



ELECTRONIC TUBE REFERENCE

6EH7

Voltage - Pentode Remote Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Semi-remote-cutoff high-transconductance pentode for AGC-controlled IF amplification in color and monochrome television receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AQ	BASE PINS	9
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9AQ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – K	A	K – Cathode	CONNECTED
PIN2 – G1	A	G1 – Control Grid	CONNECTED
PIN3 – K	A	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – IS	A	IS – Internal Screen	CONNECTED
PIN7 – P	A	P – Plate (Anode)	CONNECTED
PIN8 – G2	A	G2 – Screen Grid	CONNECTED
PIN9 – G3	A	G3 – Suppressor Grid	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	250000 Ω
TRANSCONDUCTANCE	0.0065 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.55 W
MAXIMUM CATHODE CURRENT	25 mA
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Published promoted fields populated from the printed semantic headings.</i>	

Semiremote-cutoff pentode used as an IF-amplifier tube in color and black-and-white television receivers.

SOURCE OPERATING CONDITIONS

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1950 Sylvania

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

1950 SYLVANIA

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage..... 3.4 4.4 6.3 Volts	6.3 V	Heater Voltage..... 3.4 4.4 6.3 Volts
Heater Current. ... 600 450 300 Ma	300 mA	Heater Current. ... 600 450 300 Ma
Plate Voltage. it 200 Volts	200 V	Plate Voltage. it 200 Volts
Grid No. 3 Voltage. 0 Volts	0 V	Grid No. 3 Voltage. 0 Volts
Grid No. 2 Voltage. 90 Volts	90 V	Grid No. 2 Voltage. 90 Volts
Grid No.1 Voltage. -2 Volts	-2 V	Grid No.1 Voltage. -2 Volts
Plate Current. 12 Ma	12 mA	Plate Current. 12 Ma
Grid No.2 Current. 4.5 Ma	4.5 mA	Grid No.2 Current. 4.5 Ma
Transconductance. 12,500 umhos	12.5 umhos	Transconductance. 12,500 umhos
Plate Resistance {(approx.)}..... 0.5 Megohm	0.5 Megohm	Plate Resistance {(approx.)}..... 0.5 Megohm
Plate Voltage. 200 Volts	200 V	Plate Voltage. 200 Volts
Grid No. 3 Voltage. , 0 Volts	0 V	Grid No. 3 Voltage. , 0 Volts

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage with Ib = 550 Volts Max.	550 V	Plate Voltage with Ib = 550 Volts Max.
Plate Voltage. 250 Volts Max.	250 V	Plate Voltage. 250 Volts Max.
Plate Dissipation. 2.5 Watts Max.	2.5 W	Plate Dissipation. 2.5 Watts Max.
Grid No. 2 Dissipation. 0.65 Watts Max.	0.65 W	Grid No. 2 Dissipation. 0.65 Watts Max.
Cathode Current. 20 Ma Max.	20 mA	Cathode Current. 20 Ma Max.
Grid No. 1 Circuit Resistance. 1.0 Megohm Max.	1 Megohm	Grid No. 1 Circuit Resistance. 1.0 Megohm Max.



TUBE TINKER
ELECTRON TUBE DATABASE

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1961 Ferranti Technical Handbook

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1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	170 V	Point1
Screen-grid voltage	90 V	Point1
Control-grid voltage	-1.8 V	Point1
Plate current	14 mA	Point1
Screen-grid current	5.3 mA	Point1
Transconductance	14000 uS	Point1
Plate resistance	350000 Ohm	Point1
Plate voltage	200 V	Point2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12500 μ S	Point2
Plate resistance	500000 Ω m	Point2
Plate voltage	230 V	Point3
Transconductance	10600 μ S	Point3
Plate resistance	640000 Ω m	Point3

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	9.5 pF	—
Output capacitance	3 pF	—
Grid-to-plate capacitance maximum	0.0055 pF	—


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1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	6500 μ S	Typical


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1963 Amperex Condensed

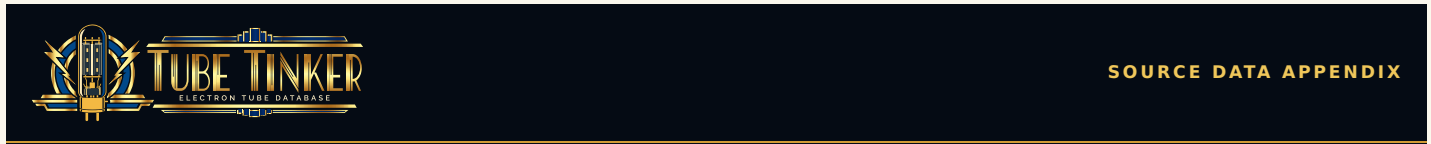
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1963 AMPEREX CONDENSED

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	IFAmplifier
Screen voltage	20 V	IFAmplifier
Control-grid voltage	-2 V	IFAmplifier
Plate current	12 mA	IFAmplifier
Screen current	4.5 mA	IFAmplifier
Application	Frame-grid remote-cutoff IF amplifier for television	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	500000 Ω	IFAmplifier
Transconductance	12500 μS	IFAmplifier



SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	IF-Amplifier
Grid 2 voltage	90 V	IF-Amplifier
Grid 1 voltage	-2 V	IF-Amplifier
Plate current	12 mA	IF-Amplifier
Grid 2 current	4.5 mA	IF-Amplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 1 impedance at 40 MHz	13 kohm	IF-Amplifier

SOURCE OPERATING CONDITIONS

1967 Mullard Receiving and Amplifying Valves

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

1967 MULLARD RECEIVING AND AMPLIFYING VALVES
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
I. 11.6 11.8 11 .7	11.4 mA	Published in approved EF183 target datasheet entry; Section1
Ig2 4.3 4.4 4.4	4.3 mA	Published in approved EF183 target datasheet entry; Section1
gm 12 .3 12.4 12 .2	12 mA	Published in approved EF183 target datasheet entry; Section1
Itotal 16 27 24	21 mA	Published in approved EF183 target datasheet entry; Section1
I. 11.8 11.9 12	11.6 mA	Published in approved EF183 target datasheet entry; Section1
Ig2 4.4 4.5 4.5	4.4 mA	Published in approved EF183 target datasheet entry; Section1
gm 12.3 12.5 12.5	15.5 mA	Published in approved EF183 target datasheet entry; Section1
ltotal 19.7 18 .5 14.7	16 mA	Published in approved EF183 target datasheet entry; Section1
la 11.7 12 11.8	11.4 mA	Published in approved EF183 target datasheet entry; Section1
Ig2 4.3 4.5 4.4	4.3 mA	Published in approved EF183 target datasheet entry; Section1
gm 12.4 13 12.3	12 mA	Published in approved EF183 target datasheet entry; Section1
Itotal 16 27 24	21 mA	Published in approved EF183 target datasheet entry; Section1
la 11.8 12	12 mA	Published in approved EF183 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ig2 4.4 4.5	4.5 mA	Published in approved EF183 target datasheet entry; Section1
gm 12 .4 12 .5 12	5 mA	Published in approved EF183 target datasheet entry; Section1
Ito'al 19.7 18.5	17.5 mA	Published in approved EF183 target datasheet entry; Section1
Pg2 max	650 mW	Published in approved EF183 target datasheet entry; Section1
Ik max	20 mA	Published in approved EF183 target datasheet entry; Section1



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SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 4 of 7

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1971 RCA HB3 BINDER 4 OF 7
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate voltage	200 V	ClassA
Screen voltage	90 V	ClassA
Grid voltage	-2 V	ClassA
Plate current	12 mA	ClassA
Screen current	4.5 mA	ClassA
Maximum plate voltage	250 V	—
Maximum screen voltage	250 V	—
Maximum cathode current	25 mA	—
Plate dissipation	2.5 W	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	500000 ohm	ClassA
Transconductance	12500 uS	ClassA
Grid voltage for transconductance 125 uS	-19.5 V	RemoteCutoff
Grid voltage for transconductance 625 uS	-9.5 V	RemoteCutoff

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.005 pF	—



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1975 RCA RC30

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

1975 RCA RC30
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 3.4 4.4	6.3 V	Published in approved XF183 target datasheet entry; Section1
Heater Current 0.6 0.45	300 mA	Published in approved XF183 target datasheet entry; Section1
Plate Supply Voltage	550 V	Published in approved XF183 target datasheet entry; Section1
Plate Voltage	250 V	Published in approved XF183 target datasheet entry; Section1
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved XF183 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	550 V	Published in approved XF183 target datasheet entry; Section1
Grid-No.2 Voltage	250 V	Published in approved XF183 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Current	20 mA	Published in approved XF183 target datasheet entry; Section1
Plate Dissipation	2.5 W	Published in approved XF183 target datasheet entry; Section1
Grid-No.2 Input	0.65 W	Published in approved XF183 target datasheet entry; Section1
Plate Voltage	200 V	Published in approved XF183 target datasheet entry; Section1
Grid-No.2 Voltage	90 V	Published in approved XF183 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No. 1 Voltage	-2 V	Published in approved XF183 target datasheet entry; Section1
Plate Resistance (Approx.)	0.5 MΩ	Published in approved XF183 target datasheet entry; Section1
Transconductance	12500 μS	Published in approved XF183 target datasheet entry; Section1
Plate Current	12 mA	Published in approved XF183 target datasheet entry; Section1
Grid-No.2 Current	4.5 mA	Published in approved XF183 target datasheet entry; Section1

TUBE TINKER

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