



## ELECTRONIC TUBE REFERENCE

## CAT21

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

CONSOLIDATED TECHNICAL DATA

**1 SECTION**  
CONSTRUCTION  
**TRIODE**

Water-cooled transmitting triode for VHF power-amplifier service to roughly 100 MHz. Approximately 20 kW plate dissipation and 10 kV plate capability support substantial communications and broadcast transmitter power.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | —             |
| NOMINAL HEATER      | 12 V / 320 A      | PARALLEL HEATER      | — / —         |
| HEATING             | Direct            | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                           |         |
|---------------------------|---------|
| SECTION1 Triode           |         |
| TRANSCONDUCTANCE          | 0.02 S  |
| AMPLIFICATION FACTOR      | 21      |
| MAXIMUM PLATE VOLTAGE     | 10000 V |
| MAXIMUM PLATE DISSIPATION | 20000 W |
| MAXIMUM GRID DISSIPATION  | 1500 W  |
| MAXIMUM CATHODE CURRENT   | 30 A    |

Water-cooled transmitting triode for VHF amplifier service to 100 MHz.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1955 Marconi

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

1955 MARCONI

## Section 1 · Triode

| CHARACTERISTIC       |                 |                  |
|----------------------|-----------------|------------------|
| PARAMETER            | PUBLISHED VALUE | CONDITION / NOTE |
| Filament Voltage     | 12 V            | —                |
| Filament Current     | 320 A           | —                |
| Amplification Factor | 21              | —                |
| Transconductance     | 20000 $\mu$ S   | —                |

| OTHER                        |                 |                  |
|------------------------------|-----------------|------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE |
| Maximum Anode Voltage        | 10000 V         | —                |
| Maximum Anode Dissipation    | 20000 W         | —                |
| Maximum Grid Dissipation     | 1500 W          | —                |
| Maximum/Peak Cathode Current | 100 A           | —                |
| Frequency at Full Ratings    | 100 MHz         | —                |
| Typical RF Output Power      | 394 kW          | Class C, 10 kV   |

| CAPACITANCE               |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Anode-Grid Capacitance    | 1.1 pF          | —                |
| Anode-Cathode Capacitance | 32 pF           | —                |
| Grid-Cathode Capacitance  | 42 pF           | —                |

| CONSTRUCTION |                     |                  |
|--------------|---------------------|------------------|
| PARAMETER    | PUBLISHED VALUE     | CONDITION / NOTE |
| Cooling      | Water plus seal air | —                |

## TUBE TINKER

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and their source documents.

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