



ELECTRONIC TUBE REFERENCE

7189

Power - Beam (NOT sweep) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

BEAMPOWER

High-performance beam-power pentode designed for audio-frequency output stages, widely suited to high-fidelity and receiving-equipment power amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 760 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Beam Power	
PLATE RESISTANCE	40000 Ω
TRANSCONDUCTANCE	0.0113 S
AMPLIFICATION FACTOR	19.5
MAXIMUM PLATE VOLTAGE	400 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	12 W
MAXIMUM SCREEN DISSIPATION	4 W
MAXIMUM CATHODE CURRENT	65 mA
<i>Published ratings and characteristics promoted from the approved source.</i>	

7189 is a Pentode vacuum tube documented in the RCA Receiving Tube Manual. The supplied excerpt was reviewed for heater data, section arrangement, maximum ratings, electrical characteristics, interelectrode capacitances, typical operating conditions, and stated applications.



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
Heater Voltage	6.3 V	—
Heater Current	760 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Signal Power Output	24 W	PushPull;PentodeConnection



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1961 Tung Sol

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1961 TUNG SOL

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	TypicalCharacteristics
Screen Voltage	250 V	TypicalCharacteristics
Power Output	24 W	ClassAB;FixedBias;PushPull;TwoTubes
Power Output	16.5 W	ClassAB;CathodeBias;PushPull;TwoTubes;UltraLinear

Characteristic		
Parameter	Published Value	Condition / Note
Plate Current	48 mA	—
Screen Current	9.9 mA	—

Capacitance		
Parameter	Published Value	Condition / Note
Input Capacitance	10.8 pF	—
Output Capacitance	5.5 pF	—


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1963 Amperex Condensed

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1963 AMPEREX CONDENSED

Section 1 · Beam Power

Characteristic		
Parameter	Published Value	Condition / Note
Heater/filament voltage	6.3 V	Published rating
Heater/filament current	760 mA	Published rating
Transconductance	11300 μ S	AudioPower

Other		
Parameter	Published Value	Condition / Note
Plate voltage	250 V	AudioPower
Screen voltage	250 V	AudioPower
Control-grid bias	-7.3 V	AudioPower
Plate current	45 mA	AudioPower
Screen current	5.5 mA	AudioPower
Power output	19.5 W	PushPull TwoTubes


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1965 Sylvania Electronic Tubes Vol3

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1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	760 mA	—
GridToPlateCapacitanceMaximum	0.5 pF	—
Input Capacitance	10 pF	—
Output Capacitance	6.5 pF	—
Transconductance	11300 uS	—
Plate Resistance	38000 ohm	—
Amplification Factor	19	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	350 V	ClassA
Screen Voltage	300 V	ClassA
Plate Current	48 mA	ClassA
Power Output	5.7 W	ClassA
Power Output	17 W	TwoTubes;PushPull;ClassAB



SOURCE DATA APPENDIX

1966 Tung Sol Electronic Tubes 4 of 4

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1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	760 mA	Nominal
Maximum plate voltage	400 V	Promoted published value
Maximum plate dissipation	12 W	Promoted published value
Maximum cathode current	65 mA	Promoted published value
MAXIMUM PLATE VOLTAGE 400 VOLTS	4 V	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
MAXIMUM PLATE DISSIPATION	12 W	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
MAXIMUM GRID #2 VOLTAGE 300 VOLTS	3 V	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
MAXIMUM GRID #2 DISSIPATION (ZERO SIGNAL) 2.0 WATTS	2 W	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
MAXIMUM GRID #2 DISSIPATION (MAX. SIGNAL)	4 W	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
MAXIMUM CATHODE CURRENT	65 mA	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
MAXIMUM GRID RESISTANCE (FIXED BIAS) 300 000 OHMS	3 mA	CLASS A81 FIXEC BIAS AUDIO AMPLIFIER
PLATE VOLTAGE	250 V	TYPICAL CHARACTERISTICS
GRID #2 VOLTAGE 250 VOLTS	2 V	TYPICAL CHARACTERISTICS
PLATE CURRENT	48 mA	TYPICAL CHARACTERISTICS
GRID #2 CURRENT	5.5 mA	TYPICAL CHARACTERISTICS
GRID #1 VOLTAGE –	7.3 V	TYPICAL CHARACTERISTICS
PLATE RESISTANCE μ	0 ohm	TYPICAL CHARACTERISTICS
AMPLIFICATION FACTOR (GRID #1 TO GRID #2) 19.5	19.5 A	TYPICAL CHARACTERISTICS
GRID #1 VOLTAGE –T	5 V	TYPICAL OPERATION
PLATE TO PLATE L0.4D RESISTANCE 8 000 OHMS	8 ohm	TYPICAL OPERATION
ELATE CURRENT (ZERO SIGNAL) 2x	7.5 mA	TYPICAL OPERATION
PLATE CURRENT (MAX. SIGNAL) 2x	52.5 mA	TYPICAL OPERATION
;;RID #“t CURRENT (MAX. SIGNAL) 2X	12.5 mA	TYPICAL OPERATION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE AND GRID #2 SUPPLY VOLTAGE ~~~ VOLTS	2 V	CLASS AB1 AUDIO AMPLIFIER
GRIC #2 DISSIPATION (ZERO SIGNAL)	2 W	CLASS AB1 AUDIO AMPLIFIER
CATHODE CURRENT	65 mA	CLASS AB1 AUDIO AMPLIFIER
PLATE SUPPLY VOLTAGE	375 V	TYPICAL OPERATION
COMMON CATHODE RESISTANCE 220 OHMS	22 ohm	TYPICAL OPERATION
PLATE AND GRID #2 CURRENT (MAX. SIGNAL) 2X	40.5 mA	TYPICAL OPERATION
INPUT SIGNAL VOLTAGE, RMS L2.~ VOLTS	2 V	TYPICAL OPERATION
POWER OUTPUT T	6.5 W	TYPICAL OPERATION

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	40000 ohm	Promoted published value
Transconductance	11300 uS	Promoted published value

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
OUTPUT CAPACITANCE ~.	5 pF	DIRECT INTERELECTRODE CAPACITANCES



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1971 RCA HB3 Binder 3 of 7

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1971 RCA HB3 BINDER 3 OF 7

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	760 mA	—
Plate voltage	250 V	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen voltage	250 V	ClassA
Grid voltage	-7.3 V	ClassA
Plate current	48 mA	ClassA
Screen current	5.5 mA	ClassA
Push-pull plate voltage	400 V	ClassAB1;TwoTubes
Push-pull power output	24 W	ClassAB1;TwoTubes

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	40000 ohm	ClassA
Transconductance	11300 uS	ClassA
Screen-to-control-grid mu factor	19.5	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.5 pF	—



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1971 RCA HB3 Binder 5 of 7

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1971 RCA HB3 BINDER 5 OF 7

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	760 mA	—
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA
Plate current	48 mA	ClassA
Maximum plate voltage	400 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum screen voltage	300 V	—
Push-pull power output	24 W	ClassAB1;TwoTubes

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	40000 ohm	ClassA
Transconductance	11300 uS	ClassA
Screen-to-control-grid mu factor	19.5	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.5 pF	—



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2026 Tungsol Rebrand

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2026 TUNG SOL REBRAND

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	4.2 W	ClassA;OneTube;Plate 250 V;Screen 250 V;Load 5.2 kohm

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