

ELECTRONIC TUBE REFERENCE

6861

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRAVELINGWAVE

Traveling-wave microwave amplifier providing broadband RF gain through interaction between an electron beam and a slow-wave structure.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	8
NOMINAL HEATER	5.25 V / 500 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1	TravelingWave
No fixed ratings recorded. Traveling-wave tube. Collector/helix/grid voltages and currents, gain, noise figure, and frequency-range data are retained in TUBE_SECTION_PARAMETER.	

Helix traveling-wave amplifier tube for microwave wide-band amplification.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1960 RCA Industrial and Communications Types

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

1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

Section 1 · TravelingWave

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Frequency Minimum	2700 MHz	—
Frequency Maximum	3500 MHz	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1964 RMA EIA

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

1964 RMA EIA

Section 1 · TravelingWave

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	5 V	—
Heater Current	650 mA	—
Heater Voltage	5 V	—
HeaterCurrentMinimum	450 mA	—
HeaterCurrentMaximum	850 mA	—
HelixVoltageMinimum	350 V	—
HelixVoltageMaximum	390 V	—
SaturatedPowerOutput	1 mW	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
FocusingMethod	Magnetic	—
Application	Wide-band traveling-wave amplifier	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 English Electric Valve

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

1971 ENGLISH ELECTRIC VALVE

Section 1 · TravelingWave

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
FrequencyMinimum	2.7 GHz	—
FrequencyMaximum	3.5 GHz	—
SaturationOutputPower	10 W	—
LowLevelGain	23 dB	—


SOURCE DATA APPENDIX

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.

1971 RCA HB3 BINDER 6 OF 7

Section 1 · TravelingWave

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
i7seful over frequency range of 2700 to 3500.Mc – published value 1	2700 MHZ	Published datasheet value
i7seful over frequency range of 2700 to 3500.Mc – published value 2	3500 MHZ	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage	5	Published datasheet value
Current at 5 volts – published value 1	5 A	Published datasheet value
Current at 5 volts – published value 2	650 mA	Published datasheet value
Frequency Range – published value 1	2700 MHz	Published datasheet value
Frequency Range – published value 2	3500 MHz	Published datasheet value
Pin 1 -Grid No.1 – published value 1	1	Published datasheet value
Pin 1 -Grid No.1 – published value 2	5	Published datasheet value
P i n 2 - No Connec – published value 1	2	Published datasheet value
P i n 2 - No Connec – published value 2	6	Published datasheet value
tion	7	Published datasheet value
Pin 3 -Hel ix – published value 1	3	Published datasheet value
Pin 3 -Hel ix – published value 2	8	Published datasheet value
Pin 4 -Grid No.4	4	Published datasheet value
DC Collector Voltage	400	Published datasheet value
DC Hel ix Voltage	375	Published datasheet value
DC Grid–No.4 Voltage	200	Published datasheet value
DC Grid–No.3 Voltage	40	Published datasheet value
DC Grid–No.2 Voltage (APProx.)	20	Published datasheet value
DC Grid–No.1 Voltage	0	Published datasheet value
DC Collector Current	150	Published datasheet value
DC Hel ix Current	0.5	Published datasheet value
DC Grid–No.3 Current	1	Published datasheet value
Gain (Low level)	25	Published datasheet value
Power Output (Saturated)	1	Published datasheet value
Heater Current – published value 1	1 A	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current – published value 2	450 mA	Published datasheet value
Heater Current – published value 3	850 mA	Published datasheet value
DC Hel ix Voltage – published value 1	3	Published datasheet value
DC Hel ix Voltage – published value 2	350	Published datasheet value
DC Hel ix Voltage – published value 3	390	Published datasheet value
DC Grid–No.4 Voltage – published value 1	3	Published datasheet value
DC Grid–No.4 Voltage – published value 2	160	Published datasheet value
DC Grid–No.4 Voltage – published value 3	275	Published datasheet value
DC Grid–No.3 Voltage – published value 1	3	Published datasheet value
DC Grid–No.3 Voltage – published value 2	20	Published datasheet value
DC Grid–No.3 Voltage – published value 3	50	Published datasheet value
Saturated Power Output – published value 1	3	Published datasheet value
Saturated Power Output – published value 2	0.25	Published datasheet value
Gain – published value 1	3	Published datasheet value
Gain – published value 2	20	Published datasheet value
Note 1: with heater voltage of 5 volts – published value 1	1	Published datasheet value
Note 1: with heater voltage of 5 volts – published value 2	5	Published datasheet value
g ausse5, signal frequency of 3100 MC, antl heater voltage of 5 volts – published value 1	3100 MHz	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
g ausse5, signal frequency of 3100 MC, antl heater voltage of 5 volts – published value 2	5 MHz	Published datasheet value
GRID-No.4 VOLTS =200	200	Published datasheet value
GRID-N o.3 YOLTS =40	40	Published datasheet value
SIGNAL FREQUENCY (Nc) =3100	3100	Published datasheet value
SIGNAL FREQUENCY (Nc) =3100	3100	Published datasheet value
HELIX VOLTS =375 GRID-No.4 VOLTS =200 – published value 1	375	Published datasheet value
HELIX VOLTS =375 GRID-No.4 VOLTS =200 – published value 2	200	Published datasheet value
GRID-No.3 VOLTS =40	40	Published datasheet value
SIGNAL FREQUENCY (Mc) =3100	3100 MHz	Published datasheet value
SIGNAL FREQUENCY - Mc – published value 1	92 MHz	Published datasheet value
SIGNAL FREQUENCY - Mc – published value 2	89717 MHz	Published datasheet value
POWER INPUT - dbm – published value 1	92	Published datasheet value
POWER INPUT - dbm – published value 2	89697	Published datasheet value
Typical low-level gain	25 dB	—
Typical noise figure	6.5 dB	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC COLLECTOR VOLTAGE	500 mA	Published datasheet value
DC HELIX VOLTAGE	500 mA	Published datasheet value
DC GRID-No.4 VOLTAGE	500 mA	Published datasheet value
DC GRID-No.3 VOLTAGE	300 mA	Published datasheet value
DC GRID-No.2 VOLTAGE	75 mA	Published datasheet value
` " ~ ^ /	20 mA	Published datasheet value
DC COLLECTOR CURRENT	500 mA	Published datasheet value
DC HELIX CURRENT	5 mA	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PEAK RF POWER INPUT	100 mA	Published datasheet value
AVERAGE RF POWER INPUT	0.4 mA	Published datasheet value
Maximum collector voltage	500 V	—
Maximum helix voltage	500 V	—

TUBE TINKER

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and their source documents.

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