

ELECTRONIC TUBE REFERENCE

12AU6

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Sharp-cutoff voltage pentode designed for RF amplification with a series heater. Its abrupt cutoff characteristic suits fixed-gain high-frequency signal stages rather than automatic-gain-controlled remote-cutoff service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7BK	BASE PINS	7
NOMINAL HEATER	12.6 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7BK - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – G1	A	G1 – Control Grid	CONNECTED
PIN2 – G3	A	G3 – Suppressor Grid	CONNECTED
PIN2 – IS	A	IS – Internal Screen	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 – K	A	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	500000 Ω
TRANSCONDUCTANCE	0.0029 S
AMPLIFICATION FACTOR	36
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.75 W
<i>Published promoted fields populated semantically; identical repeated sections compressed.</i>	

Sharp-cutoff voltage pentode for RF amplification with series heater.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	12.6 V	—
Heater Current	150 mA	—



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
Transconductance	5200 uS	PlateVoltage=250V;ScreenVoltage=150V
TriodeConnectionAmplificationFactor	36	TriodeConnection



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	PentodeConnection
Screen-grid voltage	125 V	PentodeConnection
Cathode resistor	100 Ohm	PentodeConnection
Transconductance	4500 uS	PentodeConnection
Plate resistance	1500000 Ohm	PentodeConnection
Plate current	7.6 mA	PentodeConnection
Screen-grid current	3 mA	PentodeConnection
Triode-connected plate voltage	250 V	TriodeConnection
Triode-connected amplification factor	36 ratio	TriodeConnection
Triode-connected plate resistance	7500 Ohm	TriodeConnection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.0035 pF	PentodeConnection
Input capacitance	5.5 pF	PentodeConnection
Output capacitance	5 pF	PentodeConnection



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	12.6 V	—
Heater Current	150 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GridToPlateCapacitanceMaximum	0.0035 pF	—
Input Capacitance	5.5 pF	—
Output Capacitance	5 pF	—
Plate Voltage	250 V	—
Screen Voltage	150 V	—
Cathode Resistance	68 ohm	—
Transconductance	5200 uS	—
Plate Resistance	1000000 ohm	—
Plate Current	10.6 mA	—
Screen Current	4.3 mA	—
TriodeConnectedAmplificationFactor	36	—
TriodeConnectedPlateResistance	7500 ohm	—
TriodeConnectedTransconductance	4800 uS	—



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ELECTRON TUBE DATABASE

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	250 V	ClassA;PentodeConnection
Grid #2 voltage	150 V	ClassA;PentodeConnection
Plate current	10.5 mA	ClassA;PentodeConnection
Grid #2 current	3.5 mA	ClassA;PentodeConnection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	500000 ohm	ClassA;PentodeConnection
Transconductance	5200 uS	ClassA;PentodeConnection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode-connected transconductance	4800 μS	TriodeConnection
Triode-connected amplification factor	19	TriodeConnection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.0035 pF	—
Input capacitance	5.5 pF	—
Output capacitance	5 pF	—

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ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7
Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	12.6 V	—
Heater current	150 mA	—

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SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1975 RCA RC30

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

1975 RCA RC30

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc)	12.6 volts	Published value from supplied target entry
Heater Current	0.15 ampere	Published value from supplied target entry
Plate Voltage	330 volts	Published value from supplied target entry
Grid-No	3	Published value from supplied target entry
Grid-No	2	Published value from supplied target entry
Grid-No	2	Published value from supplied target entry
Grid-No	1	Published value from supplied target entry
Plate Dissipation	3.5 watts	Published value from supplied target entry
Grid-No	2	Published value from supplied target entry
For grid-No	165 volts	Published value from supplied target entry
For grid-No	330 volts	Published value from supplied target entry
Plate Supply Voltage	150	Published value from supplied target entry
Grid-No	150 volts	Published value from supplied target entry
Amplification Factor	36	Published value from supplied target entry
Plate Resistance (Approx.)	1 megohms	Published value from supplied target entry
Transconductance	5200	Published value from supplied target entry
Plate Current	10.6 mA	Published value from supplied target entry
Grid-No	2	Published value from supplied target entry

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate to Cathode, Heater, Grid No	3	Published value from supplied target entry

TUBE TINKER

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