

ELECTRONIC TUBE REFERENCE

6AM8A

Voltage Pentode or Tetrode (with diode) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

DIODE-PENTODE

High-perveance diode and sharp-cutoff pentode for television IF amplification, video detection, AGC, and DC-restorer service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9CY	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

9CY - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 1K	A	K – Cathode	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 – 2K	B	K – Cathode	CONNECTED
PIN8 – 2P	B	P – Plate (Anode)	CONNECTED
PIN9 – 1G3	A	G3 – Suppressor Grid	CONNECTED

SECTION RATINGS

SECTION1 Diode

No fixed ratings recorded.

Detector diode section.

SECTION2 Pentode

PLATE RESISTANCE	300000 Ω
TRANSCONDUCTANCE	0.0078 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.2 W
MAXIMUM SCREEN DISSIPATION	0.55 W

Video-amplifier pentode section.

Combination high-perveance diode and sharp-cutoff pentode for television IF, video, AGC, detector, and DC-restorer service.



SOURCE OPERATING CONDITIONS

1950 Sylvania

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

1950 SYLVANIA

Section 1 · Diode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diode plate voltage at 50 mA	10 V	—

1950 SYLVANIA

Section 2 · Pentode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Primary application	Final IF amplifier	—



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MaximumDiodeCurrentContinuous	4 mA	—

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warmup Time	11 s	—

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 · Diode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diode input capacitance	2.3 pF	Section2
Cathode capacitance	3 pF	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diode plate voltage at 50 mA	30 V	Section2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Video detector diode	Section2

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance maximum	0.015 pF	Section1
Input capacitance	6 pF	WithShield
Output capacitance	3 pF	WithShield

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	VideoIF
Screen voltage	125 V	VideoIF
Cathode resistor	56 Ω	VideoIF
Plate current	12.5 mA	VideoIF

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen current	3.2 mA	VideoIF

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	9000 μ S	Section1
Plate resistance	0.3 M Ω	Section1



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	450 mA	—
Maximum DC plate current	5 mA	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater warm-up time	11 s	Average

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-to-cathode-and-heater capacitance	1.8 pF	—
Cathode-to-plate-and-heater capacitance	3 pF	—

1971 RCA HB3 BINDER 4 OF 7

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	450 mA	—
Maximum plate voltage	330 V	ClassA1
Maximum screen supply voltage	330 V	ClassA1
Maximum screen input	0.55 W	ClassA1
Maximum plate dissipation	3.2 W	ClassA1

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater warm-up time	11 s	Average
Plate supply voltage	125 V	ClassA1
Screen supply voltage	125 V	ClassA1
Cathode resistor	56 ohm	ClassA1
Plate resistance	300000 ohm	ClassA1
Transconductance	7800 μ S	ClassA1
Plate current	12.5 mA	ClassA1
Screen current	3.2 mA	ClassA1



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 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 4.7	6.3 V	Published in approved 6AM8A target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current 0.6	450 mA	Published in approved 6AM8A target entry; Section1
Plate Voltage	330 V	Published in approved 6AM8A target entry; Section1
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 6AM8A target entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published in approved 6AM8A target entry; Section1
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 6AM8A target entry; Section1
Plate Dissipation	3.2 W	Published in approved 6AM8A target entry; Section1
For grid-No. 2 voltages up to	165 V	Published in approved 6AM8A target entry; Section1
For grid-No. 2 voltages up to 165 volts	0.55 W	Published in approved 6AM8A target entry; Section1
For grid-No. 2 voltages between 165 and	330 V	Published in approved 6AM8A target entry; Section1
Plate Supply Voltage	125 V	Published in approved 6AM8A target entry; Section1
Grid-No.2 Supply Voltage	125 V	Published in approved 6AM8A target entry; Section1
For fixed-bias operation	0.25 MΩ	Published in approved 6AM8A target entry; Section1
For cathode-bias operation	1 MΩ	Published in approved 6AM8A target entry; Section1
GRID -No	2 V	Published in approved 6AM8A target entry; Section1
Heater Current 0.G	450 mA	Published in approved 6AM8A target entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 6AM8A target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate to Cathode and Heater	1.8 pF	Published in approved 6AM8A target entry; Section1
Cathode to Plate and Heater	3 pF	Published in approved 6AM8A target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate	0.015 pF	Published in approved 6AM8A target entry; Section1
Internal Shield	6.5 pF	Published in approved 6AM8A target entry; Section1
Internal Shield	2.6 pF	Published in approved 6AM8A target entry; Section1
Pentode Grid No.1 to Diode Plate	0.006 pF	Published in approved 6AM8A target entry; Section1
Pentode Plate to Diode Cathode	0.15 pF	Published in approved 6AM8A target entry; Section1
Pentode Plate to Diode Plate	0.1 pF	Published in approved 6AM8A target entry; Section1
Grid to Cathode and Heater	2 pF	Published in approved 6AM8A target entry; Section1
Plate to Cathode and Heater	0.26 pF	Published in approved 6AM8A target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode-Bias Resistor	56 Ω	Published in approved 6AM8A target entry; Section1
Plate Resistance (Approx.)	0.3 MΩ	Published in approved 6AM8A target entry; Section1
Plate Current	12.5 mA	Published in approved 6AM8A target entry; Section1
Grid-No.2 Current	3.2 mA	Published in approved 6AM8A target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 20 fJ.A	6 V	Published in approved 6AM8A target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of	2 mA	Published in approved 6AM8A target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 2 mA	3 V	Published in approved 6AM8A target entry; Section1

1975 RCA RC30

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 4.7	6.3 V	Published in approved 6AM8A target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current 0.6	450 mA	Published in approved 6AM8A target entry; Section2
Plate Voltage	330 V	Published in approved 6AM8A target entry; Section2
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 6AM8A target entry; Section2
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published in approved 6AM8A target entry; Section2
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 6AM8A target entry; Section2
Plate Dissipation	3.2 W	Published in approved 6AM8A target entry; Section2
For grid-No. 2 voltages up to	165 V	Published in approved 6AM8A target entry; Section2
For grid-No. 2 voltages up to 165 volts	0.55 W	Published in approved 6AM8A target entry; Section2
For grid-No. 2 voltages between 165 and	330 V	Published in approved 6AM8A target entry; Section2
Plate Supply Voltage	125 V	Published in approved 6AM8A target entry; Section2
Grid-No.2 Supply Voltage	125 V	Published in approved 6AM8A target entry; Section2
For fixed-bias operation	0.25 MΩ	Published in approved 6AM8A target entry; Section2
For cathode-bias operation	1 MΩ	Published in approved 6AM8A target entry; Section2
GRID -No	2 V	Published in approved 6AM8A target entry; Section2
Heater Current 0.G	450 mA	Published in approved 6AM8A target entry; Section2
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 6AM8A target entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate to Cathode and Heater	1.8 pF	Published in approved 6AM8A target entry; Section2
Cathode to Plate and Heater	3 pF	Published in approved 6AM8A target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate	0.015 pF	Published in approved 6AM8A target entry; Section2
Internal Shield	6.5 pF	Published in approved 6AM8A target entry; Section2
Internal Shield	2.6 pF	Published in approved 6AM8A target entry; Section2
Pentode Grid No.1 to Diode Plate	0.006 pF	Published in approved 6AM8A target entry; Section2
Pentode Plate to Diode Cathode	0.15 pF	Published in approved 6AM8A target entry; Section2
Pentode Plate to Diode Plate	0.1 pF	Published in approved 6AM8A target entry; Section2
Grid to Cathode and Heater	2 pF	Published in approved 6AM8A target entry; Section2
Plate to Cathode and Heater	0.26 pF	Published in approved 6AM8A target entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode-Bias Resistor	56 Ω	Published in approved 6AM8A target entry; Section2
Plate Resistance (Approx.)	0.3 MΩ	Published in approved 6AM8A target entry; Section2
Plate Current	12.5 mA	Published in approved 6AM8A target entry; Section2
Grid-No.2 Current	3.2 mA	Published in approved 6AM8A target entry; Section2
Grid-No.1 Voltage (Approx.) for plate current of 20 fJ.A	6 V	Published in approved 6AM8A target entry; Section2
Grid-No.1 Voltage (Approx.) for plate current of	2 mA	Published in approved 6AM8A target entry; Section2
Grid-No.1 Voltage (Approx.) for plate current of 2 mA	3 V	Published in approved 6AM8A target entry; Section2