

ELECTRONIC TUBE REFERENCE

5AQ5

Power - TV Vertical Output electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

BEAMPOWER

Miniature beam-power output tube for automobile and AC-operated receivers, also usable triode-connected as a television vertical-deflection amplifier.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7BZ	BASE PINS	7
NOMINAL HEATER	4.7 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7BZ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – Pin 1	A	G1 – Control Grid	CONNECTED • verified
PIN2 – Pin 2	A	G3 – Suppressor Grid	CONNECTED • verified
PIN2 – Pin 2	A	K – Cathode	CONNECTED • verified
PIN3 – Pin 3	–	H – Heater	CONNECTED • verified
PIN4 – Pin 4	–	H – Heater	CONNECTED • verified
PIN5 – Pin 5	A	P – Plate (Anode)	CONNECTED • verified
PIN6 – Pin 6	A	G2 – Screen Grid	CONNECTED • verified
PIN7 – Pin 7	A	G1 – Control Grid	CONNECTED • verified

SECTION RATINGS

SECTION1 Beam Power	
PLATE RESISTANCE	58000 Ω
TRANSCONDUCTANCE	0.0037 S
AMPLIFICATION FACTOR	9.5
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM SCREEN VOLTAGE	275 V
MAXIMUM PLATE DISSIPATION	12 W
MAXIMUM SCREEN DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	40 mA
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Referenced ratings not printed in this source; not inferred.</i>	

Miniature beam-power output tube for automobile and AC-operated receivers; also usable triode-connected as a television vertical-deflection 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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	52000 ohm	ClassA
Transconductance	4100 uS	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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage maximum Class-A	250 V	ClassA
Screen voltage maximum	250 V	—
Typical plate voltage low	180 V	ClassA
Typical screen voltage low	180 V	ClassA
Power output low	2 W	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage high	250 V	ClassA
Typical screen voltage high	250 V	ClassA
Power output high	4.5 W	ClassA
Class-AB push-pull plate voltage	250 V	ClassAB,PushPull
Class-AB push-pull grid1 voltage	-15 V	ClassAB,PushPull
Class-AB push-pull output power	10 W	ClassAB,PushPull
Vertical-deflection peak positive plate voltage	1200 V	VerticalDeflection
Vertical-deflection peak cathode current	105 mA	VerticalDeflection

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Class-AB push-pull transconductance per tube	3750 μ S	ClassAB,PushPull
Triode-connected amplification factor	9.8	TriodeConnection
Triode-connected plate resistance	1960 ohm	TriodeConnection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid1-to-plate capacitance	0.35 pF	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Audio output / vertical deflection amplifier	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1966 Tung Sol Electronic Tubes 1 of 4

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

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXI-MUM PLATE DISSIPATION Z	2 W	ClassA MAXI-MUM PLATE DISSIPATION Z2 WATT\$
i FIXED BIAS OPERATION	0.1 Mohm	ClassA i FIXED BIAS OPERATION 0.1 MEGOHMS
CATHODE BIAS OPERATION	0.5 Mohm	ClassA CATHODE BIAS OPERATION 0.5 MEGOHMS
HEATER WARM-UP TIME (APPROX.-)*	0 s	ClassA HEATER WARM-UP TIME (APPROX.-)* 1i.0 SECONDS
HEATER CURRENT	45 A	ClassA HEATER CURRENT 0.45 0.45 AMP.
PEAK AF GRID #	12.5 V	ClassA PEAK AF GRID #1 VOLTAGE H•Ej 12.5 VOLT
Published electrical value	45 mA	ClassA 2ZERO- SIGNAL PLATE CURRENT 29 45 MA.
ZERO- SIGNAL GRID #	4.5 mA	ClassA ZERO- SIGNAL GRID #2 CURRENT (APPROX.) j 4.5 MA.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM GRID #	2 W	ClassA MAXIMUM GRID #2 INPUT '2 WATTS
MAXIMUM DC PLATE VOLTAGE	975 V	ClassA MAXIMUM DC PLATE VOLTAGE 975 VOLTS
MAXIMUM PEAK NEGATIVE GRID #	75 V	ClassA MAXIMUM PEAK NEGATIVE GRID #1 VOLTAGE Z75 VOLTS
MAXIMUM PEAK CATHODE CURRENT	115 mA	ClassA MAXIMUM PEAK CATHODE CURRENT 115 MA.
MAXIMUM SIGNAL PLATE CURRENT	47 mA	ClassA MAXIMUM SIGNAL PLATE CURRENT 30 47 MA.
MAXIMUM SIGNAL POWER OUTPUT	4.5 W	ClassA MAXIMUM SIGNAL POWER OUTPUT 2.O 4.5 WATTS
PLATE CURRENT	49.7 mA	Average Characteristics PLATE CURRENT 49.7 MA.
GRIC VOLTAGE (APPROX.) FOR Ib 0	5 mA	Average Characteristics GRIC VOLTAGE (APPROX.) FOR Ib 0.5 MA. —j7 VOLTS
GRIC VOLTAGE (APPROX.) FOR Ib 0	7 V	Average Characteristics GRIC VOLTAGE (APPROX.) FOR Ib 0.5 MA. —j7 VOLTS



SOURCE OPERATING CONDITIONS

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1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Beam Power

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



SOURCE OPERATING CONDITIONS

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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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA;SingleEnded
Grid 2 voltage	250 V	ClassA;SingleEnded
Grid 1 voltage	-12.5 V	ClassA;SingleEnded
Plate current	45 mA	ClassA;SingleEnded
Grid 2 current	4.5 mA	ClassA;SingleEnded
Plate resistance	52000 ohm	ClassA;SingleEnded
Transconductance	4100 uS	ClassA;SingleEnded
Cathode resistor	250 ohm	ClassA;SingleEnded
Load resistance	5000 ohm	ClassA;SingleEnded
Power output	4.5 W	ClassA;SingleEnded
Total harmonic distortion	8 %	ClassA;SingleEnded

Characteristic		
Parameter	Published Value	Condition / Note
Heater warm-up time	11 s	ControlledWarmUp



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 · Beam Power

Other		
Parameter	Published Value	Condition / Note
Heater Voltage (ac/dc) 4.7 6.3	12.6 V	Published in approved 6AQ5A target entry; Section1
Heater Current 0.6 0.45	225 mA	Published in approved 6AQ5A target entry; Section1
Plate Voltage	275 V	Published in approved 6AQ5A target entry; Section1
Grid-No.2 (Screen-Grid) Voltage	275 V	Published in approved 6AQ5A target entry; Section1
Plate Dissipation	12 W	Published in approved 6AQ5A target entry; Section1
Grid-No.2 Input	2 W	Published in approved 6AQ5A target entry; Section1
Plate Voltage	250 V	Published in approved 6AQ5A target entry; Section1
Grid-No.1 Voltage	-12.5 V	Published in approved 6AQ5A target entry; Section1
Plate Resistance (Approx.)	1970 Ω	Published in approved 6AQ5A target entry; Section1
Transconductance ,	4800 μS	Published in approved 6AQ5A target entry; Section1
Plate Current	49.5 mA	Published in approved 6AQ5A target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of	0.5 mA	Published in approved 6AQ5A target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1 Voltage (Approx.) for plate current of 0.5 mA	-37 V	Published in approved 6AQ5A target entry; Section1
For fixed-bias operation	0.1 MΩ	Published in approved 6AQ5A target entry; Section1
For cathode-bias operation	0.5 MΩ	Published in approved 6AQ5A target entry; Section1
DC Plate Voltage	275 V	Published in approved 6AQ5A target entry; Section1
Peak Positive-Pulse Plate Voltage*	1100 V	Published in approved 6AQ5A target entry; Section1
Peak Negative-Pulse Grid- No.1 (Control-Grid) Voltage	275 V	Published in approved 6AQ5A target entry; Section1
Peak Cathode Current	115 mA	Published in approved 6AQ5A target entry; Section1
Average Cathode Current	40 mA	Published in approved 6AQ5A target entry; Section1
Plate Dissipation	10 W	Published in approved 6AQ5A target entry; Section1
Grid-No.1-Circuit Resistance, for cathode-bias operation	2.2 MΩ	Published in approved 6AQ5A target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate	0.4 pF	Published in approved 6AQ5A target entry; Section1
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	8 pF	Published in approved 6AQ5A target entry; Section1
Plate to Cathode, Heater, Grid No.2, and Grid No	3 pF	Published in approved 6AQ5A target entry; Section1

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