

ELECTRONIC TUBE REFERENCE

4618

Power - Beam (NOT sweep) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
BEAMPOWER

RCA high-power beam-power transmitting tube for RF, pulse, modulation, and related transmitter service, with 1500-watt maximum plate dissipation and application-specific operating limits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	15.5 V / 17.3 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Beam Power	
AMPLIFICATION FACTOR	77
MAXIMUM PLATE VOLTAGE	3000 V
MAXIMUM SCREEN VOLTAGE	1000 V
MAXIMUM PLATE DISSIPATION	1500 W
MAXIMUM CATHODE CURRENT	1 A
Published maximum ratings/general electrical characteristics promoted directly; pulse, RF, capacitance, cooling, and service-specific values retained in TUBE_SECTION_PARAMETER.	

High-power beam power tube for RF, pulse, modulation, or transmitting service. The RCA source was reviewed for heater/filament data, maximum ratings, RF and pulse operating conditions, capacitances, cooling requirements, and application-specific limits.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

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Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	3000 V	PromotedValue
Maximum screen-grid voltage	1000 V	PromotedValue
Maximum plate dissipation	1500 W	PromotedValue
Maximum cathode/plate current	1 A	PromotedValue
Grid No.1 to plate° – published value 1	0 mA	Published datasheet value
Grid No.1 to plate° – published value 2	181 mA	Published datasheet value
Plate to cathode & heater°•6 – published value 1	6 mA	Published datasheet value
Plate to cathode & heater°•6 – published value 2	0 mA	Published datasheet value
Plate to cathode & heater°•6 – published value 3	17 mA	Published datasheet value
Grid No.2 to cathode & heater6	1.4 mA	Published datasheet value
Terminal Temperature	250 mA	Published datasheet value
Plate-Seal Temperature	250 mA	Published datasheet value
so that their temperature does not exceed the specified maximum value of 250° C	250 mA	Published datasheet value
Max.-\$igrial,DC Plate Current	1	Published datasheet value
Max.-Signal DC Grid-No.1 Current	0.2	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max.-Signal Plate Input	2500	Published datasheet value
Max.-Signal Grid-No.2 Input	50	Published datasheet value
Max.-Signs DC Plate Current – published value 1	0.9	Published datasheet value
Max.-Signs DC Plate Current – published value 2	1	Published datasheet value
Max.-Signs DC Grid-No.7 Current – published value 1	0	Published datasheet value
Max.-Signs DC Grid-No.7 Current – published value 2	45	Published datasheet value
Max.-Signs DC Grid-No.7 Current – published value 3	0.045	Published datasheet value
Max.-Signs DC Grid-No.1 Current – published value 1	0	Published datasheet value
Max.-Signs DC Grid-No.1 Current – published value 2	0	Published datasheet value
Max.-Signs Peak RF Grid-No.1 Voltage – published value 1	50 V	Published datasheet value
Max.-Signs Peak RF Grid-No.1 Voltage – published value 2	50 V	Published datasheet value
Max.-Signs Driving Power (Approx.) – published value 1	0	Published datasheet value
Max.-Signs Driving Power (Approx.) – published value 2	0	Published datasheet value
Max.-Signs Power Output (Approx.) – published value 1	1000	Published datasheet value
Max.-Signs Power Output (Approx.) – published value 2	1250	Published datasheet value

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mu / amplification factor	77	PromotedValue
Heater/filament voltage	15.5 V	Nominal operating value
Heater/filament current	17.3 A	Nominal operating value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
1350 Watts CW Power Output at 600 MHz – published value 1	1350 W	CW
1350 Watts CW Power Output at 600 MHz – published value 2	600 W	CW
For Use at Frequencies up to 1215 MHz as a Lirzear RF Power Amplifier	1215 A	Published datasheet value
Voltage (AC or DC)	1 V	Published datasheet value
Current at 5.5 volts – published value 1	5.5 V	Published datasheet value
Current at 5.5 volts – published value 2	17.3 V	Published datasheet value
Minimum Heating Time	5 min	Published datasheet value
Mu-Factor, Grid No.2 to Grid No.1	77	Published datasheet value
For plate volts = 2500, grid No.2 volts = 600, – published value 1	2500 V	Published datasheet value
For plate volts = 2500, grid No.2 volts = 600, – published value 2	600 V	Published datasheet value
and plate mA = 600	600 mA	Published datasheet value
Grid No.1 to cathode & heater	42 pF	Published datasheet value
Grid No.1 to grid No.2	55 pF	Published datasheet value
Grid No.2 to plate	12 pF	Published datasheet value
Through radiator -Adequate air flow to limit the plate-seal temperature to 250°C	250 degC	Published datasheet value
a minirnam peak-to-average power ratio of 2	2	Published datasheet value
DC Plate Voltage	3000 V	Published datasheet value
DC Grid-No.2 Voltage	1000 V	Published datasheet value
Plate Dissipation	1500	Published datasheet value
DC Plate Voltage – published value 1	2250 V	Published datasheet value
DC Plate Voltage – published value 2	2250 V	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Grid-No.2 Voltage – published value 1	700 V	Published datasheet value
DC Grid-No.2 Voltage – published value 2	700 V	Published datasheet value
DC Grid-No.1 Voltage – published value 1	-50 V	Published datasheet value
DC Grid-No.1 Voltage – published value 2	-50 V	Published datasheet value
Zero-Signs DC Plate Current – published value 1	0.2	Published datasheet value
Zero-Signs DC Plate Current – published value 2	0.2	Published datasheet value
Zero-Signs DC Grid-No.2 Current – published value 1	0	Published datasheet value
Zero-Signs DC Grid-No.2 Current – published value 2	0	Published datasheet value
Effective RF Load Resistance – published value 1	1100	Published datasheet value
Effective RF Load Resistance – published value 2	1100	Published datasheet value
DC Plate Voltage	2500 V	Published datasheet value
DC Grid-No.1 Voltage	-300 V	Published datasheet value
DC Plate Current	0.85	Published datasheet value
DC Grid-No.1 Current	0.2	Published datasheet value
Plate Input	1700	Published datasheet value
Grid-No.2 Input	35	Published datasheet value
Plate Dissipation	1000	Published datasheet value
DC Plate Voltage – published value 1	2500 V	Published datasheet value
DC Plate Voltage – published value 2	2500 V	Published datasheet value
DC Grid-No.2 Voltage – published value 1	500 V	Published datasheet value
DC Grid-No.2 Voltage – published value 2	500 V	Published datasheet value
DC Grid-No.1 Voltage – published value 1	-75 V	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Grid-No.1 Voltage – published value 2	-75 V	Published datasheet value
DC Plate Current – published value 1	0.9	Published datasheet value
DC Plate Current – published value 2	1	Published datasheet value
DC Grid-No.2 Current – published value 1	0.02	Published datasheet value
DC Grid-No.2 Current – published value 2	0.02	Published datasheet value
DC Grid-No.1 Current (Approx.) – published value 1	0.07	Published datasheet value
DC Grid-No.1 Current (Approx.) – published value 2	0.07	Published datasheet value
Output Circuit Efficiency (Approx.) – published value 1	90	Published datasheet value
Output Circuit Efficiency (Approx.) – published value 2	90	Published datasheet value
Driver Power Output (Approx.) – published value 1	70	Published datasheet value
Driver Power Output (Approx.) – published value 2	75	Published datasheet value
Useful Power Output(Approx) – published value 1	1050	Published datasheet value
Useful Power Output(Approx) – published value 2	1350	Published datasheet value
DC Plate Current	1	Published datasheet value
Plate Input	2500	Published datasheet value
Grid-No.2Input	50	Published datasheet value
DC Plate Voltage – published value 1	1800 V	Published datasheet value
DC Plate Voltage – published value 2	2000 V	Published datasheet value
DC Grid-No.1 Voltage – published value 1	-75 V	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Grid-No.1 Voltage – published value 2	-75 V	Published datasheet value
DC Plate Current – published value 1	0.75	Published datasheet value
DC Plate Current – published value 2	0.83	Published datasheet value
DC Grid-No.2 CurrentT – published value 1	0	Published datasheet value
DC Grid-No.2 CurrentT – published value 2	15	Published datasheet value