

ELECTRONIC TUBE REFERENCE

6669

Power - Beam Single (NOT sweep) (under 10W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
BEAMPOWER

Beam-power output tube intended for audio-frequency power amplification and general power service, with ratings suited to demanding amplifier applications.

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
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	7 W
MAXIMUM SCREEN DISSIPATION	2.5 W
MAXIMUM CATHODE CURRENT	50 mA
Alias/co-designation of 6AQ5A;	

Industrial beam power output tube primarily for mobile communications equipment.



SOURCE OPERATING CONDITIONS

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1950 Sylvania

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

1950 SYLVANIA

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	4900 μ S	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	250 V	—
Maximum Screen Voltage	250 V	—
Maximum Plate Dissipation	12 W	—
Maximum Screen Dissipation	2.5 W	—
Application	Audio power amplifier	—



SOURCE OPERATING CONDITIONS

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1960 RCA Industrial and Communications Types

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1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	450 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
EquivalentType	6AQ5A	RenewalUse


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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
Heater voltage	6.3 V	Nominal
Heater current	450 mA	Nominal


SOURCE DATA APPENDIX

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1965 Sylvania Electronic Tubes Vol3

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

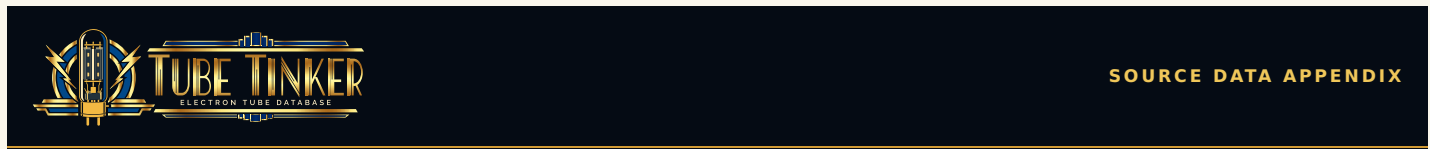
1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	450 mA	—
EquivalentElectricalType	6AQ5A	—

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
Load Resistance	5000 ohm	ClassA
Power Output	4.5 W	ClassA



SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 4 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

Section 1 · Beam Power

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
LIMITS OF APPLIED VOLTAGE – published value 1	6.3 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
LIMITS OF APPLIED VOLTAGE – published value 2	1.25 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
PLATE VOLTAGE	275 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
GRID 2 VOLTAGE	275 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
PLATE DISSIPATION	12 W	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
GRID 2 DISSIPATION	2 W	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
WITH FIXED BIAS	0.1 ohm	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
WITH CATHODE BIAS	0.5 ohm	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
BULB TEMPERATURE AT HOTTEST POINT	225	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
PLATE VOLTAGE	250 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
GRID 2 VOLTAGE	250 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
GRID 1 VOLTAGE	12.5 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
PEAK AF GRID 1 VOLTAGE	12.5 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
ZERO-SIGNAL PLATE CURRENT	45 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
ZERO-SIGNAL GRID 2 CURRENT	4.5 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
PLATE RESISTANCE,	52000 ohm	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
TRANSCONDUCTANCE	4100 uS	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
LOAD RESISTANCE	5000 ohm	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
TOTAL HARMONIC DISTORTION,	8 percent	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
GRID 1 VOLTAGE	15 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
PEAK AF GRID TO GRID VOLTAGE	30 V	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
ZERO-SIGNAL PLATE CURRENT	70 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ZERO-SIGNAL GRID 2 CURRENT	5 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM-SIGNAL PLATE CURRENT	47 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
MAXIMUM-SIGNAL GRID 2 CURRENT	7 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
MAXIMUM-SIGNAL POWER OUTPUT	4.5 W	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.
MAXIMUM-SIGNAL PLATE CURRENT	79 mA	Published datasheet table value; multiple values on a source row represent separate limits or operating conditions.



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:
Plate Resistance (Approx)	52000 ohm	Typical Operation and Characteristics:
Load Resistance	5000 ohm	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	—



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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate	0.4 pF	Capacitance
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	8 pF	Capacitance
Plate to Cathode, Heater, Grid No.2, and Grid No.3	8.5 pF	Capacitance

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	MaximumRatings
Grid-No.2 (Screen-Grid) Voltage	250 V	MaximumRatings
Plate Dissipation	12 W	MaximumRatings
Grid-No.2 Input	2 W	MaximumRatings
Plate Voltage	250 V	TypicalOperation
Grid-No.2 Voltage	250 V	TypicalOperation
Grid-No.1 (Control-Grid) Voltage	-12.5 V	TypicalOperation
Peak AF Grid-No.1 Voltage	12.5 V	TypicalOperation
Zero-Signal Plate Current	45 mA	TypicalOperation
Max. -Signal Plate Current	47 mA	TypicalOperation
Zero-Signal Grid-No.2 Current	4.5 mA	TypicalOperation
Max. -Signal Grid-No.2 Current	7 mA	TypicalOperation
Plate Resistance (Approx.)	52000 ohm	TypicalOperation
Load Resistance	5000 ohm	TypicalOperation
Max. -Signal Power Output	4.5 W	TypicalOperation
For fixed-bias operation	0.1 megohm	MaximumCircuitValues

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For cathode-bias operation	0.5 megohm	MaximumCircuitValues
Grid-No.2 Voltage	250 V	MaximumRatings
Grid-No.1 (Control-Grid) Voltage	-15 V	MaximumRatings
Peak AF Grid-No. 1-to-Grid-No.1 Voltage	30 V	MaximumRatings
Zero-Signal Plate Current	70 mA	MaximumRatings
Max. -Signal Plate Current	79 mA	MaximumRatings
Zero-Signal Grid-No.2 Current	5 mA	MaximumRatings
Max. -Signal Grid-No.2 Current	13 mA	MaximumRatings

TUBE TINKER

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