

ELECTRONIC TUBE REFERENCE

3AU6

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Sharp-cutoff miniature pentode for wideband RF amplification and FM limiter service in high-frequency equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7BK	BASE PINS	7
NOMINAL HEATER	3.15 V / 600 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	1000000 Ω
TRANSCONDUCTANCE	0.0052 S
AMPLIFICATION FACTOR	36
MAXIMUM PLATE VOLTAGE	320 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.5 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	18 mA
WARM-UP TIME	11 s
<i>Published ratings/characteristics promoted where semantically applicable; supplemental values retained in parameter table.</i>	

Sharp-cutoff miniature pentode for RF amplification in high-frequency wide-band equipment and for FM limiter service.

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
Maximum plate voltage	300 V	Published handbook rating
Maximum screen voltage	150 V	Published handbook rating
Plate voltage	250 V	ClassA
Screen voltage	150 V	ClassA
Plate current	10.6 mA	ClassA
Screen current	4.3 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	1000000 ohm	Published handbook characteristic
Transconductance	5200 μ S	Published handbook characteristic
Heater/filament voltage	3.15 V	Published heater/filament rating
Heater/filament current	600 mA	Published heater/filament rating

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid To Plate Capacitance	0.003 pF	PentodeConnection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Cathode Voltage	200 V	—



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

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	5.5 pF	PentodeConnection
Output capacitance	5 pF	PentodeConnection



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	3.15 V	—
Heater Current	600 mA	—
ControlledWarmupHeater	1 boolean	—
Heater Warmup Time	11 s	—
Transconductance	5200 uS	—
Plate Resistance	500000 ohm	—
GridToPlateCapacitanceMaximum	0.0035 pF	—
Input Capacitance	5.5 pF	—
Output Capacitance	5 pF	—
Application	Wide-band RF/IF and audio voltage amplifier	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	PentodeConnection
Screen Voltage	150 V	PentodeConnection
Grid Voltage	-2 V	PentodeConnection
Plate Current	10.5 mA	PentodeConnection
Screen Current	4.2 mA	PentodeConnection



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	3.15 V	Published heater rating
Heater current	600 mA	Published heater rating
Transconductance	5200 μ S	PentodeConnection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.003 pF	PentodeConnection
Input capacitance	5.5 pF	PentodeConnection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	PentodeConnection
Screen voltage	150 V	PentodeConnection
Plate current	10.6 mA	PentodeConnection
Screen current	4.3 mA	PentodeConnection



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Current – published value 2	600	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Current – published value 3	0.04	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (AC or Ix) at heater – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (AC or Ix) at heater – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.600 A – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.600 A – published value 2	0.6 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.600 A – published value 3	3.15 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Warm-up Time (Average)	11	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.450 A – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.450 A – published value 2	0.45 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.450 A – published value 3	3 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.



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) 3.15 4.2 6.3	12.6 V	Heater Voltage (ac/dc) 3.15 4.2 6.3 12.6 volts
Heater Current 0.6 0.45 0.3	150 mA	Heater Current 0.6 0.45 0.3 0.15 ampere
Plate Voltage 275	330 V	Plate Voltage 275 330 volts
Plate Dissipation 3.5	3.5 W	Plate Dissipation 3.5 3.5 watts
For grid-No.2 voltages up to	165 V	For grid-No.2 voltages up to 165 volts
For grid-No.2 voltages between 165 and	330 V	For grid-No.2 voltages between 165 and 330 volts
Maximum plate voltage	330 V	Published maximum rating
Maximum screen-grid voltage	165 V	Published maximum rating

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Supply Voltage 100 125	150 V	Grid-No.2 Supply Voltage 100 125 150 volts
Plate Resistance (Approx.) 0.5 1.5	1 Mohm	Plate Resistance (Approx.) 0.5 1.5 1 megohms
Plate Current 12.2 5 7.6	10.6 mA	Plate Current 12.2 5 7.6 10.6 mA
Amplification factor	36	Published section characteristic

TUBE TINKER

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