

ELECTRONIC TUBE REFERENCE

4HS8

Voltage Dual Pentode electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-PENTODE

Twin pentode designed for television AGC, sync-separator, sync-clipper, and noise-gating service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	4.2 V / 450 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Pentode	
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	12 mA
Representative electrical row for two identical sharp-cutoff pentode units; used in AGC, sync, limiting and clipping circuits.	

SECTION2 Pentode	
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	12 mA

Twin pentode used in television AGC, sync-separator, sync-clipper, and noise-gating service.



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 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid1Transconductance	1100 μ S	Section1

1961 TUNG SOL

Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid3 Transconductance	450 μ S	Section2



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 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID #	3.6 pF	Capacitances GRID #3 (EACH SECTION) TO ALL 3.6 pf
PLATE (EACH SECTION) TO ALL	3 pF	Capacitances PLATE (EACH SECTION) TO ALL 3.0 pf
GRID #	0.017 pF	Capacitances GRID #3 (SECTION 1) TO GRID #3 (SECTION 2). MAX. 0.017 pf

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER WARM-UP TIMER Z	1 s	Average Characteristics HEATER WARM-UP TIMER Z1 SECONDS
SCREEN DISSIPATION	0.75 W	Maximum Ratings SCREEN DISSIPATION 0.75 WATT
GRID #i CIRCUIT RESISTANCE 0	5 Mohm	Maximum Ratings GRID #i CIRCUIT RESISTANCE 0.5 MEGOHM
SCREEN VOLTAGE	67.5 V	Average Characteristics SCREEN VOLTAGE 67.5 67.5 VOLTS
SCREEN CURRENT	4.4 mA	Average Characteristics SCREEN CURRENT 7.0 4.4 MA.
CATHODE CURRENT	5 mA	Average Characteristics CATHODE CURRENT 7.T H.5 MA.



SOURCE DATA APPENDIX

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	250 V	AGC;SyncLimiter
Typical grid 1 voltage	-11 V	AGC;SyncLimiter
Typical plate current	5 mA	AGC;SyncLimiter
Typical transconductance	1800 uS	AGC;SyncLimiter

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater warm-up time	11 s	ControlledWarmUp



SOURCE DATA APPENDIX

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 3.5 4.2	6.3 V	Published in approved 4HS8 target entry; Section1
Heater Current 0.6 0.45	300 mA	Published in approved 4HS8 target entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 4HS8 target entry; Section1
Plate Voltage (Each Unit)	300 V	Published in approved 4HS8 target entry; Section1
Peak positive value	50 V	Published in approved 4HS8 target entry; Section1
DC negative value	50 V	Published in approved 4HS8 target entry; Section1
DC positive value	3 V	Published in approved 4HS8 target entry; Section1
Grid-No.2 (Screen-Grid) Voltage	150 V	Published in approved 4HS8 target entry; Section1
Grid-No.1 (Control-Grid) Voltage, Negative-bias value	50 V	Published in approved 4HS8 target entry; Section1
Cathode Current	12 mA	Published in approved 4HS8 target entry; Section1
Plate Dissipation (Each Unit)	1.1 W	Published in approved 4HS8 target entry; Section1
Grid-No. 2 Input	0.75 W	Published in approved 4HS8 target entry; Section1
67.5	67.5 V	Published in approved 4HS8 target entry; Section1
Plate Current (Each Unit)	2 mA	Published in approved 4HS8 target entry; Section1
Grid-No.2 Current 7	4.4 mA	Published in approved 4HS8 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Current 7.1	8.5 mA	Published in approved 4HS8 target entry; Section1
Grid-No.5-Circuit Resistance (Each Unit)	0.5 MΩ	Published in approved 4HS8 target entry; Section1
Grid-No.1-Circuit Resistance	0.5 MΩ	Published in approved 4HS8 target entry; Section1
Peak Plate Voltage*	5500 V	Published in approved 4HS8 target entry; Section1
Plate Dissipation	35 W	Published in approved 4HS8 target entry; Section1
Peak Plate Current	325 mA	Published in approved 4HS8 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.3 to Plate (Each Unit)	2 pF	Published in approved 4HS8 target entry; Section1
Grid No.1 to All Other Electrodes	6 pF	Published in approved 4HS8 target entry; Section1
Grid No.3 (Each Unit) to All Other Electrodes	3.6 pF	Published in approved 4HS8 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 100	100 V	Published in approved 4HS8 target entry; Section1
Grid-No.3 Voltage 0	0 V	Published in approved 4HS8 target entry; Section1
Grid-No 2 Voltage 67.5	67.5 V	Published in approved 4HS8 target entry; Section1
Grid-No.1 Voltage	0 V	Published in approved 4HS8 target entry; Section1
Transconductance, Grid No.1 to Plate	1100 μS	Published in approved 4HS8 target entry; Section1
Plate Current	2 mA	Published in approved 4HS8 target entry; Section1
Pulse Plate Voltage*	3500 V	Published in approved 4HS8 target entry; Section1
Grid-Voltage, Negative-bias value +200	4.4 V	Published in approved 4HS8 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Plate Current	300 mA	Published in approved 4HS8 target entry; Section1
Plate Resistance (Approx.)	4600 Ω	Published in approved 4HS8 target entry; Section1
Grid Voltage (Approx.) for plate current of	1 mA	Published in approved 4HS8 target entry; Section1
Grid Voltage (Approx.) for plate current of 1 mA	13 V	Published in approved 4HS8 target entry; Section1