

ELECTRONIC TUBE REFERENCE

6HL8

Voltage - Triode Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Medium-mu triode plus sharp-cutoff pentode for television sync, video, and amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AE	BASE PINS	9
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9AE - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 1G1	A	G1 – Control Grid	CONNECTED
PIN3 – 1G2	A	G2 – Screen Grid	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G3	A	G3 – Suppressor Grid	CONNECTED
PIN7 – IS	A	IS – Internal Screen	CONNECTED
PIN7 – 1K	A	K – Cathode	CONNECTED
PIN8 – 2K	B	K – Cathode	CONNECTED
PIN9 – 2G1	B	G1 – Control Grid	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5000 Ω
TRANSCONDUCTANCE	0.007 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.5 W
<i>Published maximum ratings and characteristic values promoted where applicable; additional table values retained in TUBE_SECTION_PARAMETER.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	150000 Ω
TRANSCONDUCTANCE	0.01 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.55 W
<i>Published maximum ratings and characteristic values promoted where applicable; additional table values retained in TUBE_SECTION_PARAMETER.</i>	

Medium-mu triode plus sharp-cutoff pentode for television sync, video, and amplifier service.

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 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	5000 ohm	—
Transconductance	7000 uS	—
Amplification factor	40	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	330 V	—
Maximum plate dissipation	2.5 W	—
Heater voltage	6.3 V	—
Heater current	600 mA	—
Typical plate voltage	125 V	—
Typical plate current	12.5 mA	—

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	150000 ohm	—
Transconductance	10000 uS	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	330 V	—
Maximum plate dissipation	2.5 W	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum screen-grid dissipation	0.55 W	—
Heater voltage	6.3 V	—
Heater current	600 mA	—
Typical plate current	12 mA	—
Typical screen-grid current	4.5 mA	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 5 of 7

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	ClassA
Maximum plate voltage	330 V	—
Heater negative with respect to cathode	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Heater positive with respect to cathode	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Voltage – published value 1	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Voltage – published value 2	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Supply Voltage	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Positive-bias value – published value 1	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Positive-bias value – published value 2	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Dissipation – published value 1	2.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Dissipation – published value 2	2.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For fixed-bias operation – published value 1	1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For fixed-bias operation – published value 2	0.25 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For self-bias operation – published value 1	1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For self-bias operation – published value 2	1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	0.68 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at heater volts = 6.3 – published value 1	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at heater volts = 6.3 – published value 2	0.6006 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Warm-up time (Average)	11	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 1 -Triode Plate	1	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 4 -Heater	4	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 5 -Heater	5	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 8 -Triode Cathode	8	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 9 -Triode Grid	9	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate voltage – published value 1	125 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate voltage – published value 2	125 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage	125 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.1 Voltage – published value 1	-1 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.1 Voltage – published value 2	-1 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx.) – published value 1	5000 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx.) – published value 2	150000 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Transconductance – published value 1	7000	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Transconductance – published value 2	10000	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Current – published value 1	12.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current – published value 2	12 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Current	4.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
for plate $\mu_a = 20$ – published value 1	20 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
for plate $\mu_a = 20$ – published value 2	-7 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
dnd 330 volts	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
b For series neater operation current must De limited to 0.600 t 0.0 u0 – published value 1	0.6	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
b For series neater operation current must De limited to 0.600 t 0.0 u0 – published value 2	0	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

1971 RCA HB3 BINDER 5 OF 7

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	ClassA
Maximum plate voltage	330 V	—
Maximum screen-grid voltage	330 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 2 - Pentode Grid No.1	2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 3 -Pentode Grid No.2	3	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 6 -Pentode Plate	6	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 7 - Pentode Cathode,	7	Published datasheet value; multiple values 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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330 volts	Plate Voltage 330 330 volts
Grid-No	330 volts	Grid-No.2 (Screen-Grid) Supply Voltage - 330 volts
Grid-No	2	Grid-No.2 Voltage
For grid-No	165 volts	For grid-No.2 voltages up to 165 volts
For grid-No	330 volts	For grid-No.2 voltages between 165 and 330 volts
Plate Voltage	125 volts	Plate Voltage 125 125 volts
Grid-No	125 volts	Grid-No.2 Voltage 125 volts
Grid-No.1 Voltage	-1 volt	Grid-No.1 Voltage 1 --1 volt
Amplification Factor	40	Amplification Factor 40
Plate Resistance (Approx.)	150000 ohms	Plate Resistance (Approx.) 5000 150000 ohms
Transconductance	10000	Transconductance 7000 10000 /imhos
Plate Current	12 mA	Plate Current 12.5 12 mA
Grid-No	2	Grid-No.2 Current
Grid-No.1-Circuit Resistance	1 megohm	Grid-No.1-Circuit Resistance 1 - megohm

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	2.5 watts	Plate Dissipation 2.5 2.5 watts
Grid-No	2	Grid-No.2 Input:

1975 RCA RC30

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
amperes ,	11 amperes	amperes, 0.6; warm-up time (average), 11 seconds; PT gt

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