



## ELECTRONIC TUBE REFERENCE

7642

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            | —             |
| NOMINAL HEATER      | 6.3 V / 1.75 A    | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                            |        |
|----------------------------------------------------------------------------|--------|
| SECTION 1 TravelingWave                                                    |        |
| MAXIMUM PLATE VOLTAGE                                                      | 3000 V |
| MAXIMUM SCREEN VOLTAGE                                                     | 1700 V |
| MAXIMUM CATHODE CURRENT                                                    | 80 mA  |
| <i>Published ratings/characteristics promoted from supplied datasheet.</i> |        |

The 7642 is a S-band traveling-wave tube. The supplied datasheet was processed for heater or filament data, maximum ratings, operating characteristics, capacitances where published, and service-specific power or frequency data.

## 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 · TravelingWave

| CHARACTERISTICS              |                 |                                        |
|------------------------------|-----------------|----------------------------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE                       |
| Frequency Minimum            | 1700 MHz        | S-band traveling-wave output amplifier |
| Frequency Maximum            | 2300 MHz        | S-band traveling-wave output amplifier |
| Minimum Cathode Heating Time | 3 min           | S-band traveling-wave output amplifier |

  

| OTHER                        |                 |                                        |
|------------------------------|-----------------|----------------------------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE                       |
| Maximum DC Collector Voltage | 3000 V          | S-band traveling-wave output amplifier |
| Maximum DC Helix Voltage     | 2500 V          | S-band traveling-wave output amplifier |
| Maximum DC Grid-No.2 Voltage | 1700 V          | S-band traveling-wave output amplifier |
| Maximum DC Collector Current | 80 mA           | S-band traveling-wave output amplifier |
| Maximum RF Power Input       | 5 W             | S-band traveling-wave output amplifier |
| Typical Collector Voltage    | 2000 V          | S-band traveling-wave output amplifier |
| Typical Helix Voltage        | 2250 V          | S-band traveling-wave output amplifier |
| Saturated Power Output       | 20 W            | S-band traveling-wave output amplifier |