

ELECTRONIC TUBE REFERENCE

1267

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA  
1 SECTION  
CONSTRUCTION  
THYRATRON

Mullard 1267 cold-cathode gas-filled triggered switching triode with starter electrode, 225 V maximum operating anode voltage and 25 mA maximum continuous cathode current.

GENERAL CHARACTERISTICS

|                     |                        |                      |               |
|---------------------|------------------------|----------------------|---------------|
| BASE DESIGNATION    | —                      | BASE PINS            | 8             |
| NOMINAL HEATER      | — / —                  | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect; cold cathode | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes      | SECTION CONSTRUCTION | Similar       |

SECTION RATINGS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| SECTION1 Thyratron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |
| MAXIMUM PLATE VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 225 V |
| MAXIMUM CATHODE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 25 mA |
| <p>Mullard 1951 p.163 1267 cold-cathode gas-filled switching triode, provisionally classified Thyratron by switching function (not necessarily conventional hot-cathode thyratron). Maximum operating anode voltage 225 V when starter anode connected to cathode. Starter-anode-to-cathode breakdown 70-90 V; max starter current 100 µA at main anode 140 V for breakdown; starter path drop 60 V, main anode-cathode drop 70 V. Max peak cathode current 0.1 A, max DC cathode current 0.025 A (promoted max_cathode_current is continuous DC rating). No heater. Octal base cathode pin2, anode pin5, starter pin7.</p> |       |

1267 — Cold-Cathode Gas-Filled Triode

The **1267** is a cold-cathode gas-filled triode designed for switching and control applications. As a cold-cathode device, it operates without a heater filament, eliminating the need for a heater power supply and avoiding any warm-up delay. The tube is classified under gas-filled triodes and tetrodes in the Mullard preferred types range.

## Physical Construction and Base Connections

The 1267 is constructed with a glass envelope and is fitted with a standard octal base. The physical dimensions of the tube are specified as follows:

- **Maximum Overall Length (L):** 100 mm
- **Maximum Diameter (D):** 31 mm

The electrical connections for the active elements are routed to specific pins on the octal base:

- **Cathode:** Connected to Pin 2
- **Anode:** Connected to Pin 5
- **Grid (Starter Anode):** Connected to Pin 7

## Electrical Characteristics and Operating Limits

The operation of the 1267 is defined by specific ionization thresholds, conduction voltage drops, and current handling capabilities.

### Voltage and Triggering Thresholds

- **Maximum Operating Anode Voltage:** When the starter anode (grid) is connected directly to the cathode, the maximum operating anode voltage is **225 V**. This represents the upper limit of anode voltage that can be applied without causing self-ionization in the absence of a trigger signal.
- **Starter Anode-Cathode Breakdown Voltage:** The voltage required to initiate ionization between the starter anode and the cathode is between a minimum of **70 V** and a maximum of **90 V**.
- **Starter Anode Current for Anode Breakdown:** To trigger the main anode-to-cathode discharge when the anode voltage ( $V_a$ ) is set to **140 V**, the starter anode must draw a maximum current of **100  $\mu$ A**.

### Conduction Voltage Drops

Once the tube is triggered and conducting, the voltage drops across the internal discharge paths are maintained at stable levels:

- **Starter Anode to Cathode Voltage Drop:** The voltage drop across the starter-cathode path during conduction is **60 V**.
- **Anode to Cathode Voltage Drop:** The voltage drop across the main anode-cathode conduction path is **70 V**.

### Cathode Current Ratings

To ensure the longevity of the cold cathode and prevent damage, the current through the cathode must not exceed the following limits:

- **Maximum Peak Cathode Current:** 100 mA
- **Maximum D.C. Cathode Current:** 25 mA

## Technical Summary

The **1267** is an octal-based, cold-cathode gas-filled triode with an overall length of 100 mm and a diameter of 31 mm. It features a three-electrode structure with the cathode connected to Pin 2, the anode to Pin 5, and the grid (starter anode) to Pin 7. Operating without a heater, the device relies on gas ionization, featuring a starter breakdown voltage range of 70 V to 90 V and a main anode-to-cathode conduction drop of 70 V. It is rated for a maximum continuous D.C. cathode current of 25 mA and a peak cathode current of 100 mA.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1951 Mullard Valve and Service Manual

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

## 1951 MULLARD VALVE AND SERVICE MANUAL

## Section 1 · Thyatron

| OTHER                           |                 |                                    |
|---------------------------------|-----------------|------------------------------------|
| PARAMETER                       | PUBLISHED VALUE | CONDITION / NOTE                   |
| Maximum Operating Anode Voltage | 225 V           | Starter anode connected to cathode |
| Maximum Starter Anode Current   | 100 uA          | Anode breakdown; Vs=140V           |
| Maximum Peak Cathode Current    | 100 mA          | —                                  |
| Maximum DC Cathode Current      | 25 mA           | —                                  |

| CHARACTERISTICS                                 |                 |                  |
|-------------------------------------------------|-----------------|------------------|
| PARAMETER                                       | PUBLISHED VALUE | CONDITION / NOTE |
| Starter Anode-Cathode Breakdown Voltage Minimum | 70 V            | —                |
| Starter Anode-Cathode Breakdown Voltage Maximum | 90 V            | —                |
| Starter Anode-Cathode Voltage Drop              | 60 V            | —                |
| Anode-Cathode Voltage Drop                      | 70 V            | —                |

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