multivibrator service.



SOURCE OPERATING CONDITIONS

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1953 AEG

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

1953 AEG

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TypicalTriodePlateVoltage	100 V	—
TypicalTriodePlateCurrent	14.4 mA	—

1953 AEG

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TypicalPentodePlateVoltage	170 V	—
TypicalPentodePlateCurrent	10 mA	—
TypicalPentodeScreenCurrent	2.8 mA	—



SOURCE OPERATING CONDITIONS

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1963 Philips Electron Tubes Handbook V1a

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1963 PHILIPS ELECTRON TUBES HANDBOOK V1A

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode plate supply voltage	100 V	TriodeSection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode cathode resistor	120 ohm	TriodeSection
Triode plate current	14 mA	TriodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode transconductance	5000 uS	TriodeSection
Triode amplification factor	18	TriodeSection

1963 PHILIPS ELECTRON TUBES HANDBOOK V1A

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode plate supply voltage	170 V	PentodeSection; RF
Pentode screen supply voltage	170 V	PentodeSection; RF
Pentode cathode resistor	155 ohm	PentodeSection; RF
Pentode plate current	10 mA	PentodeSection; RF
Pentode screen current	2.8 mA	PentodeSection; RF
Pentode plate current	8 mA	PentodeSection; Mixer

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode transconductance	6200 uS	PentodeSection; RF
Pentode plate resistance	0.4 MOhm	PentodeSection; RF
Pentode plate resistance	0.5 MOhm	PentodeSection; Mixer



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1963 Philips Electron Tubes Handbook V3

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1963 PHILIPS ELECTRON TUBES HANDBOOK V3

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Chauffage: indirect par C.A. ou C.C.; $V_f = 6.3 \text{ V}$ 1)
Heater current	330 mA	Heizung : indirekt durch Wechsel- $I_f = 330 \text{ mA}$

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid capacitance	1 pF	$C_{g1P-aT(2-1)} < 0.16 \text{ pF}$

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	170 V	$V_{ba} = 170 \text{ V}$ $V_{ba} = 100 \text{ V}$
Screen-grid supply voltage	170 V	$V_{bg2} = 170 \text{ V}$ $R_g = 120 \text{ } \Omega$
Plate current	10 mA	$I_a = 10 \text{ mA}$ 1) $S = 5 \text{ mA/V}$ 1)
Transconductance	5 mA/V	$I_a = 10 \text{ mA}$ 1) $S = 5 \text{ mA/V}$ 1)
Screen-grid current	2.8 mA	$I_{g2} = 2.8 \text{ mA}$ $-I_g < 0.3 \text{ } \mu\text{A}$ 1)
Transconductance	6.2 mA/V	$S = 6.2 \text{ mA/V}$ 1) $\mu = 18$
Amplification factor	18	$S = 6.2 \text{ mA/V}$ 1) $\mu = 18$
Plate resistance	0.4 kohm	$R_i = 0.4 \text{ M}\Omega$
Transconductance	0.3 mA/V	$-I_{g1}$ S $0.3 \text{ } \mu\text{A}$ 1)
Plate supply voltage	170 V	$V_{ba} = 170 \text{ V}$
Screen-grid supply voltage	170 V	$V_{bg2} = 170 \text{ V}$
Cathode resistor	330 ohm	$R_k = 330 \text{ } \Omega$
Plate current	8 mA	$I_a = 8 \text{ c}$
Screen-grid current	2.5 mA	$I_{g2} = 2.5 \text{ mA}$
Transconductance	0 mA/V	$S_0 = 2.4 \text{ cA/V}$
Cathode current	10 mA	$(I_k > 10 \text{ mA}) = \text{max. } 200 \text{ V}$
Cathode current	10 mA	V_{g2} $(I_k < 10 \text{ mA}) = \text{max. } 225 \text{ V}$
Plate dissipation	1.2 W	W_{g2} $(W_a > 1.2 \text{ W}) = \text{max. } 0.7 \text{ W}$
Plate current	6 mA	$I_a < 6 \text{ mA}$ $I_a < 6.451 \text{ A}$
Transconductance	4.3 mA/V	$S < 4.3 \text{ m}\mu\text{A/V}$ $S < 3.5 \text{ mA}$
Plate voltage	170 V	$V_a = 170 \text{ V}$
Plate voltage	170 V	iiiiiii $V_a = 170 \text{ V}$..u.....u••'.■iiiiiii..•11

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	170 V	Vba =170V
Screen-grid dissipation	170 W	Wg2=170W
Plate voltage	-100 V	Va-100V

1963 PHILIPS ELECTRON TUBES HANDBOOK V3

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid capacitance	1 pF	Cg1 (2-3+4+5+7.) = 5.6 pF Cg (9-4+5+7+8) _ . 2.5 pP
Grid-to-plate capacitance	1 pF	Cag1(6-2) < 0.025 pP Cag (1-9) = 1.5 pF
Grid capacitance	1 pF	Cg1f(2-4+5) < 0.160 pF Cgf (9-4+5) < 0.220 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	170 V	Vba = 170 V
Screen-grid supply voltage	170 V	Vbg2 = 170 V
Cathode resistor	1550 ohm	Rk = 1550
Plate current	10 mA	Ia 10 mA
Screen-grid current	2.8 mA	Ig2 = 2.8 mA"



TUBE TINKER
ELECTRON TUBE DATABASE

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1963 Siemens

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

1963 SIEMENS

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Current	14 mA	TriodeSection

1963 SIEMENS

Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	170 V	PentodeSection
Typical Plate Current	10 mA	PentodeSection
Typical Screen Current	2.8 mA	PentodeSection



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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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode mutual conductance	5 mA/V	Triode section
Triode amplification factor	18	Triode section
Triode anode current	14 mA	Triode section

1999 PHILIPS E-Z
Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published datasheet value
Heater voltage	6 V	Published datasheet value
Heater current	330 mA	Published datasheet value
Heater current	347 mA	Published datasheet value

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current	10 mA	Published datasheet value
Anode current	14 mA	Published datasheet value
Anode current	8 mA	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage	550 V	Published datasheet value
Screen-grid voltage	550 V	Published datasheet value
Mutual conductance	6.2 mA/V	Published datasheet value
Mutual conductance	5 mA/V	Published datasheet value
Mutual conductance	3.5 mA/V	Published datasheet value
Amplification factor	40	Published datasheet value
Amplification factor	18	Published datasheet value