



ELECTRONIC TUBE REFERENCE

4628

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 10000-watt maximum plate dissipation and application-specific operating limits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	4.5 V / 125 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Beam Power	
AMPLIFICATION FACTOR	10
MAXIMUM PLATE VOLTAGE	7500 V
MAXIMUM SCREEN VOLTAGE	1650 V
MAXIMUM PLATE DISSIPATION	10000 W
MAXIMUM CATHODE CURRENT	4 A
<i>Published maximum ratings/general electrical characteristics promoted directly; pulse, RF, capacitance, cooling, and service-specific values retained in TUBE_SECTION_PARAMETER.</i>	

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](#)

1971 RCA HB3 Binder 6 of 7

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	7500 V	PromotedValue
Maximum screen-grid voltage	1650 V	PromotedValue
Maximum plate dissipation	10000 W	PromotedValue
Maximum cathode/plate current	4 A	PromotedValue
Grid No.1 to plate	0.6 mA	Published datasheet value
Plate to filament°10	10 mA	Published datasheet value
Grid No.2 to filament°	3.3 mA	Published datasheet value
Terminal Temperature	250 mA	Published datasheet value
'late-Core Temperature	250 mA	Published datasheet value
Typical value for 1 ampere of DC plate c r ant wi ch carrier turned aff	1 A	Published datasheet value

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mu / amplification factor	10	PromotedValue
Heater/filament voltage	4.5 V	Nominal operating value
Heater/filament current	125 A	Nominal operating value
Voltage (ac or dc)a – published value 1	4.5 V	Published datasheet value
Voltage (ac or dc)a – published value 2	4.75 V	Published datasheet value
Cold Resistance – published value 1	5	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cold Resistance – published value 2	4	Published datasheet value
Minimum heating time	15	Published datasheet value
volts=2000, grid-No.2 volts=1375, and do – published value 1	2000 V	Published datasheet value
volts=2000, grid-No.2 volts=1375, and do – published value 2	1375 V	Published datasheet value
plate amperes = 9 – published value 1	9 A	Published datasheet value
plate amperes = 9 – published value 2	10 A	Published datasheet value
Grid No.1 to filament	60 pF	Published datasheet value
Grid No.1 to grid No.2	65 pF	Published datasheet value
Plate, grid No. 2, grid No. 1, – published value 1	2	Published datasheet value
Plate, grid No. 2, grid No. 1, – published value 2	1	Published datasheet value
temperature to 250° C should be delivered by a blower through	250	Published datasheet value
To Plate, Grid-No. 2, Grid-No. 1, Cathode-Filament, and Filament – published value 1	2	Published datasheet value
To Plate, Grid-No. 2, Grid-No. 1, Cathode-Filament, and Filament – published value 2	1	Published datasheet value
a minimum peak -to-average power ratio of 2	2	Published datasheet value
DC Plate Voltage	7500 V	Published datasheet value
DC Grid-No.2 Voltage	1650 V	Published datasheet value
DC Grid-No. 1 Voltage	-750 V	Published datasheet value
DC Plate Current at Peak of Envelope	4	Published datasheet value
DC Grid-No. 1 Current	500 mA	Published datasheet value
Grid-No.2 Input	150	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	10000 W	Published datasheet value
DC Plate Voltage	7000 V	Published datasheet value
DC Grid-No.2 Voltage	1500 V	Published datasheet value
DC Grid-No. 1 Voltage	-200 V	Published datasheet value
Zero-Signal DC Plate Current	0.5	Published datasheet value
Effective RF Load Resistance	1200	Published datasheet value
DC Plate Current at Peak of Envelope	3	Published datasheet value
Average DC Plate Current – published value 1	2	Published datasheet value
Average DC Plate Current – published value 2	15	Published datasheet value
DC Grid-No.2 Current at Peak of Envelope – published value 1	0	Published datasheet value
DC Grid-No.2 Current at Peak of Envelope – published value 2	1	Published datasheet value
Average DC Grid-No.2 Current	0.07	Published datasheet value
Output Circuit Efficiency (Approx)	90	Published datasheet value
DC Plate Current	2	Published datasheet value
Grid-No.2 Input	150	Published datasheet value
DC Plate Voltage	6500 V	Published datasheet value
DC Grid-No.2 Voltage	1250 V	Published datasheet value
DC Grid-No. 1 Voltage	-160 V	Published datasheet value
DC Plate Current	1.4	Published datasheet value
DC Grid-No.2 Current – published value 1	0	Published datasheet value
DC Grid-No.2 Current – published value 2	5	Published datasheet value
Driver Power Output	75	Published datasheet value
Useful Power Output	2000	Published datasheet value
terminal, perpendicular to the tube axis, end is connected to grid No. 2	2	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
c ermin al, perp en di cide to the cube axis, and is onnec tad to grid No. 1	1	Published datasheet value
See Electrical Considerations–G~i d-No-2 Voltage Supply	2 V	Published datasheet value
GRID-No.2 TERMINAL	22	Published datasheet value
CATNODE-FILAMENT	2	Published datasheet value
b. Plate Terminal - 3.288	3.288	Published datasheet value
c. Grid-No.2 Terminal - 3.061	3.061	Published datasheet value
d. Grid-No.1 Terminal - 2.338	2.338	Published datasheet value
e. Cathode-Filament Terminal - 1.878	1.878	Published datasheet value
f. Filament Terminal (OD) - 0.908	0.908	Published datasheet value
g. Filament Terminal (ID) - 0.722	0.722	Published datasheet value
INCOMING AIR TEMPERATURE-25° C – published value 1	25	Published datasheet value
INCOMING AIR TEMPERATURE-25° C – published value 2	1	Published datasheet value
INCOMING AIR TEMPERATURE-25° C – published value 3	1	Published datasheet value
For Grid-No.2 Voltage = 1250 Volts	1250 V	Published datasheet value
FILAMENT VOLTS = 4.5 TO 4.75 – published value 1	4.5 V	Published datasheet value
FILAMENT VOLTS = 4.5 TO 4.75 – published value 2	4.75 V	Published datasheet value
GRID-No.2 VOLTS = 1250	1250 V	Published datasheet value
GRID-No.2RMPERES =I~2	2	Published datasheet value
GRID No. 1 VOLTS – published value 1	92 V	Published datasheet value
GRID No. 1 VOLTS – published value 2	13498 V	Published datasheet value
For Grid-No.2 Voltage = 1500 Volts	1500 V	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID-No.2 VOLTS • 1500	1500 V	Published datasheet value
GRID-No.2RMPERES •I~2	2	Published datasheet value
GRID No.1 TO GRID No 2	2	Published datasheet value

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