

ELECTRONIC TUBE REFERENCE

4HM6

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Sharp-cutoff pentode designed for television IF, picture-IF, video, or VHF tuner amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9PM	BASE PINS	9
NOMINAL HEATER	4.2 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9PM - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	156000 Ω
TRANSCONDUCTANCE	0.0155 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.7 W
MAXIMUM CATHODE CURRENT	25 mA
<i>Published Class A1 characteristics and design-maximum ratings.</i>	

Frame-grid sharp-cutoff pentode for television IF amplifier service.



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TransconductancePublished	15500 μ S	—



SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	—
Screen-grid voltage	125 V	—
Cathode bias resistor	56 0hm	—
Plate current	13 mA	—
Screen-grid current	3.2 mA	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	156000 0hm	—
Transconductance	15000 μ S	—
Control-grid cutoff voltage	-3 V	—
Hot input resistance	13500 0hm	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.024 pF	Shielded
Input capacitance	8.7 pF	Shielded
Output capacitance	3 pF	Shielded


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	4.2 V	—
Heater Current	450 mA	—
Plate Resistance	156000 ohm	RepresentativePublishedPoint

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	250 V	—
Maximum Plate Dissipation	2.5 W	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID TO PLATE	0.031 pF	Capacitances GRID TO PLATE 0.024 0.031 pf
OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER WARM-UP TIME	11 s	Average Characteristics HEATER WARM-UP TIME 11 SECONDS
LIMITS OF SUPPLIED CURRENT	450130 mA	Average Characteristics LIMITS OF SUPPLIED CURRENT 450130 MA.
PLATE VOL TAGE	250 V	Maximum Ratings PLATE VOL TAGE 250 VOLTS
GRID	250 V	Maximum Ratings GRID 2 SUPPLY VOLTAGE 250 VOLTS
NEGATIVE GRID	50 V	Maximum Ratings NEGATIVE GRID 1 VOLTAGE 50 VOLTS
PLATE DISSIPATION	2.5 W	Maximum Ratings PLATE DISSIPATION 2.5 WATTS
GRID	125 V	Maximum Ratings GRID 2 DISSIPATION - UP TO 125 VOLTS 0.6 WATT
GRID	0.6 W	Maximum Ratings GRID 2 DISSIPATION - UP TO 125 VOLTS 0.6 WATT
CATHODE-BIAS RESISTOR	1 Mohm	Maximum Ratings CATHODE-BIAS RESISTOR 1 MEGOHM
FIXED BIAS	0.25 Mohm	Maximum Ratings FIXED BIAS 0.25 MEGOHM
PLATE VOLTAGE	125 V	Maximum Ratings PLATE VOLTAGE 125 VOLTS
GRID	125 V	Maximum Ratings GRID 2 VOLTAGE 125 VOLTS
PLATE CURRENT	13 mA	Maximum Ratings PLATE CURRENT 13 MA.
GRID	3.2 mA	Maximum Ratings GRID 2 CURRENT 3.2 MA.
PLATE RESISTANCE	0.156 Mohm	Maximum Ratings PLATE RESISTANCE 0.156 MEGOHM
HOT INPUT RESISTANCE A	13 ohm	Maximum Ratings HOT INPUT RESISTANCE A 13.000 OHMS
HOT INPUT CAPACITANCE A	7.4 pF	Maximum Ratings HOT INPUT CAPACITANCE A 7.4 pf

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
(GRID	100 MMHOS	Maximum Ratings (GRID 1 VOLTAGE AT Gm = 100 μMHOS —3.0 VOLTS
(GRID	3 V	Maximum Ratings (GRID 1 VOLTAGE AT Gm = 100 μMHOS —3.0 VOLTS
MEASURED AT dd MC/	56 ohm	Maximum Ratings MEASURED AT dd MC/5 WITH UN BY PASSED 56 OHM CATHODE RESISTOR.
GRID q	2 V	Maximum Ratings GRID q2 VOLTS
GRID q	2 mA	Maximum Ratings GRID q2 MILLIAMPERES



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 supply voltage	125 V	ClassA1
Grid 2 supply voltage	125 V	ClassA1
Cathode resistor	56 ohm	ClassA1
Plate current	13 mA	ClassA1
Grid 2 current	3.2 mA	ClassA1
Grid 1 voltage for transconductance=100 uS	-3 V	ClassA1
Maximum negative grid 1 voltage	50 V	—
Maximum fixed-bias grid circuit resistance	0.25 Mohm	—
Maximum cathode-bias grid circuit resistance	1 Mohm	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 1 to plate capacitance without external shield	0.031 pF	—
Grid 1 to plate capacitance with external shield	0.024 pF	—
Input capacitance	8.7 pF	—
Output capacitance without external shield	2.15 pF	—
Output capacitance with external shield	3 pF	—
Heater warm-up time	11 s	ControlledWarmUp

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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