

ELECTRONIC TUBE REFERENCE

8379

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA  
1 SECTION  
CONSTRUCTION  
TRAVELINGWAVE

Low-noise helix traveling-wave amplifier for 2.32–2.68 GHz radar and microwave receivers, offering about 31 dB gain and 4.5 dB noise figure.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | 8             |
| NOMINAL HEATER      | 5 V / 650 mA      | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

SECTION RATINGS

|                                                            |               |
|------------------------------------------------------------|---------------|
| SECTION1                                                   | TravelingWave |
| MAXIMUM PLATE VOLTAGE                                      | 800 V         |
| Electrical section extracted from supplied RCA data sheet. |               |

Low-noise helix traveling-wave amplifier for 2320-2680 MHz radar and microwave receivers, providing about 31 dB gain and 4.5 dB noise figure.

## 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

| OTHER                     |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Frequency minimum         | 2320 MHz        | —                |
| Frequency maximum         | 2680 MHz        | —                |
| Collector voltage maximum | 800 V           | —                |
| Helix voltage maximum     | 500 V           | —                |
| Grid No.4 voltage maximum | 500 V           | —                |
| Grid No.3 voltage maximum | 300 V           | —                |
| Grid No.2 voltage maximum | 75 V            | —                |
| Grid No.1 voltage maximum | 20 V            | —                |
| Collector current maximum | 500 uA          | —                |
| Cathode current maximum   | 500 uA          | —                |
| RF peak input maximum     | 300 W           | —                |
| RF average input maximum  | 1 W             | —                |
| Collector voltage         | 600 V           | f=2500MHz        |
| Helix voltage             | 375 V           | f=2500MHz        |
| Gain                      | 31 dB           | f=2500MHz        |
| Saturated output power    | 1 mW            | f=2500MHz        |
| Noise figure              | 4.5 dB          | f=2500MHz        |

| CHARACTERISTICS             |                 |                  |
|-----------------------------|-----------------|------------------|
| PARAMETER                   | PUBLISHED VALUE | CONDITION / NOTE |
| Cold insertion loss minimum | 60 dB           | —                |

## 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

| CHARACTERISTIC                   |                 |                      |
|----------------------------------|-----------------|----------------------|
| PARAMETER                        | PUBLISHED VALUE | CONDITION / NOTE     |
| Heater/filament voltage nominal  | 5 V             | WholeTube            |
| Heater/filament current nominal  | 650 mA          | WholeTube            |
| Heater Current                   | 1 A             | Published source row |
| Heater Current (value 2)         | 450 mA          | Published source row |
| Heater Current (value 3)         | 850 mA          | Published source row |
| DC Hel ix Voltage                | 1 V             | Published source row |
| DC Hel ix Voltage (value 2)      | 4 V             | Published source row |
| DC Hel ix Voltage (value 3)      | 335 V           | Published source row |
| DC Hel ix Voltage (value 4)      | 405 V           | Published source row |
| DC Grid-No                       | 4 V             | Published source row |
| DC Grid-No (value 2)             | 1 V             | Published source row |
| DC Grid-No (value 3)             | 4 V             | Published source row |
| DC Grid-No (value 4)             | 150 V           | Published source row |
| DC Grid-No (value 5)             | 400 V           | Published source row |
| DC Grid-No                       | 3 V             | Published source row |
| DC Grid-No (value 2)             | 1 V             | Published source row |
| DC Grid-No (value 3)             | 4 V             | Published source row |
| DC Grid-No (value 4)             | 25 V            | Published source row |
| DC Grid-No (value 5)             | 100 V           | Published source row |
| Saturated Power Output           | 1               | Published source row |
| Saturated Power Output (value 2) | 4               | Published source row |

| PARAMETER                                    | PUBLISHED VALUE | CONDITION / NOTE     |
|----------------------------------------------|-----------------|----------------------|
| Saturated Power Output (value 3)             | 1               | Published source row |
| Small -Signal Gain                           | 1 dB            | Published source row |
| Small -Signal Gain (value 2)                 | 4 dB            | Published source row |
| Small -Signal Gain (value 3)                 | 28 dB           | Published source row |
| Small -Signal Gain (value 4)                 | 34 dB           | Published source row |
| Noise Figure                                 | 1 dB            | Published source row |
| Noise Figure (value 2)                       | 4 dB            | Published source row |
| Noise Figure (value 3)                       | 5 dB            | Published source row |
| Note is With neater voltage of               | 5 V             | Published source row |
| Note                                         | 2               | Published source row |
| The rated heater voltage of                  | 5 V             | Published source row |
| Apply rated heater voltage to the            | 8379 min        | Published source row |
| to al l other tube electrodes except grid No | 2               | Published source row |

| OTHER                                  |                 |                      |
|----------------------------------------|-----------------|----------------------|
| PARAMETER                              | PUBLISHED VALUE | CONDITION / NOTE     |
| , -. HELIX-TRANSMISSION-LINE TYPE NF = | 4.5 dB          | Published source row |
| FREQUENCY RANGE,                       | 2320 MHz        | Published source row |
| FREQUENCY RANGE, (value 2)             | -2680 MHz       | Published source row |
| FREQUENCY RANGE, (value 3)             | 31 MHz          | Published source row |
| Voltage (AC or DC)                     | 5 V             | Published source row |
| Voltage (AC or DC) (value 2)           | 5 V             | Published source row |
| Current at heater volts =              | 5 V             | Published source row |
| Current at heater volts = (value 2)    | 0.65 V          | Published source row |
| Starting current Must never exceed     | 4               | Published source row |
| Minimum cathode heating time           | 1 min           | Published source row |
| Frequency range                        | 2320 MHz        | Published source row |
| Frequency range (value 2)              | 2680 MHz        | Published source row |
|                                        |                 |                      |

| PARAMETER                   | PUBLISHED VALUE | CONDITION / NOTE     |
|-----------------------------|-----------------|----------------------|
| Minimum cold insertion loss | <b>60 dB</b>    | Published source row |
| DC Col lector Voltage       | <b>800 V</b>    | Published source row |
| DC Hel ix Voltage           | <b>500 V</b>    | Published source row |
| DC Grid-No                  | <b>4 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>500 V</b>    | Published source row |
| DC Grid-No                  | <b>3 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>300 V</b>    | Published source row |
| DC Grid-No                  | <b>2 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>75 V</b>     | Published source row |
| DC Grid-No                  | <b>1 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>20 V</b>     | Published source row |
| DC Collector Current        | <b>500</b>      | Published source row |
| DC Helix Current            | <b>5</b>        | Published source row |
| DC Cathode Current          | <b>500</b>      | Published source row |
| DC Collector Voltage        | <b>600 V</b>    | Published source row |
| DC Hel ix Voltage           | <b>375 V</b>    | Published source row |
| DC Grid-No                  | <b>4 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>325 V</b>    | Published source row |
| DC Grid-No                  | <b>3 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>70 V</b>     | Published source row |
| DC Grid-No                  | <b>2 V</b>      | Published source row |
| DC Grid-No (value 2)        | <b>10 V</b>     | Published source row |
| DC Grid-No.l Voltage        | <b>10 V</b>     | Published source row |
| DC Collector Current        | <b>150</b>      | Published source row |
| DC Hel ix Current           | <b>0</b>        | Published source row |
| DC Hel ix Current (value 2) | <b>5</b>        | Published source row |
| DC Grid-No                  | <b>4</b>        | Published source row |
| DC Grid-No                  | <b>3</b>        | Published source row |
| DC Grid-No (value 2)        | <b>1</b>        | Published source row |
| DC Grid-No                  | <b>2</b>        | Published source row |
| DC Grid-No                  | <b>1</b>        | Published source row |
| Gain (Low level )           | <b>31 dB</b>    | Published source row |

| PARAMETER                             | PUBLISHED VALUE | CONDITION / NOTE     |
|---------------------------------------|-----------------|----------------------|
| Power Output (Saturated)              | <b>1</b>        | Published source row |
| Power Output (Saturated)<br>(value 2) | <b>0</b>        | Published source row |
| Noise Figure                          | <b>4 dB</b>     | Published source row |
| Noise Figure (value 2)                | <b>5 dB</b>     | Published source row |