

ELECTRONIC TUBE REFERENCE

6CL8A

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TETRODE-TRIODE

Miniature triode-tetrode used as a combined VHF oscillator and mixer in color and black-and-white television receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9FX	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

9FX - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	B	G1 – Control Grid	CONNECTED
PIN2	B	P – Plate (Anode)	CONNECTED
PIN3	B	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	K – Cathode	CONNECTED
PIN9	A	G1 – Control Grid	CONNECTED

SECTION RATINGS

SECTION1 Tetrode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.007 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3 W
MAXIMUM SCREEN DISSIPATION	0.55 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
<i>Sharp-cutoff tetrode</i>	

SECTION2 Triode	
PLATE RESISTANCE	5000 Ω
TRANSCONDUCTANCE	0.008 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	125 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
<i>Medium-mu triode</i>	

Miniature type used as combined vhf oscillator and mixer in color and black-and-white television receivers.



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 · Tetrode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TetrodeTransconductance	8000 μ S	Section1
Heater Warmup Time	11 s	—

1961 TUNG SOL

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TriodeTransconductance	6500 μ S	Section2



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 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	125 V	—
Screen Voltage	125 V	—
Grid Voltage	-1 V	—
Plate Current	12 mA	—
Screen Current	4 mA	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	200000 ohm	—
Transconductance	6500 uS	—

1965 WESTINGHOUSE DATA BOOK

Section 2 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	450 mA	—
Amplification Factor	40 ratio	—
Plate Resistance	5000 ohm	—
Transconductance	8000 uS	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	125 V	—
Grid Voltage	-1 V	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1966 Tung Sol Electronic Tubes 2 of 4

[SOURCE PDF](#)

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 · Tetrode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tetrode grid-to-plate capacitance	0.02 pF	WithoutShield
Tetrode grid-to-plate capacitance	0.01 pF	WithShield
Tetrode input capacitance	5 pF	—
Tetrode output capacitance	2 pF	WithoutShield

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	ClassA
Grid #2 voltage	125 V	ClassA
Grid #1 voltage	-1 V	ClassA
Plate current	12 mA	ClassA
Grid #2 current	4 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Zero-bias transconductance	7000 μ S	Eb=100V;Ec2=70V

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode grid-to-plate capacitance	1.8 pF	—
Triode input capacitance	2.8 pF	—
Triode output capacitance	1.5 pF	WithoutShield

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater warm-up time	11 s	—
Plate voltage	125 V	ClassA
Grid #1 voltage	-1 V	ClassA
Plate current	24 mA	ClassA



SOURCE DATA APPENDIX

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 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
plate	0.015 pF	Published table column 1 of 2
plate	0.01 pF	Published table column 2 of 2
plate	0 pF	Published table column 1 of 3
plate	15 pF	Published table column 2 of 3
plate	0.03 pF	Published table column 3 of 3
Heater to cathode (Each Unit)	3 pF	Published table column 1 of 2
Heater to cathode (Each Unit)	3 pF	Published table column 2 of 2
/'+. 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.i Voltage	-1 V	Published table column 1 of 2
Grid-No.i Voltage	-1 V	Published table column 2 of 2
Plate Resistance (Approx.)	5000 Ω	Published table column 1 of 2
Plate Resistance (Approx.)	200000 Ω	Published table column 2 of 2
Transconductance	8000 μS	Published table column 1 of 3
Transconductance	7000 μS	Published table column 2 of 3
Transconductance	6500 μS	Published table column 3 of 3
Plate Current	14 mA	Published table column 1 of 2
Plate Current	12 mA	Published table column 2 of 2
for plate μa =	20 V	Published table column 1 of 3
for plate μa =	-9 V	Published table column 2 of 3
for plate μa =	-9 V	Published table column 3 of 3

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE	330 V	Published table column 1 of 2
PLATE VOLTAGE	330 V	Published table column 2 of 2
SUPPLY VOLTAGE	330 V	—
Positive-bias value	0 V	Published table column 1 of 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Positive-bias value	0 V	Published table column 2 of 2
up to	165 W	Published table column 1 of 2
up to	0.55 W	Published table column 2 of 2
between 165 and	330 V	—
PLATE DISSIPATION	2.5 W	Published table column 1 of 2
PLATE DISSIPATION	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
For fixed-bias operation	0.5 MΩ	Published table column 1 of 2
For fixed-bias operation	0.25 MΩ	Published table column 2 of 2
For cathode-bias operation	1 MΩ	Published table column 1 of 2
For cathode-bias operation	1 MΩ	Published table column 2 of 2
The do component must not exceed	100 V	—
Maximum Plate Voltage	330 V	Converter
Maximum Screen Supply Voltage	330 V	Converter
Maximum Plate Dissipation	3 W	Converter
Maximum Screen Input	0.55 W	Converter

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Warrrr-up time (Average)	11 s	—
Grid to plate	1.8 pF	Published table column 1 of 2
Grid to plate	1.8 pF	Published table column 2 of 2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	Converter
Maximum Plate Dissipation	2.5 W	Converter

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 2 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.8 pF	Published datasheet value
Plate to Cathode, Heater, Grid No	2	Published datasheet value
Tetrode Plate to Triode Plate	0.03 pF	Published datasheet value
Heater to Cathode (Each Unit)	3 pF	Published datasheet value
Plate to Cathode and Heater	20 pF	Published datasheet value
Heater to Cat' de	4 PF	Published datasheet value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	125 volts	Published datasheet value
Grid-No	125 volts	Published datasheet value
Grid-No	-1 volt	Published datasheet value
Amplification Factor	40	Published datasheet value
Plate Resistance (Approx.)	0.2 megohm	Published datasheet value
Transconductance	6500	Published datasheet value
Plate Current	12 mA	Published datasheet value
Grid-No	4 mA	Published datasheet value

TUBE TINKER

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

