



## ELECTRONIC TUBE REFERENCE

## F6179

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Water-cooled low-mu power triode designed specifically for high-power modulator service. Approximately 50 kW plate dissipation and 15 kV capability optimize it for very-high-current linear audio and transmitter-modulation stages.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | —             |
| NOMINAL HEATER      | 27.2 V / 196.5 A  | PARALLEL HEATER      | — / —         |
| HEATING             | Direct            | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                                                                    |         |
|--------------------------------------------------------------------------------------------------------------------|---------|
| SECTION 1 Triode                                                                                                   |         |
| AMPLIFICATION FACTOR                                                                                               | 4.75    |
| MAXIMUM PLATE VOLTAGE                                                                                              | 15000 V |
| MAXIMUM PLATE DISSIPATION                                                                                          | 50000 W |
| Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table. |         |

Three-electrode power tube designed for modulator service with a water-cooled 50 kW anode and pure-tungsten filament.

## SOURCE OPERATING CONDITIONS

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# 1962 ITT

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

1962 ITT

## Section 1 · Triode

| OTHER                                                             |                 |                                                                               |
|-------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------|
| PARAMETER                                                         | PUBLISHED VALUE | CONDITION / NOTE                                                              |
| Published value                                                   | <b>50 W</b>     | 50 Kilowatts Plate Dissipation                                                |
| dissipating                                                       | <b>50</b>       | dissipating 50 kilowatts. The cathode is a pure tungsten                      |
| ) Filament Voltage                                                | <b>27.2 V</b>   | ) Filament Voltage 27.2 Volts                                                 |
| p Filament Current                                                | <b>196.5 A</b>  | p Filament Current 196.5 Amperes                                              |
| ) Filament Starting Current                                       | <b>300 A</b>    | ) Filament Starting Current 300 Amperes                                       |
| p Filament Cold Resistance                                        | <b>15</b>       | p Filament Cold Resistance .015 Ohms                                          |
| Grid-Plate                                                        | <b>6</b>        | Grid-Plate 6l uuf                                                             |
| Grid-Filament                                                     | <b>63</b>       | Grid-Filament 63 upuf                                                         |
| Plate-Filament                                                    | <b>0.6</b>      | Plate-Filament 0.6 uuf                                                        |
| Water Flow on Anode                                               | <b>20</b>       | Water Flow on Anode 20 GPM                                                    |
| Water Temperature                                                 | <b>70</b>       | Water Temperature 70° C                                                       |
| Maximum Glass Temperature                                         | <b>150</b>      | Maximum Glass Temperature 150° C                                              |
| Published value [1]                                               | <b>50 W</b>     | 50 Kilowatts Plate Dissipation goes back for more than 40 years.              |
| Published value [2]                                               | <b>40 W</b>     | 50 Kilowatts Plate Dissipation goes back for more than 40 years.              |
| AUDIO-FREQUENCY POWER AMPLIFIER AND Peak A-F Grid to Grid Voltage | <b>5160 V</b>   | AUDIO-FREQUENCY POWER AMPLIFIER AND Peak A-F Grid to Grid Voltage 5,160 Volts |
| MODULATOR—CLASS AB, Zero Signal DC Plate Current                  | <b>1.8 A</b>    | MODULATOR—CLASS AB, Zero Signal DC Plate Current 1.8 Amperes                  |
| DC Plate Voltage [1]                                              | <b>15000 V</b>  | DC Plate Voltage 15,000 Volts Plate Current 5.3 Amperes                       |
| DC Plate Voltage [2]                                              | <b>5.3 V</b>    | DC Plate Voltage 15,000 Volts Plate Current 5.3 Amperes                       |

| PARAMETER                        | PUBLISHED VALUE | CONDITION / NOTE                                                                         |
|----------------------------------|-----------------|------------------------------------------------------------------------------------------|
| Maximum Signal DC Plate Currentt | <b>10 mA</b>    | Maximum Signal DC Plate Currentt 10 Amperes Effective Load Resistance                    |
| Maximum Signal Plate Input{ [1]  | <b>120</b>      | Maximum Signal Plate Input{ 120 Kilowatts Plate to Plate 5.000 Ohms                      |
| Maximum Signal Plate Input{ [2]  | <b>5</b>        | Maximum Signal Plate Input{ 120 Kilowatts Plate to Plate 5.000 Ohms                      |
| Plate Dissipationt [1]           | <b>50 W</b>     | Plate Dissipationt 50 Kilowatts Maximum Signal Driving Power 0 Watts                     |
| Plate Dissipationt [2]           | <b>0 W</b>      | Plate Dissipationt 50 Kilowatts Maximum Signal Driving Power 0 Watts                     |
| Maximum Signal Power Output      | <b>40 W</b>     | . Maximum Signal Power Output 40 Kilowatts                                               |
| DC Plate Yoltage [1]             | <b>12000</b>    | DC Plate Yoltage 12,000 Volts F-125-A.                                                   |
| DC Plate Yoltage [2]             | <b>125</b>      | DC Plate Yoltage 12,000 Volts F-125-A.                                                   |
| DC Grid Voltage                  | <b>-2600 V</b>  | DC Grid Voltage —2,600 Volts +Averaged over any audio-frequency cycle of sine-wave form. |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

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# 1962 ITT Industrial and Transmitting Tubes

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

## 1962 ITT INDUSTRIAL AND TRANSMITTING TUBES

### Section 1 · Triode

| OTHER          |                 |                  |
|----------------|-----------------|------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE |
| Cooling method | <b>water</b>    | —                |

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