

ELECTRONIC TUBE REFERENCE

6AZ8

Voltage - Pentode Remote Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

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

GENERAL CHARACTERISTICS

BASE DESIGNATION	9ED	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

9ED - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	6000 Ω
TRANSCONDUCTANCE	0.0065 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.6 W
<i>Triode section; ratings and characteristics retained in parameter rows where not safely promotable.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	250000 Ω
TRANSCONDUCTANCE	0.009 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2 W
MAXIMUM SCREEN DISSIPATION	1 W
<i>Pentode section; ratings and characteristics retained in parameter rows where not safely promotable.</i>	

Miniature combined medium-mu triode and sharp-cutoff pentode used in television receivers for video/IF/AGC/reactance functions and low-frequency oscillator, sync-separator, clipper, and phase-splitter circuits.



SOURCE OPERATING CONDITIONS

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1950 Sylvania

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1950 SYLVANIA

Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage..... cciiinn... 6.3 Volts	6.3 V	Heater Voltage..... 6.3 Volts
Heater Current. ciiiiiini... 450 Ma	450 mA	Heater Current. ciiiiiini... 450 Ma
Grid No. 2 Supply Voltage. 300 Volts	300 V	Grid No. 2 Supply Voltage. 300 Volts
Positive Grid No. 1 Voltage. 0 Volts	0 V	Positive Grid No. 1 Voltage. 0 Volts
Plate Dissipation. 2.6 2.0 Watts	2 W	Plate Dissipation. 2.6 2.0 Watts
For Grid No. 2 Voltages up to 150 Volts.. . . . 0.5 Watt	0.5 W	For Grid No. 2 Voltages up to 150 Volts.. . . . 0.5 Watt
For Grid No. 2 Voltages Between 150 and	2 V	For Grid No. 2 Voltages Between 150 and
Plate Supply Voltage. 200 200 Volts	200 V	Plate Supply Voltage. 200 200 Volts
Grid No. 2 Supply Voltage. 150 Volts	150 V	Grid No. 2 Supply Voltage. 150 Volts
Grid No. 1 Voltage. -6 Volts	-6 V	Grid No. 1 Voltage. -6 Volts
Plate Current. 13 9.5 Ma	9.5 mA	Plate Current. 13 9.5 Ma

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.2 Current., 3 Ma	3 mA	Grid No.2 Current., 3 Ma
Transconductance. 3300 6000 umhos	6000 umhos	Transconductance. 3300 6000 umhos
Plate Resistance (approx.). 5750 300,000 Ohms	300 Ohms	Plate Resistance (approx.). 5750 300,000 Ohms
Grid No. 1 Voltage (approx.) for Plate Current	1 V	Grid No. 1 Voltage (approx.) for Plate Current
Grid No. 1 Voltage (approx.) for Transcon-	1 V	Grid No. 1 Voltage (approx.) for Transcon-

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No. 2 Voltage. See 6AMS8 Rating Chart	2 V	Grid No. 2 Voltage. See 6AMS8 Rating Chart



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1961 Tung Sol

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1961 TUNG SOL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	450 mA	—
Plate current	13 mA	Typical operating conditions

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	450 mA	—
Plate current	13 mA	Typical operating conditions



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1966 Tung Sol Electronic Tubes 1 of 4

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1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	TriodeSection
Plate current	10 mA	TriodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	6000 Ω	TriodeSection
Transconductance	6500 μS	TriodeSection
Amplification factor	40	TriodeSection

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	PentodeSection
Screen voltage	125 V	PentodeSection
Plate current	12 mA	PentodeSection
Screen current	3.5 mA	PentodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	250000 Ω	PentodeSection
Transconductance	9000 μS	PentodeSection
Cutoff characteristic	Semi-remote	PentodeSection



SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 4 of 7

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1971 RCA HB3 BINDER 4 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage ac or dc	6.3 V	Section1
Current	0 mA	Section1;PublishedColumn1
Current	45 A	Section1;PublishedColumn2
Plate Supply Voltage	200 V	Section1;PublishedColumn1
Grid-No. Supply Voltage	2 V	Section1;PublishedColumn1
Grid-No. Supply Voltage	150 V	Section1;PublishedColumn2
Grid-No.1 Voltage	-6 V	Section1
Cathode-Bias Resistor	180 ohm	Section1
Plate Resistance (Approx.)	5750 ohm	Section1;PublishedColumn1
Plate Resistance (Approx.)	300000 ohm	Section1;PublishedColumn2
Transconductance	3300 μS	Section1;PublishedColumn1
Transconductance	6000 μS	Section1;PublishedColumn2
Plate Current	13 mA	Section1;PublishedColumn1
Plate Current	9.5 mA	Section1;PublishedColumn2
Grid-No. Current	2 mA	Section1;PublishedColumn1
Grid-No. Current	3 mA	Section1;PublishedColumn2
for plate current of μamp	10 V	Section1;PublishedColumn1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
for plate current of μ amp	-19 V	Section1;PublishedColumn2
PLATE VOLTAGE. max. max	300 V	Section1;PublishedColumn1
VOLTAGE. - max	3 V	Section1
Positive bias value. mar.. max	0 V	Section1;PublishedColumn1
PLATE DISSIPATION. max. max,	2.5 W	Section1;PublishedColumn1
PLATE DISSIPATION. max. max,	2 W	Section1;PublishedColumn2
up to	150 V	Section1
respect to cathode max	200 V	Section1
respect to cathode + nax	200 V	Section1;PublishedColumn1
respect to cathode + nax	14 V	Section1;PublishedColumn2
' Tne do component must not exceed	100 V	Section1
LNIO ON ATION q N t ICA,	10 mA	Section1;PublishedColumn1
LNIO ON ATION q N t ICA,	1 mA	Section1;PublishedColumn2
For fixed-bias operation. max. max	0.5 Mohm	Section1;PublishedColumn1
For fixed-bias operation. max. max	0.25 Mohm	Section1;PublishedColumn2
For cathode-bias operation. max. max	1 Mohm	Section1;PublishedColumn1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to plate	1.7 pF	Section1
shield d heater	2 pF	Section1
shield heater	6 pF	Section1;PublishedColumn1
shield heater	1.7 pF	Section1;PublishedColumn2
Grid No.1 to plate	0.02 pF	Section1
internal shield d heater	6.5 pF	Section1
internal shield d heater	2.2 pF	Section1
Triode grid to pentode plate mpx	0.027 pF	Section1
Pentode grid No.1 to triode plate. max	0.02 pF	Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode plate to triode plate max	0.045 pF	Section1

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
g E.F = &	3 V	Section1
E{ =	8.3 V	Section1

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage ac or do	6.3 V	Section2
Current	0 mA	Section2;PublishedColumn1
Current	45 A	Section2;PublishedColumn2
Plate Supply Voltage	200 V	Section2;PublishedColumn1
Grid-No. Supply Voltage	2 V	Section2;PublishedColumn1
Grid-No. Supply Voltage	150 V	Section2;PublishedColumn2
Grid-No.1 Voltage	-6 V	Section2
Cathode-Bias Resistor	180 ohm	Section2
Plate Resistance (Approx.)	5750 ohm	Section2;PublishedColumn1
Plate Resistance (Approx.)	300000 ohm	Section2;PublishedColumn2
Transconductance	3300 μS	Section2;PublishedColumn1
Transconductance	6000 μS	Section2;PublishedColumn2
Plate Current	13 mA	Section2;PublishedColumn1
Plate Current	9.5 mA	Section2;PublishedColumn2
Grid-No. Current	2 mA	Section2;PublishedColumn1
Grid-No. Current	3 mA	Section2;PublishedColumn2
for plate current of μamp	10 V	Section2;PublishedColumn1
for plate current of μamp	-19 V	Section2;PublishedColumn2
PLATE VOLTAGE. max. max	300 V	Section2;PublishedColumn1
VOLTAGE. - max	3 V	Section2
Positive bias value. mar.. max	0 V	Section2;PublishedColumn1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE DISSIPATION. max. max,	2.5 W	Section2;PublishedColumn1
PLATE DISSIPATION. max. max,	2 W	Section2;PublishedColumn2
up to	150 V	Section2
respect to cathode max	200 V	Section2
respect to cathode + nax	200 V	Section2;PublishedColumn1
respect to cathode + nax	14 V	Section2;PublishedColumn2
' Tne do component must not exceed	100 V	Section2
LNIO ON ATION q N t ICA,	10 mA	Section2;PublishedColumn1
LNIO ON ATION q N t ICA,	1 mA	Section2;PublishedColumn2
For fixed-bias operation. max. max	0.5 Mohm	Section2;PublishedColumn1
For fixed-bias operation. max. max	0.25 Mohm	Section2;PublishedColumn2
For cathode-bias operation. max. max	1 Mohm	Section2;PublishedColumn1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to plate	1.7 pF	Section2
shield d heater	2 pF	Section2
shield heater	6 pF	Section2;PublishedColumn1
shield heater	1.7 pF	Section2;PublishedColumn2
Grid No.1 to plate	0.02 pF	Section2
internal shield d heater	6.5 pF	Section2
internal shield d heater	2.2 pF	Section2
Triode grid to pentode plate mpx	0.027 pF	Section2
Pentode grid No.1 to triode plate. max	0.02 pF	Section2
Pentode plate to triode plate max	0.045 pF	Section2

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
g E.F = &	3 V	Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
$E_{\{ =$	8.3 V	Section2



SOURCE OPERATING CONDITIONS

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1975 RCA RC30

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1975 RCA RC30

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.7 pF	—
Grid-to-cathode/heater capacitance	2 pF	—
Plate-to-cathode/heater capacitance	1.7 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	200 V	ClassA
Plate current	13 mA	ClassA

1975 RCA RC30

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1-to-plate capacitance	0.02 pF	—
Grid No.1-to-other-electrodes capacitance	6.6 pF	—
Plate-to-other-electrodes capacitance	2.2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	200 V	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen-grid voltage	150 V	ClassA
Plate current	9.5 mA	ClassA
Screen-grid current	3 mA	ClassA

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