

ELECTRONIC TUBE REFERENCE

6EW6

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Very-high-transconductance sharp-cutoff pentode for picture-IF amplification in VHF color and monochrome television receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7CM	BASE PINS	7
NOMINAL HEATER	6.3 V / 400 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7CM - TERMINAL PINOUT

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

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.014 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	3.1 W
MAXIMUM SCREEN DISSIPATION	0.65 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Sharp-cutoff pentode; screen voltage governed by published screen-rating chart.</i>	

Sharp-cutoff pentode used in gain-controlled picture-IF stages of VHF color and black-and-white television receivers.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	3.1 W	—

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warmup Time	11 s	—



SOURCE OPERATING CONDITIONS

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1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Pentode

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage maximum	330 V	—
Screen supply voltage maximum	330 V	—
Grid2 input maximum	0.65 W	—
Typical plate voltage	125 V	—
Typical grid2 voltage	125 V	—
Grid2 current	3.2 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid1-to-plate capacitance maximum	0.03 pF	—
Output capacitance shielded	3.4 pF	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	200000 ohm	—
Transconductance	15000 uS	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Television IF amplifier	—


SOURCE DATA APPENDIX

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	125 V	ClassA
Screen_voltage	125 V	ClassA
Cathode_bias_resistor	56 ohm	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_current	11 mA	ClassA
Screen_current	3 mA	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-1-to-plate capacitance maximum	0.03 pF	—
Input capacitance	10 pF	—
Output capacitance	3.4 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen Voltage	125 V	AverageCharacteristics
Plate Current	11 mA	AverageCharacteristics
Screen Current	3.2 mA	AverageCharacteristics



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	ClassA
Plate current	11 mA	ClassA
Maximum plate voltage	330 V	—

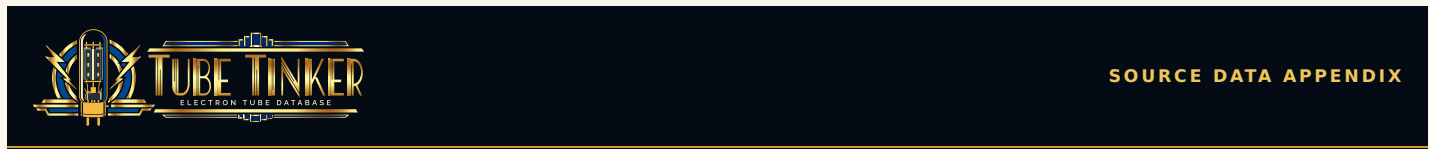
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum screen-grid voltage	330 V	—
Grid No.1 to plate – published value 1	0.04 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid No.1 to plate – published value 2	0.03 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
GRID-No.3 (SUPPRESSOR-GRID) VOLTAGE	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Positive-bias value	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE DISSIPATION	3.1 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater negative with respect to cathode	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater positive with respect to cathode	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	200000 ohm	ClassA
Transconductance	14000 uS	ClassA
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	10 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current	400 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
shield, grid No. 2, and	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
heater – published value 1	10	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
heater – published value 2	10	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
grid No. 2, and heater – published value 1	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
grid No. 2, and heater – published value 2	2.4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
grid No. 2, and heater – published value 3	3.4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Supply Voltage	125 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Supply Voltage	125 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Cathode Resistor	56 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx)	0.2 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance	14000	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Current	3.2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
plate μ a = 20 – published value 1	20 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
plate μ a = 20 – published value 2	-3.5 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 1 -Grid No.1 – published value 1	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1 -Grid No.1 – published value 2	6	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2 -Cathode – published value 1	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2 -Cathode – published value 2	7	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3-Heater	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 4 -Heater	4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 5-Plate	5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
tween 165 and 330 volts – published value 1	165 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
tween 165 and 330 volts – published value 2	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
GRID N-3 CONNECTED TO	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
CATHODE AT SOCKET	0	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
GRID-N\$2 VOLTS = 125 – published value 1	2 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
GRID-N\$2 VOLTS = 125 – published value 2	125 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE VOLTS=125	125 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID-N42 VOLTS =125	125 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.



SOURCE OPERATING CONDITIONS

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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
order of	40 MHz	Published in approved 6EW6 target entry; Section1
Heater Voltage (ac/dc) 5.6	6.3 V	Published in approved 6EW6 target entry; Section1
Heater Current 0.45	400 mA	Published in approved 6EW6 target entry; Section1
Heater Warm-up Time (Average)	11 seconds	Published in approved 6EW6 target entry; Section1
Plate Voltage	330 V	Published in approved 6EW6 target entry; Section1
Grid No.3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 6EW6 target entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published in approved 6EW6 target entry; Section1
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 6EW6 target entry; Section1
Plate Dissipation	3.1 W	Published in approved 6EW6 target entry; Section1
For grid-No.2 voltages up to	165 V	Published in approved 6EW6 target entry; Section1
For grid-No.2 voltages up to 165 volts	0.65 W	Published in approved 6EW6 target entry; Section1
For grid-No.2 voltages between 165 and	330 V	Published in approved 6EW6 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No. 3, and Internal Shield . 10	10 pF	Published in approved 6EW6 target entry; Section1
Grid No.3, and Internal Shield 2.4	3.4 pF	Published in approved 6EW6 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Supply Voltage	125 V	Published in approved 6EW6 target entry; Section1
Cathode-Bias Resistor	55 Ω	Published in approved 6EW6 target entry; Section1
Plate Resistance (Approx.)	0.2 MΩ	Published in approved 6EW6 target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 20 juA	3.5 V	Published in approved 6EW6 target entry; Section1

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