

ELECTRONIC TUBE REFERENCE

6FH8

Voltage - Triode Tetrode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TETRODE-TRIODE

Medium-mu triode plus sharp-cutoff tetrode with auxiliary plates for complex-wave-generator and television-receiver applications.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9KP	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

9KP - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	7400 Ω
TRANSCONDUCTANCE	0.0054 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2.5 W
<i>Published maximum ratings and characteristic values promoted where applicable; additional values retained in TUBE_SECTION_PARAMETER.</i>	

SECTION2 Tetrode	
PLATE RESISTANCE	750000 Ω
TRANSCONDUCTANCE	0.0044 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.5 W
<i>Published maximum ratings and characteristic values promoted where applicable; additional values retained in TUBE_SECTION_PARAMETER.</i>	

Medium-mu triode plus sharp-cutoff tetrode with auxiliary plates, intended for complex-wave-generator and television-receiver applications.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_voltage	100 V	ClassA
Grid_voltage	-1 V	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_current	7.9 mA	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.4 pF	—
Input capacitance	2.6 pF	—
Output capacitance	1 pF	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum_plate_2_voltage	200 V	—
Maximum_plate_3_voltage	200 V	—
Maximum_plate_2_dissipation	0.3 W	—
Maximum_plate_3_dissipation	0.3 W	—
Plate_1_voltage	250 V	HarmonicGenerator
Screen_voltage	250 V	HarmonicGenerator
Grid_1_voltage	-2 V	HarmonicGenerator

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_1_current	4.3 mA	HarmonicGenerator
Screen_current	2.4 mA	HarmonicGenerator

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-1-to-plate-1 capacitance maximum	0.06 pF	—
Plate-1 output capacitance	1.4 pF	—



SOURCE DATA APPENDIX

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA
Plate current	7.9 mA	ClassA
Maximum plate voltage	275 V	—
Grid No.1 to plate No.1	0 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE VOLTAGE	275 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE-No.1 VOLTAGE	275 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE-No.2 VOLTAGE	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
SUPPLY VOLTAGE	275 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Negative-bias value – published value 1	40 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Negative-bias value – published value 2	40 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Positive-bias value – published value 1	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Positive-bias value – published value 2	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE DISSIPATION	1.7 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE-No.1 DISSIPATION	2.3 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE-No.2 DISSIPATION	0.3 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE-No.3 DISSIPATION	0.3 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	7400 ohm	ClassA
Transconductance	5400 uS	ClassA
Amplification factor	40	ClassA
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	10 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current – published value 1	0 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current – published value 2	45 A	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate	1.4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to cathode & heater	2.6	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate to cathode & heater – published value 1	6	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate to cathode & heater – published value 2	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
plate No.3, plate No. 2,	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
and grid No.2	4.5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
and grid No.2	1.4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Voltage	100 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid Voltage	-1 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Amplification Factor	40 A	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx)	7400 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance	5400	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
/~ Plate Current	7.9 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
4 Grid Voltage (Approx.) for plate	4 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate-No.1 Voltage	250 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage	250 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.1 Voltage	-2 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate-No.1 Resistance (Approx.) – published value 1	0 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate-No.1 Resistance (Approx.) – published value 2	75 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
to Plate No.1	4400	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate-No.1 Current	7.3 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Current	1.4 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3 -Triode Plate	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
275 volts	275 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plates–No.1, No.2, and No.3 Voltage	100 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid–No.2 Voltage	50 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid–No.1.Voltage	1 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-No.1 Current	1.6 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate-No.2 Current – published value 1	0 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate-No.2 Current – published value 2	4 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Current	0.3 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid No.1 to plate No.1	2500	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid No.1 to plate No.3	70	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Maximum plate voltage	330 V	—
Maximum screen-grid voltage	330 V	—
Tetrode grid No.1 to triode plate	0.35 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Tetrode plate No.1 to triode plate	0.008 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 2 -Triode Grid – published value 1	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2 -Triode Grid – published value 2	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 2 -Triode Grid – published value 3	7	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 4 -Heater,	4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 5 -Heater – published value 1	5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 5 -Heater – published value 2	9	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.



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 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage (Approx.) for plate current of 100 /iA	-5.5 V	Published in approved 6FH8 target entry; Section1
Grid-Circuit Resistance, for cathode-bias operation	1 MΩ	Published in approved 6FH8 target entry; Section1
Heater Voltage (ac/dc)	6.3 V	Published in approved 6FH8 target entry; Section1
Heater Current	450 mA	Published in approved 6FH8 target entry; Section1
Plate-No.2 Voltage	250 V	Published in approved 6FH8 target entry; Section1
Grid-No.2 Voltage	250 V	Published in approved 6FH8 target entry; Section1
Grid-No.1 Voltage	2 V	Published in approved 6FH8 target entry; Section1
Plate-No.2 Resistance (Approx.)	0.75 MΩ	Published in approved 6FH8 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance, Grid No.1 to Plate No.2	4400 μS	Published in approved 6FH8 target entry; Section1
Plate-No.2 Current	7.3 mA	Published in approved 6FH8 target entry; Section1
Grid-No.2 Current	1.4 mA	Published in approved 6FH8 target entry; Section1
Plate-No.1A Voltage	200 V	Published in approved 6FH8 target entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	275 V	Published in approved 6FH8 target entry; Section1
Negative-bias value – 40	-40 V	Published in approved 6FH8 target entry; Section1
Plate Dissipation 1.7	0 W	Published in approved 6FH8 target entry; Section1
Plate-No.1A Dissipation	0.3 W	Published in approved 6FH8 target entry; Section1
Plate-No.1B Dissipation	0.3 W	Published in approved 6FH8 target entry; Section1
Plate-No.2 Dissipation	2.3 W	Published in approved 6FH8 target entry; Section1
For grid-No.2 voltages up to	137.6 V	Published in approved 6FH8 target entry; Section1
For grid-No.2 voltages up to 137.6 volts	0.45 W	Published in approved 6FH8 target entry; Section1
For grid-No.2 voltages between 137.5 and	275 V	Published in approved 6FH8 target entry; Section1
Plates-No.1A, No.1B, and No.2 Voltage	100 V	Published in approved 6FH8 target entry; Section1
Grid-No.2 Voltage	50 V	Published in approved 6FH8 target entry; Section1
Grid-No. 1 Voltage	-1 V	Published in approved 6FH8 target entry; Section1
Plate-No.1A Current	0.04 mA	Published in approved 6FH8 target entry; Section1
Plate-No.1B Current	0.04 mA	Published in approved 6FH8 target entry; Section1
Plate-No.2 Current	1.6 mA	Published in approved 6FH8 target entry; Section1
Grid-No.2 Current	0.3 mA	Published in approved 6FH8 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate No.1A	70 μS	Published in approved 6FH8 target entry; Section1
Grid No.1 to Plate No.1B	70 μS	Published in approved 6FH8 target entry; Section1
Grid No.1 to Plate No.2	2500 μS	Published in approved 6FH8 target entry; Section1
Grid-No.1-Circuit Resistance, for fixed-bias operation 0.5	0.5 MΩ	Published in approved 6FH8 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.4 pF	Published in approved 6FH8 target entry; Section1
Plate No.1B	4.6 pF	Published in approved 6FH8 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	Published in approved 6FH8 target entry; Section1
Grid Voltage	1 V	Published in approved 6FH8 target entry; Section1
Plate Resistance (Approx.)	7400 Ω	Published in approved 6FH8 target entry; Section1
Plate Current	7.9 mA	Published in approved 6FH8 target entry; Section1

1975 RCA RC30

Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage (Approx.) for plate current of 100 /iA	-5.5 V	Published in approved 6FH8 target entry; Section2
Grid-Circuit Resistance, for cathode-bias operation	1 MΩ	Published in approved 6FH8 target entry; Section2
Heater Voltage (ac/dc)	6.3 V	Published in approved 6FH8 target entry; Section2
Heater Current	450 mA	Published in approved 6FH8 target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-No.2 Voltage	250 V	Published in approved 6FH8 target entry; Section2
Grid-No.2 Voltage	250 V	Published in approved 6FH8 target entry; Section2
Grid-No.1 Voltage	2 V	Published in approved 6FH8 target entry; Section2
Plate-No.2 Resistance (Approx.)	0.75 MΩ	Published in approved 6FH8 target entry; Section2
Transconductance, Grid No.1 to Plate No.2	4400 μS	Published in approved 6FH8 target entry; Section2
Plate-No.2 Current	7.3 mA	Published in approved 6FH8 target entry; Section2
Grid-No.2 Current	1.4 mA	Published in approved 6FH8 target entry; Section2
Plate-No.1A Voltage	200 V	Published in approved 6FH8 target entry; Section2
Grid-No.2 (Screen-Grid) Supply Voltage	275 V	Published in approved 6FH8 target entry; Section2
Negative-bias value – 40	-40 V	Published in approved 6FH8 target entry; Section2
Plate Dissipation 1.7	0 W	Published in approved 6FH8 target entry; Section2
Plate-No.1A Dissipation	0.3 W	Published in approved 6FH8 target entry; Section2
Plate-No.1B Dissipation	0.3 W	Published in approved 6FH8 target entry; Section2
Plate-No.2 Dissipation	2.3 W	Published in approved 6FH8 target entry; Section2
For grid-No.2 voltages up to	137.6 V	Published in approved 6FH8 target entry; Section2
For grid-No.2 voltages up to 137.6 volts	0.45 W	Published in approved 6FH8 target entry; Section2
For grid-No.2 voltages between 137.5 and	275 V	Published in approved 6FH8 target entry; Section2
Plates-No.1A, No.1B, and No.2 Voltage	100 V	Published in approved 6FH8 target entry; Section2
Grid-No.2 Voltage	50 V	Published in approved 6FH8 target entry; Section2
Grid-No. 1 Voltage	-1 V	Published in approved 6FH8 target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-No.1A Current	0.04 mA	Published in approved 6FH8 target entry; Section2
Plate-No.1B Current	0.04 mA	Published in approved 6FH8 target entry; Section2
Plate-No.2 Current	1.6 mA	Published in approved 6FH8 target entry; Section2
Grid-No.2 Current	0.3 mA	Published in approved 6FH8 target entry; Section2
Grid No.1 to Plate No.1A	70 μS	Published in approved 6FH8 target entry; Section2
Grid No.1 to Plate No.1B	70 μS	Published in approved 6FH8 target entry; Section2
Grid No.1 to Plate No.2	2500 μS	Published in approved 6FH8 target entry; Section2
Grid-No.1-Circuit Resistance, for fixed-bias operation 0.5	0.5 MΩ	Published in approved 6FH8 target entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.4 pF	Published in approved 6FH8 target entry; Section2
Plate No.1B	4.6 pF	Published in approved 6FH8 target entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	Published in approved 6FH8 target entry; Section2
Grid Voltage	1 V	Published in approved 6FH8 target entry; Section2
Plate Resistance (Approx.)	7400 Ω	Published in approved 6FH8 target entry; Section2
Plate Current	7.9 mA	Published in approved 6FH8 target entry; Section2

TUBE TINKER

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

