



ELECTRONIC TUBE REFERENCE

6CG8A

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Triode-pentode television converter family combining oscillator and mixer functions for VHF tuner frequency-changing service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9GF	BASE PINS	9
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9GF - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	300000 Ω
TRANSCONDUCTANCE	0.0057 S
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM SCREEN VOLTAGE	275 V
MAXIMUM PLATE DISSIPATION	2.3 W
MAXIMUM SCREEN DISSIPATION	0.45 W
<i>Sharp-cutoff pentode</i>	

SECTION2 Triode	
PLATE RESISTANCE	6000 Ω
TRANSCONDUCTANCE	0.0065 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM PLATE DISSIPATION	1.7 W
<i>Medium-mu triode</i>	

TriodePentode vacuum tube described in the supplied RCA source.



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
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate voltage	275 V	Typical operating conditions
Plate current	136.2 mA	Typical operating conditions

1961 TUNG SOL

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate voltage	275 V	Typical operating conditions
Plate current	136.2 mA	Typical operating conditions



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
Plate Voltage	250 V	—
Screen Voltage	150 V	—
Cathode Bias Resistor	200 ohm	—
Plate Resistance	750000 ohm	—
Transconductance	4600 uS	—
Grid-Plate Capacitance	0.016 pF	Shielded
Input Capacitance	5 pF	Shielded
Output Capacitance	1.6 pF	Shielded

1965 WESTINGHOUSE DATA BOOK

Section 2 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	450 mA	—
Plate Voltage	100 V	—
Cathode Bias Resistor	100 ohm	—
Amplification Factor	40 ratio	—
Plate Resistance	6900 ohm	—
Transconductance	5800 uS	—
Grid-Plate Capacitance	1.5 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Oscillator Frequency	250 MHz	Oscillator



SOURCE DATA APPENDIX

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode grid-to-plate capacitance	0.03 pF	Section2
Pentode input capacitance	4.8 pF	Section2
Pentode output capacitance	0.9 pF	Section2
Heater-to-cathode capacitance	5.5 pF	BothSections

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	Mixer
Grid #2 voltage	150 V	Mixer
Plate current	6.2 mA	Mixer
Grid #2 current	1.8 mA	Mixer
Grid #1 circuit resistance	120000 ohm	Mixer

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion transconductance	4100 uS	Mixer

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode grid-to-plate capacitance	1.5 pF	Section1
Triode grid-to-cathode-and-heater capacitance	2.6 pF	Section1

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	Oscillator;250MHz
Oscillator grid resistor	2700 ohm	Oscillator;250MHz
Plate current	4.3 mA	Oscillator;250MHz
Grid #1 current	3.6 mA	Oscillator;250MHz
Oscillator power output	0.5 W	Oscillator;250MHz
Heater warm-up time	11 s	—



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

Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to plate	0.09 pF	Published table column 1 of 2
Grid No.1 to plate	0.06 pF	Published table column 2 of 2
triode plate	0.05 pF	Published table column 1 of 2
triode plate	0.04 pF	Published table column 2 of 2
triode plate	0.008 pF	Published table column 2 of 2
Heater to cathode	6.5 pF	Published table column 1 of 2
Heater to cathode	6.5 pF	Published table column 2 of 2

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	125 V	Published table column 1 of 3
Plate Voltage	100 V	Published table column 2 of 3
Plate Voltage	125 V	Published table column 3 of 3
Grid-No.1 Voltage	-1 V	Published table column 1 of 2
Grid-No.1 Voltage	-1 V	Published table column 2 of 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (Approx.)	6000 Ω	Published table column 1 of 2
Plate Resistance (Approx.)	300000 Ω	Published table column 2 of 2
Transconductance	6500 μS	Published table column 1 of 3
Transconductance	5700 μS	Published table column 2 of 3
Transconductance	5500 μS	Published table column 3 of 3
Plate Current	12 mA	Published table column 1 of 2
Plate Current	9 mA	Published table column 2 of 2
for plate $\mu\text{a} =$	20 V	Published table column 1 of 3
for plate $\mu\text{a} =$	-7 V	Published table column 2 of 3
for plate $\mu\text{a} =$	-6.5 V	Published table column 3 of 3
Plate Voltage	125 V	ClassA
Screen Voltage	125 V	ClassA
Plate Resistance	300000 Ω	ClassA
Transconductance	5500 μS	ClassA

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE	275 V	Published table column 1 of 2
PLATE VOLTAGE	275 V	Published table column 2 of 2
SUPPLY VOLTAGE	275 V	—
Positive-bias value	0 V	Published table column 1 of 2
Positive-bias value	0 V	Published table column 2 of 2
up to	137.5 W	Published table column 1 of 2
up to	0.45 W	Published table column 2 of 2
volts - See Grid-No.~ In	4 V	—
PLATE DISSIPATION	1.7 W	Published table column 1 of 2
PLATE DISSIPATION	2.3 W	Published table column 2 of 2
respect to cathode	200 V	Published table column 1 of 2
respect to cathode	200 V	Published table column 2 of 2
The do component must not exceed	100 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Warm-up time (Average)	11 s	—
Plate Voltage	125 V	ClassA
Amplification Factor	40	ClassA
Plate Resistance	6000 Ω	ClassA
Transconductance	6500 μS	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to plate	15 pF	Published table column 1 of 2
Grid to plate	1.5 pF	Published table column 2 of 2



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
Section 2 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.5 pF	Published datasheet value
Grid to Cathode, Heater, and Pentode Grid No	2.4 pF	Published datasheet value
Plate to Cathode, Heater, and Pentode Grid No	1 pF	Published datasheet value
Plate to Cathode, Heater, Grid No	2	Published datasheet value
Pentode Plate to Triode Plate	0.008 pF	Published datasheet value
Heater to Cathode	6.5 pF	Published datasheet value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Plate Voltage*	5500 volts	Published datasheet value
Peak Plate Current	2100 mA	Published datasheet value
Average Plate Current	350 mA	Published datasheet value
Plate Dissipation	6.5 watts	Published datasheet value

TUBE TINKER

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

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker