

ELECTRONIC TUBE REFERENCE

6BU8

Voltage - Dual Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-PENTODE

Sharp-cutoff twin pentode designed for television sync-separator, sync-clipper, and AGC-amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9FG	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

9FG - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	K – Cathode	CONNECTED
PIN2	–	G2 – Screen Grid	CONNECTED
PIN2	–	IS – Internal Screen	CONNECTED
PIN3	B	P – Plate (Anode)	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	B	G3 – Suppressor Grid	CONNECTED
PIN7	–	G1 – Control Grid	CONNECTED
PIN8	A	P – Plate (Anode)	CONNECTED
PIN9	A	G3 – Suppressor Grid	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
TRANSCONDUCTANCE	0.0015 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	12 mA
<i>Shared twin-pentode ratings; representative row.</i>	

SECTION2 Pentode	
TRANSCONDUCTANCE	0.00018 S
MAXIMUM PLATE VOLTAGE	100 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM SCREEN DISSIPATION	0.75 W
<i>Published promoted values applied where applicable; additional table data retained as parameters.</i>	

Sharp-cutoff twin pentode for sync separator, sync clipper, and AGC amplifier service. The supplied datasheet was read for heater data, maximum ratings, characteristics, typical operating information, and interelectrode capacitances where published.



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 Voltage	100 V	Published operating/characteristic table
Screen Voltage	67.5 V	Published operating/characteristic table

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	2 mA	Published operating/characteristic table
Screen Current	3.3 mA	Published operating/characteristic table



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	300 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Dissipation	2.5 W	—



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
Grid3-to-plate capacitance	1.9 pF	EachSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	BothSections
Screen voltage	67.5 V	BothSections
Plate current	2.2 mA	EachSection

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	BothSections
Screen voltage	67.5 V	BothSections
Plate current	2.2 mA	EachSection



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
Typical Plate Voltage	100 V	BothSectionsOperating
Typical Screen Voltage	67.5 V	BothSectionsOperating

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid3 Transconductance	180 uS	SeparateSectionTest



SOURCE DATA APPENDIX

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Voltage (AC or DC) – published value 2	10 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current at 6.3 volts – published value 1	6.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current at 6.3 volts – published value 2	0.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.3 to plate (Each unit)	1.9	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid No.1 to all other electrodes	6	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage (Each Unit) – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage (Each Unit) – published value 2	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.3 Voltage (Each Unit) – published value 1	-10 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.3 Voltage (Each Unit) – published value 2	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Voltage – published value 1	67.5 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Voltage – published value 2	67.5 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current (Each Unit)	2.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Current – published value 1	6.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Current – published value 2	3.3 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Cathode Current – published value 1	6.6 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Cathode Current – published value 2	7.8 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage – published value 2	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.3 Voltage – published value 1	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.3 Voltage – published value 2	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1 Voltage	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.3-to-Plate Transconductance	180	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1-to-Plate Transconductance	1500	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current	2.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
plate μ a = 100 – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
plate μ a = 100 – published value 2	-4.5 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
plate μ a = 100 – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
plate μ a = 100 – published value 2	-2.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 1-Cathode – published value 1	1	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 1-Cathode – published value 2	6	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 2-Grid No.2,	2	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Internal	7	Published datasheet value; multiple values represent separate source-table limits or conditions.
Shield	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 3-Plate of	3	Published datasheet value; multiple values represent separate source-table limits or conditions.
Unit No.2	9	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 4 -Heater	4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 5 -Heater	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
b Adjusted to give ado grid- No.1 current of 100 microamperes	100 A	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-N~3 VOLTS=0	3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-N=2 VOLTS= 67.5 – published value 1	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-N=2 VOLTS= 67.5 – published value 2	67.5 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE AND GRID N'3 OF	3	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-N~2 VOLTS=67.5 – published value 1	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-N~2 VOLTS=67.5 – published value 2	67 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE (Each unit)	300 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Negative-bias value	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Positive-bias value	3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-No.2 (SCREEN-GRID) VOLTAGE	150 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Negative-bias value	50 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
CATHODE CURRENT	12 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-No.2 INPUT	0.75 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE DISSIPATION (Each unit) – published value 1	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE DISSIPATION (Each unit) – published value 2	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Heater negative with respect to cathode. 200 max	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Heater positive with respect to cathode. 2004 max	2004 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.3-Circuit Resistance (Each unit)	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1-Circuit Resistance – published value 1	0 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1-Circuit Resistance – published value 2	5 mA	Published datasheet value; multiple values represent separate source-table limits or 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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop for plate current of 140 mA	12 volts	Published datasheet value
Heater Warm-up Time (Average) 11	11 seconds	Published datasheet value
Plate Voltage (Each Unit)	300 volts	Published datasheet value
DC negative value	50 volts	Published datasheet value
DC positive value	3 volts	Published datasheet value
Grid-No.2 (Screen-Grid) Voltage	150 volts	Published datasheet value
Cathode Current	12 mA	Published datasheet value
Grid-No.2 Input	0.75 watt	Published datasheet value
Plate Current (Each Unit)	2.2 mA	Published datasheet value
Grid-No.3 Transconductance	180 μS	Published datasheet value
Plate Current –	2.2 mA	Published datasheet value
100 aA –	-4.6 volts	Published datasheet value
100 M –	-2.3 volts	Published datasheet value
Grid-No.3-Circuit Resistance (Each Unit)	0.5 megohm	Published datasheet value
Grid-No.1-Circuit Resistance	0.5 megohm	Published datasheet value
Heater Warm-up Time	11 seconds	Published datasheet value
Transconductance	0.00018 A/V	Promoted from published datasheet table

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No. 3 to Plate (Each Unit)	1.9 PF	Published datasheet value
Grid No.1 to All Other Electrodes	6 PF	Published datasheet value
Grid No.3 to All Other Electrodes (Each Unit)	3.6 PF	Published datasheet value
Plate to All Other Electrodes (Each Unit)	3 PF	Published datasheet value
Grid No.1 to Plate	0.1 PF	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak positive value	50 volts	Published datasheet value
Plate Dissipation (Each Unit)	1.1 watts	Published datasheet value
Maximum Screen Voltage	150 V	Promoted from published datasheet table
Maximum Plate Dissipation	1.1 W	Promoted from published datasheet table

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