

ELECTRONIC TUBE REFERENCE

6AQ5A

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	6.3 V / 450 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	52000 Ω
TRANSCONDUCTANCE	0.0041 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
<i>Promoted from published ratings/characteristics; identical repeated sections compressed where applicable.</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](#)

1960 RCA Industrial and Communications Types

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

1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

Section 1 · Beam Power

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



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	6.3 V	—
HeaterOrFilamentCurrent	450 mA	—
Transconductance	4100 μ S	—
Input Capacitance	8.5 pF	—
Output Capacitance	8.5 pF	—

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

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	45 mA	ClassA
Screen Current	4.5 mA	ClassA
Load Resistance	5000 ohm	ClassA
Power Output	4.5 W	ClassA
PushPullPowerOutput	14 W	TwoTubes;PushPull;ClassAB
Grid Voltage	-12.5 V	ClassA


SOURCE DATA APPENDIX

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 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published table
Heater current	450 mA	Published table
Plate resistance	52000 ohm	Published table
Transconductance	4200 μS	Published table
Heater warm-up time	11 s	Published table

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA
Zero-signal plate current	45 mA	ClassA
Maximum-signal screen current	7 mA	ClassA
Vertical-deflection maximum peak plate voltage	1100 V	VerticalDeflection
Maximum average cathode current	40 mA	VerticalDeflection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak cathode current	115 mA	VerticalDeflection



SOURCE DATA APPENDIX

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Positive Pulse Plate Voltage	1100 V	TriodeConnection;VerticalDeflection



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 3 of 7

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

1971 RCA HB3 BINDER 3 OF 7

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	450 mA	Nominal
Maximum plate voltage	250 V	Promoted published value
Maximum screen voltage	250 V	Promoted published value
Maximum plate dissipation	12 W	Promoted published value
Maximum screen dissipation	2 W	Promoted published value
PLATE VOLTAGE	250 V	Maximum Ratings, Design-Maximum Values:

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID-No.2 (SCREEN-GRID) VOLTAGE	250 V	Maximum Ratings, Design-Maximum Values:
GRID-No.2 INPUT	2 W	Maximum Ratings, Design-Maximum Values:
PLATE DISSIPATION	12 W	Maximum Ratings, Design-Maximum Values:
Heater negative with respect to cathode.	100 V	Maximum Ratings, Design-Maximum Values:
Heater positive with respect to cathode.	100 V	Maximum Ratings, Design-Maximum Values:
Heater Voltage	6.3 V	Typical Operation and Characteristics:
Plate Voltage	250 V	Typical Operation and Characteristics:
Grid-No.2 Voltage	250 V	Typical Operation and Characteristics:
Grid-No.1 (Control-grid) Voltage	-12.5 V	Typical Operation and Characteristics:
Peak AF Grid-No.1 Voltage	12.5 V	Typical Operation and Characteristics:
Zero-Signal Plate Current	45 mA	Typical Operation and Characteristics:
Max.-Signal Plate Current	47 mA	Typical Operation and Characteristics:
Zero-Signal Grid-No.2 Current	4.5 mA	Typical Operation and Characteristics:
Max.-Signal Grid-No.2 Current	7 mA	Typical Operation and Characteristics:

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	52000 ohm	Promoted published value
Transconductance	4100 uS	Promoted published value
Voltage	20 V	—
Current at	0.45 V	—



SOURCE DATA APPENDIX

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.

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	600 mA	—
Maximum plate voltage	250 V	ClassA1
Maximum screen voltage	250 V	ClassA1
Maximum screen input	2 W	ClassA1
Maximum plate dissipation	12 W	ClassA1
Plate voltage	250 V	ClassA1
Screen voltage	250 V	ClassA1
Control-grid voltage	-12.5 V	ClassA1
Plate resistance	52000 ohm	ClassA1
Transconductance	4800 μ S	ClassA1
Zero-signal plate current	45 mA	ClassA1
Maximum-signal power output	4.5 W	ClassA1
Plate voltage	250 V	ClassAB1;PushPull;TwoTubes
Screen voltage	250 V	ClassAB1;PushPull;TwoTubes
Control-grid voltage	-15 V	ClassAB1;PushPull;TwoTubes
Effective load resistance plate-to-plate	10000 ohm	ClassAB1;PushPull;TwoTubes
Maximum-signal power output	10 W	ClassAB1;PushPull;TwoTubes
Total harmonic distortion	5 %	ClassAB1;PushPull;TwoTubes
Maximum peak positive-pulse plate voltage	1100 V	VerticalDeflectionAmplifier;TriodeConnection
Peak cathode current	105 mA	VerticalDeflectionAmplifier;TriodeConnection
DC cathode current	35 mA	VerticalDeflectionAmplifier;TriodeConnection
Plate dissipation	9 W	VerticalDeflectionAmplifier;TriodeConnection



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 · 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
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 M Ω	Published in approved 6AQ5A target entry; Section1
For cathode-bias operation	0.5 M Ω	Published in approved 6AQ5A target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
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