

ELECTRONIC TUBE REFERENCE

6BH6

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Low-heater-current sharp-cutoff RF pentode for high-frequency wideband amplification in AC/DC receivers and mobile equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7CM	BASE PINS	7
NOMINAL HEATER	6.3 V / 150 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

SECTION1 Pentode	
PLATE RESISTANCE	1400000 Ω
TRANSCONDUCTANCE	0.0046 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	3 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	20 mA
MAXIMUM HEATER-CATHODE VOLTAGE	90 V
<i>Published promoted fields populated semantically; identical repeated sections compressed where applicable.</i>	

Miniature sharp-cutoff pentode intended particularly for RF amplification in AC/DC receivers and mobile equipment where low heater-current drain is important, including high-frequency wide-band applications.



SOURCE OPERATING CONDITIONS

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
Plate Resistance	1400000 ohm	—
Transconductance	4600 μ S	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	—
Maximum Screen Voltage	330 V	—
Maximum Plate Dissipation	3.3 W	—
Maximum Screen Dissipation	0.55 W	—



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	6.3 V	—
Heater Current	150 mA	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA; OperatingPoint1
Screen voltage	100 V	ClassA; OperatingPoint1
Control-grid bias	1 V	ClassA; OperatingPoint1
Plate current	3.6 mA	ClassA; OperatingPoint1
Screen current	1.4 mA	ClassA; OperatingPoint1
Plate resistance	700000 ohm	ClassA; OperatingPoint1
Transconductance	3400 uS	ClassA; OperatingPoint1
Plate voltage	250 V	ClassA; OperatingPoint2
Screen voltage	150 V	ClassA; OperatingPoint2
Control-grid bias	1 V	ClassA; OperatingPoint2
Plate current	7.4 mA	ClassA; OperatingPoint2
Screen current	2.9 mA	ClassA; OperatingPoint2
Plate resistance	1400000 ohm	ClassA; OperatingPoint2
Transconductance	4600 uS	ClassA; OperatingPoint2

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	5.4 pF	—

1960 RCA Industrial and Communications Types

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

1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—



SOURCE DATA APPENDIX

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
Plate Resistance	1400000 ohm	TypicalHighGainCondition
Transconductance	4600 uS	TypicalHighGainCondition



SOURCE DATA APPENDIX

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 maximum	330 V	—
Screen supply voltage maximum	330 V	—
Plate dissipation maximum	3.3 W	—
Screen dissipation maximum	0.55 W	—
Typical plate voltage	250 V	ClassA
Typical screen voltage	100 V	ClassA

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	3600 μ S	ClassA
Reduced-heater transconductance	3600 μ S	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 No.1-to-plate capacitance	0.0035 pF	—
Grid No.1-to-other-electrodes capacitance	5.4 pF	—
Plate-to-other-electrodes capacitance	4.4 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen-grid voltage	100 V	ClassA;PlateVoltage=100V
Transconductance	3400 uS	ClassA;PlateVoltage=100V
Plate current	3.6 mA	ClassA;PlateVoltage=100V
Screen-grid current	1.4 mA	ClassA;PlateVoltage=100V
Plate voltage	250 V	ClassA
Screen-grid voltage	150 V	ClassA;PlateVoltage=250V
Transconductance	4600 uS	ClassA;PlateVoltage=250V
Plate current	7.4 mA	ClassA;PlateVoltage=250V
Screen-grid current	2.9 mA	ClassA;PlateVoltage=250V



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen Supply Voltage	300 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	ClassA
Screen Voltage	150 V	ClassA
Grid1 Voltage	-1 V	ClassA
Plate Current	7.4 mA	ClassA
Screen Current	2.9 mA	ClassA
Grid1VoltageAtPlateCurrent10uA	-7.7 V	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid1ToPlateCapacitanceMaximum	0.0035 pF	WithExternalShield

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance	5.4 pF	WithExternalShield
Output Capacitance	4.4 pF	WithExternalShield



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1971 RCA HB3 Binder 3 of 7

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

1971 RCA HB3 BINDER 3 OF 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	150 mA	Nominal
Maximum plate voltage	330 V	Promoted published value
Maximum screen voltage	330 V	Promoted published value
Maximum plate dissipation	3.3 W	Promoted published value
Maximum screen dissipation	0.55 W	Promoted published value
Grid No.1 to plate	0.0035 mA	Direct Interelectrode Capacitances:
Heater Voltage	6.3 V	Direct Interelectrode Capacitances:

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	1400000 ohm	Promoted published value
Transconductance	4600 uS	Promoted published value
Voltage	1 V	—
Current at	0.15 V	—
Plate Supply Voltage	250 V	Direct Interelectrode Capacitances:
Grid-No.2 Supply Voltage	150 V	Direct Interelectrode Capacitances:
Cathode Resistor	100 ohm	Direct Interelectrode Capacitances:

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
Voltage ac or dc	6.3 V	—
Current	0 mA	PublishedColumn1
Current	15 A	PublishedColumn2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
and heater	5.4 pF	PublishedColumn1
and heater	4.4 pF	PublishedColumn1

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	PublishedColumn1
Plate Voltage	250 V	PublishedColumn2
Grid-No. Voltage	100 V	PublishedColumn1
Grid-No. Voltage	150 V	PublishedColumn2
Grid-No.1 Voltage — —	1 V	PublishedColumn1
Plate Resistance (Approx.)	0.7 Mohm	PublishedColumn1
Plate Resistance (Approx.)	1.4 Mohm	PublishedColumn2
Transconductance	3400 μ S	PublishedColumn1
Transconductance	4600 μ S	PublishedColumn2
Plate Current	3.6 mA	PublishedColumn1

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1-to-plate capacitance	0.0035 pF	—
Grid No.1-to-other-electrodes capacitance	5.4 pF	—
Plate-to-other-electrodes capacitance	4.4 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA
Screen-grid voltage	100 V	ClassA;PlateVoltage=100V
Transconductance	3400 uS	ClassA;PlateVoltage=100V
Plate current	3.6 mA	ClassA;PlateVoltage=100V
Screen-grid current	1.4 mA	ClassA;PlateVoltage=100V
Plate voltage	250 V	ClassA
Screen-grid voltage	150 V	ClassA;PlateVoltage=250V
Transconductance	4600 uS	ClassA;PlateVoltage=250V
Plate current	7.4 mA	ClassA;PlateVoltage=250V
Screen-grid current	2.9 mA	ClassA;PlateVoltage=250V

TUBE TINKER

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