

ELECTRONIC TUBE REFERENCE

807

Power - Beam (NOT sweep) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
BEAMPOWER

Classic transmitting beam tetrode for RF power amplification, Class-C oscillator service, and audio-frequency power amplification, with extensive push-pull operating data.

GENERAL CHARACTERISTICS

BASE DESIGNATION	5AW	BASE PINS	5
NOMINAL HEATER	6.3 V / 900 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

5AW - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – H	–	H – Heater	CONNECTED
PIN2 – G2	A	G2 – Screen Grid	CONNECTED
PIN3 – G1	A	G1 – Control Grid	CONNECTED
PIN4 – G3	A	G3 – Suppressor Grid	CONNECTED
PIN4 – K	A	K – Cathode	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
CAP1 – P	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Beam Power	
PLATE RESISTANCE	24000 Ω
TRANSCONDUCTANCE	0.0069 S
AMPLIFICATION FACTOR	8
MAXIMUM PLATE VOLTAGE	600 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	25 W
MAXIMUM SCREEN DISSIPATION	3.5 W
MAXIMUM CATHODE CURRENT	100 mA
<i>Beam power section; published table gives separate triode- and pentode-connected push-pull Class AB conditions.</i>	

Transmitting tetrode for RF or audio-frequency amplification and Class C oscillator service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 RCA Transmitting Tubes

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

1938 RCA TRANSMITTING TUBES

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ratings in all classes of service at frequencies as high as	60 MHz	ratings in all classes of service at frequencies as high as 60 megacycles. In class
approximately	80 W	approximately 80 watts. RCA-807 has a ceramic base.
D-C Plate Voltage	600 V	D-C Plate Voltage - 600 max. Volts
D-C Screen Voltage . 300 300	300 V	D-C Screen Voltage . 300 300 300 Volts
Load Resistance (Per tube) . 950 1165	1665 Ω	Load Resistance (Per tube) . 950 1165 1665 Ohms
D-C Screen Voltage (Grid No. 2)	300 V	D-C Screen Voltage (Grid No. 2). 300 max. Volts
D-C Plate Current	80 mA	D-C Plate Current... 80 max. Milliamperes
Plate Dissipation	25 W	Plate Dissipation .. 25 max. Watts
D-C Plate Voltage . 400 500	600 V	D-C Plate Voltage . 400 500 600 Volts
D-C Screen Voltage. 250 250	250 V	D-C Screen Voltage. 250 250 250 Volts
D-C Grid Vottage (Grid No. 1).. -25 -25	-25 V	D-C Grid Vottage (Grid No. 1).. -25 -25 -25 Volts
Peak R'F Grid Voltage . 30 30	20 V	Peak R'F Grid Voltage . 30 30 20 Volts
D-C Plate Current . 75 75	62.5 mA	D-C Plate Current . 75 75 62.5 Milliamperes
D-C Screen Current. 4 4	3 mA	D-C Screen Current. 4 4 3 Milliamperes
Power Output (Approx.) .. 9 12.5	12.5 W	Power Output (Approx.) .. 9 12.5 12.5 Watts

1940 RCA

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

1940 RCA

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Frequency	125 MHz	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RFPower_Oscillator_AudioPower text	—



SOURCE DATA APPENDIX

1948 Brimar Radio Valve Manual

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

1948 BRIMAR RADIO VALVE MANUAL

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	300 V	ClassA,Point1
Plate Current	83 mA	ClassA,Point1
Screen Voltage	250 V	ClassA,Point1
Screen Current	8 mA	ClassA,Point1
Optimum Load	3000 ohm	ClassA,Point1
Power Output	6.4 W	ClassA,Point1
Plate Voltage	500 V	ClassA,Point2
Plate Current	50 mA	ClassA,Point2
Power Output	11.5 W	ClassA,Point2
Push-Pull Power Output	80 W	ClassAB2,PushPull,TwoTubes

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	24000 ohm	ClassA,Point1
Transconductance	6500 μ S	ClassA,Point1
Plate Resistance	39000 ohm	ClassA,Point2
Transconductance	5700 μ S	ClassA,Point2


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1950 General Electric Transmitting Types

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

1950 GENERAL ELECTRIC TRANSMITTING TYPES

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum full-rating frequency	60 MHz	—
Maximum signal power output	120 W	ClassAB


SOURCE DATA APPENDIX

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1956 RCA Transmitting Tubes

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

1956 RCA TRANSMITTING TUBES

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	6000 μ S	—
Amplification Factor	8	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	750 V	—
Maximum Screen Voltage	300 V	—
Maximum Plate Dissipation	30 W	—
Maximum Cathode Current	120 mA	—
Full-Input Operating Frequency Maximum	60 MHz	—
Power Output	120 W	ClassAB2,AF,TwoTubes
Typical Plate Voltage	750 V	Representative published point
Typical Plate Current	100 mA	Representative published point



SOURCE OPERATING CONDITIONS

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1958 Amperex Industrial

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

1958 AMPEREX INDUSTRIAL

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	600 V	Published Amperex table
Maximum screen voltage	250 V	Published Amperex table
Power output	100 W	Published Amperex table
Plate dissipation	25 W	Published Amperex table
Plate current	100 mA	Published Amperex table
Grid bias	45 V	Published Amperex table
Grid current	4 mA	Published Amperex table
Maximum frequency	60 MHz	Published Amperex table

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	6.3 V	Published Amperex table

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament current	900 mA	Published Amperex table



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Full-Rating Frequency	60 MHz	—
Reduced-Rating Frequency	120 MHz	50 percent ratings
Anode Voltage	500 V	ClassA
Anode Current	50 mA	ClassA
Screen Voltage	200 V	ClassA



SOURCE DATA APPENDIX

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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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	400 V	TriodeConnection
Maximum plate voltage	600 V	PentodeConnection
Maximum screen-grid voltage	300 V	PentodeConnection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	400 V	ClassAB;PushPull;TwoTubes;TriodeConnection
Grid voltage	-15 V	ClassAB;PushPull;TwoTubes;TriodeConnection
Plate current	30 mA	ClassAB;PushPull;TwoTubes;TriodeConnection
Load resistance	3000 ohm	ClassAB;PushPull;TwoTubes;TriodeConnection
Power output	30 W	ClassAB;PushPull;TwoTubes;TriodeConnection
Plate voltage	600 V	ClassAB;PushPull;TwoTubes;PentodeConnection
Screen-grid voltage	300 V	ClassAB;PushPull;TwoTubes;PentodeConnection
Grid voltage	-30 V	ClassAB;PushPull;TwoTubes;PentodeConnection
Plate current	30 mA	ClassAB;PushPull;TwoTubes;PentodeConnection
Screen-grid current	5 mA	ClassAB;PushPull;TwoTubes;PentodeConnection
Load resistance	6400 ohm	ClassAB;PushPull;TwoTubes;PentodeConnection
Power output	30 W	ClassAB;PushPull;TwoTubes;PentodeConnection



SOURCE OPERATING CONDITIONS

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1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	600 V	RFPower
Plate current	100 mA	RFPower
Power output	40 W	RFPower
Grid voltage	-45 V	RFPower
Grid current	4 mA	RFPower
Maximum frequency	60 MHz	RFPower

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	11 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output capacitance	7 pF	—



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1963 Ferranti

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

1963 FERRANTI

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak plate voltage maximum	2000 V	—
Negative control-grid voltage magnitude maximum	200 V	—
Peak cathode current maximum	400 mA	—
Screen-grid current maximum	10 mA	—
Control-grid current maximum	5 mA	—
Peak control-grid current maximum	25 mA	—
Plate voltage	300 V	ClassA;SingleEnded
Screen-grid voltage	250 V	ClassA;SingleEnded
Control-grid voltage	-12.5 V	ClassA;SingleEnded
Plate current	83 mA	ClassA;SingleEnded
Screen-grid current	8 mA	ClassA;SingleEnded
Load resistance	3000 Ohm	ClassA;SingleEnded
Output power	6.4 W	ClassA;SingleEnded

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	24000 Ohm	ClassA;Va=300V
Transconductance	6500 uS	ClassA;Va=300V

SOURCE OPERATING CONDITIONS

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1968 Mazda Belvu

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

1968 MAZDA BELVU

Section 1 · Beam Power

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal value
Heater or filament current	900 mA	Published nominal value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	25 W	Published limit
Maximum operating frequency	60 MHz	Class C service