



ELECTRONIC TUBE REFERENCE

F2059

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRAVELINGWAVE

Traveling-wave microwave amplifier for broadband RF power or intermediate amplification, using electron-beam interaction with a slow-wave structure.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | —             |
| NOMINAL HEATER      | 6.3 V / 3 A       | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

SECTION RATINGS

|                         |        |
|-------------------------|--------|
| SECTION1 TravelingWave  |        |
| MAXIMUM PLATE VOLTAGE   | 5000 V |
| MAXIMUM CATHODE CURRENT | 1 A    |

The F2059 is a rugged metal-envelope helix traveling-wave power amplifier with integral PPM focusing, designed for pulsed microwave operation over 2.7–2.9 GHz.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1962 ITT

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

1962 ITT

## Section 1 · TravelingWave

| CHARACTERISTIC  |                 |                  |
|-----------------|-----------------|------------------|
| PARAMETER       | PUBLISHED VALUE | CONDITION / NOTE |
| Frequency Range | 2700–2900 MHz   | —                |
| Heater Voltage  | 6.3 V           | —                |
| Heater Current  | 3 A             | —                |
| Gain            | 46 dB           | —                |
| Warm-up Time    | 120 s           | —                |

| OTHER                     |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Maximum Anode Voltage     | 5000 V          | —                |
| Maximum Collector Voltage | 5000 V          | —                |
| Maximum Cathode Current   | 1 A             | Peak             |
| Maximum RF Output Power   | 5 W             | Average          |
| Maximum Duty Cycle        | 0.01            | —                |
| Maximum Beam Pulse Width  | 10 us           | —                |
| Minimum Peak Output Power | 100 W           | —                |
| Cooling Airflow           | 25 cfm          | —                |

| CAPACITANCE                                    |                 |                  |
|------------------------------------------------|-----------------|------------------|
| PARAMETER                                      | PUBLISHED VALUE | CONDITION / NOTE |
| Control Grid to All Other Elements Capacitance | 20 pF           | —                |

## TUBE TINKER

An independent reference for electronic tubes, vacuum tubes,  
and their source documents.

