

ELECTRONIC TUBE REFERENCE

5AN8

Voltage Triode Pentode electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-TRIODE

Medium-mu triode plus sharp-cutoff pentode for television IF/video/AGC and oscillator, sync, phase-splitter, or reactance-tube circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9DA	BASE PINS	9
NOMINAL HEATER	4.7 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9DA - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5750 Ω
TRANSCONDUCTANCE	0.0033 S
AMPLIFICATION FACTOR	19
MAXIMUM PLATE VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	2.6 W
<i>Medium-mu triode section.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	300000 Ω
TRANSCONDUCTANCE	0.0062 S
MAXIMUM PLATE VOLTAGE	200 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2 W
MAXIMUM SCREEN DISSIPATION	0.5 W
<i>Sharp-cutoff pentode section.</i>	

Medium-mu triode plus sharp-cutoff pentode for television IF/video/AGC and oscillator, sync, phase-splitter, and reactance-tube circuits.



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 · Triode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Primary application	Low-frequency oscillator	—

1950 SYLVANIA

Section 2 · Pentode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Primary application	Video 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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode typical plate voltage	125 V	—
Heater-cathode voltage maximum	200 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode transconductance	7500 μ S	—
Triode amplification factor	21	—
Triode plate resistance	5500 ohm	—
Heater warm-up time	11 s	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Oscillator / phase inverter / vertical oscillator	—

1965 WESTINGHOUSE DATA BOOK

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode/tetrode typical plate voltage	125 V	—
Pentode/tetrode grid2 voltage	125 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode/tetrode transconductance	7500 μ S	—
Pentode/tetrode plate resistance	500000 ohm	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Mixer / IF / video / general-purpose amplifier	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1966 Tung Sol Electronic Tubes 1 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 1 OF 4

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
IN ONE ENVELOPE. IT IS DESIGNED FOR USE IN	600 mA	IN ONE ENVELOPE. IT IS DESIGNED FOR USE IN 600 MA. SERIES HEATER
GRID TO PLATE	1.5 MMF	Triode Unit GRID TO PLATE 1.5 μ pf
HEATER WARM— UP TIME (APPROX.)*	11 s	ClassA HEATER WARM— UP TIME (APPROX.)* 11.0 SEC.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM GRID #	5 W	ClassA MAXIMUM GRID #2 INPUT --- 0.5 WATT
HEATER VOLTAGE ~	7 V	Typical Operating Conditions HEATER VOLTAGE ~.7 VOLTS
HEATER CURRENT	600 mA	Typical Operating Conditions HEATER CURRENT 0.6 AMP.
PLATE SUPPLY VOLTAGE	200 V	Typical Operating Conditions PLATE SUPPLY VOLTAGE 200 200 VOLTS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID #	150 V	Typical Operating Conditions GRID #2 SUPPLY VOLTAGE --- 150 VOLTS
PLATE RESISTANCE (APPROX.)	0 ohm	Typical Operating Conditions PLATE RESISTANCE (APPROX.) 5 750 300 000 OHMS
TRANSCONDUCTANCE	200 MMHOS	Typical Operating Conditions TRANSCONDUCTANCE 3 300 6 200 μ MHos
PLATE CURRENT	9.5 mA	Typical Operating Conditions PLATE CURRENT 13 9.5 MA.

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID #	0.04 MMF	Pentode Unit GRID #1 TO PLATE (MAX.) 0.04 μ f
TRIODE GRID TO PENTODE PLATE	0.005 MMF	Pentode Unit TRIODE GRID TO PENTODE PLATE 0.005 μ f
PENTODE GRID #	0.006 MMF	Pentode Unit PENTODE GRID #1 TO TRIODE PLATE 0.006 μ f
PENTODE PLATE TO TRIODE PLATE	0.045 MMF	Pentode Unit PENTODE PLATE TO TRIODE PLATE 0.045 μ f



TUBE TINKER
ELECTRON TUBE DATABASE

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	150 V	ClassA1
Grid voltage	-3 V	ClassA1
Plate current	15 mA	ClassA1

Characteristic		
Parameter	Published Value	Condition / Note
Plate resistance	4700 ohm	ClassA1
Transconductance	4500 uS	ClassA1
Heater warm-up time	11 s	ControlledWarmUp

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Pentode

Other		
Parameter	Published Value	Condition / Note
Plate voltage	125 V	ClassA1
Grid 2 voltage	125 V	ClassA1
Cathode resistor	56 ohm	ClassA1
Plate current	12 mA	ClassA1
Grid 2 current	3.8 mA	ClassA1

Characteristic		
Parameter	Published Value	Condition / Note
Plate resistance	170000 ohm	ClassA1
Transconductance	7800 uS	ClassA1



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1975 RCA RC30

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

SOURCE PDF

1975 RCA RC30

Section 1 · Triode

Other		
Parameter	Published Value	Condition / Note
Heater Voltage (ac/dc) 4.7	6.3 V	Published in approved 6AN8A target entry; Section1
Heater Current 0.G	450 mA	Published in approved 6AN8A target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 6AN8A target entry; Section1
Pentode Plate to Triode Plate	0.15 pF	Published in approved 6AN8A target entry; Section1
Plate Voltage 330	330 V	Published in approved 6AN8A target entry; Section1
Grid-No.2 Supply Voltage	330 V	Published in approved 6AN8A target entry; Section1
Grid-No.1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Published in approved 6AN8A target entry; Section1
Plate Dissipation 2.8	2.3 W	Published in approved 6AN8A target entry; Section1
For grid-No. 2 voltages up to	165 V	Published in approved 6AN8A target entry; Section1
For grid-No. 2 voltages up to 165 volts	0.55 W	Published in approved 6AN8A target entry; Section1
For grid-No. 2 voltages between 165 and	330 V	Published in approved 6AN8A target entry; Section1
For fixed-bias operation 0.5	0.25 MΩ	Published in approved 6AN8A target entry; Section1
For cathode-bias operation 1	1 MΩ	Published in approved 6AN8A target entry; Section1
GRID-No	2 V	Published in approved 6AN8A target entry; Section1
Heater Voltage (ac/dc) 4.7 6.3	12.6 V	Published in approved 6AN8A target entry; Section1
Heater Current 0.6 0.45	225 mA	Published in approved 6AN8A target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Cathode and Heater	2 pF	Published in approved 6AN8A target entry; Section1
Plate to Cathode and Heater	0.26 pF	Published in approved 6AN8A target entry; Section1
Internal Shield	7 pF	Published in approved 6AN8A target entry; Section1
Internal Shield	2.4 pF	Published in approved 6AN8A target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode Grid to Pentode Plate	0.02 pF	Published in approved 6AN8A target entry; Section1
Pentode Grid No.1 to Triode Plate	0.02 pF	Published in approved 6AN8A target entry; Section1
Grid No.1 to Plate	0.4 pF	Published in approved 6AN8A target entry; Section1
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	8 pF	Published in approved 6AN8A target entry; Section1
Plate to Cathode, Heater, Grid No.2, and Grid No	3 pF	Published in approved 6AN8A target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage 150	125 V	Published in approved 6AN8A target entry; Section1
Grid-No.2 Supply Voltage	125 V	Published in approved 6AN8A target entry; Section1
Cathode-Bias Resistor	56 Ω	Published in approved 6AN8A target entry; Section1
Plate Resistance (Approx.) 4700	170000 Ω	Published in approved 6AN8A target entry; Section1
Plate Current 15	12 mA	Published in approved 6AN8A target entry; Section1
Grid-No.2 Current	3.8 mA	Published in approved 6AN8A target entry; Section1
20 iiA -17	-6 V	Published in approved 6AN8A target entry; Section1
1.6 mA	-3 V	Published in approved 6AN8A 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 6AN8A target entry; Section2
Heater Current 0.G	450 mA	Published in approved 6AN8A target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 6AN8A target entry; Section2
Pentode Plate to Triode Plate	0.15 pF	Published in approved 6AN8A target entry; Section2
Plate Voltage 330	330 V	Published in approved 6AN8A target entry; Section2
Grid-No.2 Supply Voltage	330 V	Published in approved 6AN8A target entry; Section2
Grid-No.1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Published in approved 6AN8A target entry; Section2
Plate Dissipation 2.8	2.3 W	Published in approved 6AN8A target entry; Section2
For grid-No. 2 voltages up to	165 V	Published in approved 6AN8A target entry; Section2
For grid-No. 2 voltages up to 165 volts	0.55 W	Published in approved 6AN8A target entry; Section2
For grid-No. 2 voltages between 165 and	330 V	Published in approved 6AN8A target entry; Section2
For fixed-bias operation 0.5	0.25 MΩ	Published in approved 6AN8A target entry; Section2
For cathode-bias operation 1	1 MΩ	Published in approved 6AN8A target entry; Section2
GRID-No	2 V	Published in approved 6AN8A target entry; Section2
Heater Voltage (ac/dc) 4.7 6.3	12.6 V	Published in approved 6AN8A target entry; Section2
Heater Current 0.6 0.45	225 mA	Published in approved 6AN8A target entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Cathode and Heater	2 pF	Published in approved 6AN8A target entry; Section2
Plate to Cathode and Heater	0.26 pF	Published in approved 6AN8A target entry; Section2
Internal Shield	7 pF	Published in approved 6AN8A target entry; Section2
Internal Shield	2.4 pF	Published in approved 6AN8A target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode Grid to Pentode Plate	0.02 pF	Published in approved 6AN8A target entry; Section2
Pentode Grid No.1 to Triode Plate	0.02 pF	Published in approved 6AN8A target entry; Section2
Grid No.1 to Plate	0.4 pF	Published in approved 6AN8A target entry; Section2
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	8 pF	Published in approved 6AN8A target entry; Section2
Plate to Cathode, Heater, Grid No.2, and Grid No	3 pF	Published in approved 6AN8A target entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage 150	125 V	Published in approved 6AN8A target entry; Section2
Grid-No.2 Supply Voltage	125 V	Published in approved 6AN8A target entry; Section2
Cathode-Bias Resistor	56 Ω	Published in approved 6AN8A target entry; Section2
Plate Resistance (Approx.) 4700	170000 Ω	Published in approved 6AN8A target entry; Section2
Plate Current 15	12 mA	Published in approved 6AN8A target entry; Section2
Grid-No.2 Current	3.8 mA	Published in approved 6AN8A target entry; Section2
20 iiA -17	-6 V	Published in approved 6AN8A target entry; Section2
1.6 mA	-3 V	Published in approved 6AN8A target entry; Section2