

ELECTRONIC TUBE REFERENCE

6BZ7

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Medium-mu twin triode for cascode VHF television-tuner amplification and push-pull cathode-drive RF amplifier service, with high transconductance for front-end use.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AJ	BASE PINS	9
NOMINAL HEATER	6.3 V / 400 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9AJ - 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 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1K	A	K – Cathode	CONNECTED
PIN9 – IS	A	IS – Internal Screen	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5600 Ω
TRANSCONDUCTANCE	0.0068 S
AMPLIFICATION FACTOR	38
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Each identical triode</i>	

SECTION2 Triode	
PLATE RESISTANCE	5300 Ω
TRANSCONDUCTANCE	0.0068 S
AMPLIFICATION FACTOR	36
MAXIMUM PLATE DISSIPATION	2 W
<i>Medium-mu double triode for low-noise VHF cascode-amplifier service.</i>	

Medium-mu twin triode used as a cascode amplifier in VHF television tuners and in push-pull cathode-drive RF amplifiers.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	250 V	Published handbook rating
Plate voltage	150 V	ClassA
Plate current	10 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	5600 ohm	Published handbook characteristic
Transconductance	6800 μ S	Published handbook characteristic
Amplification factor	38	Published handbook characteristic
Heater voltage	6.3 V	Published heater rating
Heater current	400 mA	Published heater rating

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	2.5 pF	Published capacitance column
Output capacitance	1.35 pF	Published capacitance column
Grid-to-plate capacitance	1.15 pF	Published capacitance column

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	150 V	Published operating/characteristic table
Grid Voltage	-7 V	Published operating/characteristic table

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	10 mA	Published operating/characteristic table
Transconductance	6800 μ S	Published operating/characteristic table
Amplification Factor	36	Published operating/characteristic table
Plate Resistance	5300 ohm	Published operating/characteristic table



SOURCE DATA APPENDIX

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	400 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	250 V	—
Maximum Plate Dissipation	2 W	—

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM PLATE DISSIPATION	2 W	Maximum Ratings MAXIMUM PLATE DISSIPATION 2 WATTS
MAXIMUM GRID CIRCUIT RESISTANCE 0	5 Mohm	Maximum Ratings MAXIMUM GRID CIRCUIT RESISTANCE 0.5 MEGOHM
Plate voltage	150 V	ClassA
Cathode bias resistor	220 ohm	ClassA
Plate current	10 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER CURRENT 0	4 A	ClassA HEATER CURRENT 0.4 AMP.
Amplification factor	36	—
Plate resistance	5300 ohm	—
Transconductance	6800 uS	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.2 pF	Section1
Plate-to-cathode capacitance	0.12 pF	Section1
Input capacitance	2.6 pF	Section1
Output capacitance	1.2 pF	Section1

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
#	0.01 pF	Capacitances #1 PLATE TO #2 PLATE: (1P TO 2P) (MAX.) 0.010 uuf
Grid-to-plate capacitance	1.2 pF	Section2
Plate-to-cathode capacitance	0.12 pF	Section2
Input capacitance	5 pF	Section2
Output capacitance	2.2 pF	Section2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	ClassA
Cathode bias resistor	220 ohm	ClassA
Plate current	10 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	36	—
Plate resistance	5300 ohm	—
Transconductance	6800 uS	—



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or OC)	6 V	Published table column 1 of 3
Voltage (AC or OC)	3 V	Published table column 2 of 3
Voltage (AC or OC)	10 V	Published table column 3 of 3

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current at	6.3 V	Published table column 1 of 2
Current at	4 V	Published table column 2 of 2
Plate Supply Voltage	150 V	—
Cathode Resistor	220 Ω	—
Plate Resistance (Approx)	5300 Ω	—
Transconductance	6800 μS	—
Plate Current	10 mA	—
$\mu\text{a} =$	100 V	Published table column 1 of 2
$\mu\text{a} =$	-7 V	Published table column 2 of 2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to plate	1.2 pF	Published table column 1 of 2
Grid to plate	1.2 pF	Published table column 2 of 2
shield, and heater	2.6 pF	—
shield, and heater	1.2 pF	—
Plate to cathode	0.12 pF	Published table column 1 of 2
Plate to cathode	0.12 pF	Published table column 2 of 2
Heater to cathode	2.6 pF	Published table column 1 of 2
Heater to cathode	2.6 pF	Published table column 2 of 2
shield, and heater	5 pF	—
shield, and heater	2.2 pF	—
plate of unit No	2 pF	Published table column 1 of 2
plate of unit No	0.01 pF	Published table column 2 of 2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE	250 V	—
PLATE DISSIPATION	2 W	—
CATHODE CURRENT	20 mA	—
Heater negative with respect to cathode	2006 V	—
Heater positive with respect to cathode	200 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Circuit Resistance	0 MΩ	Published table column 1 of 2
Grid-Circuit Resistance	5 MΩ	Published table column 2 of 2
permissible plate voltage to be as high as	300 V	—
no The do component must not exceed	100 V	—



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 4.2 5.6	6.3 V	Published in approved 6BZ7 target datasheet entry; Section1
Heater Current 0.45	400 mA	Published in approved 6BZ7 target datasheet entry; Section1
Cathode Current	20 mA	Published in approved 6BZ7 target datasheet entry; Section1
Plate Dissipation	2 W	Published in approved 6BZ7 target datasheet entry; Section1
Plate Supply Voltage	150 V	Published in approved 6BZ7 target datasheet entry; Section1
Cathode-Bias Resistor	220 Ω	Published in approved 6BZ7 target datasheet entry; Section1
Plate Resistance (Approx.)	5900 Ω	Published in approved 6BZ7 target datasheet entry; Section1
Transconductance	6400 μS	Published in approved 6BZ7 target datasheet entry; Section1
Plate Current	9 mA	Published in approved 6BZ7 target datasheet entry; Section1
Grid-Circuit Resistance	0.5 MΩ	Published in approved 6BZ7 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
* Rating may be high as	300 V	Published in approved 6BZ7 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 1.2	1.2 pF	Published in approved 6BZ7 target datasheet entry; Section1
–	-5 pF	Published in approved 6BZ7 target datasheet entry; Section1
Plate to Grid, Heater, and Internal Shield	2.2 pF	Published in approved 6BZ7 target datasheet entry; Section1
Plate to Cathode 0.12	0.12 pF	Published in approved 6BZ7 target datasheet entry; Section1
Heater to Cathode 2.6	2.6 pF	Published in approved 6BZ7 target datasheet entry; Section1
* Rating: may be high as	300 V	Published in approved 6BZ7 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For plate current of 100	-6.5 V	Published in approved 6BZ7 target datasheet entry; Section1

TUBE TINKER

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