The 5Y3-GT is a filamentary twin-diode designed for full-wave rectifier operation in power supplies that have d-c output current requirements up to approximately 125 milliamperes.

**GENERAL**

**ELECTRICAL**
- Cathode—Coated Filament
- Filament Voltage, AC or DC: 5.0 Volts
- Filament Current: 2.0 Amperes

**MECHANICAL**
- Mounting Position—Vertical*
- Envelope—T-9, Glass
- Base—B5-10, Intermediate Shell Octal 5-Pin
- or B5-62, Short Intermediate Shell Octal 5-Pin

**MAXIMUM RATINGS**

**RECTIFIER SERVICE—DESIGN-CENTER VALUES†**
- Peak Inverse Plate Voltage: 1400 Volts
- AC Plate-Supply Voltage per Plate—See Rating Chart ‡
- Steady-State Peak Plate Current per Plate: 440 Milliamperes
- Transient Peak Plate Current per Plate, Maximum Duration 0.2 Second: 2.5 Amperes
- DC Output Current—See Rating Chart ‡

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**TERMINAL CONNECTIONS**
- Pin 1—No Connection
- Pin 2—Filament
- Pin 4—Plate Number 2
- Pin 6—Plate Number 1
- Pin 8—Filament

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**PHYSICAL DIMENSIONS**

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Supersedes ET-T2508, dated 6-50
CHARACTERISTICS AND TYPICAL OPERATION

FULL-WAVE RECTIFIER

<table>
<thead>
<tr>
<th>Capacitor-Input Filter</th>
<th>Choke-Input Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Plate-Supply Voltage per Plate, RMS</td>
<td>350</td>
</tr>
<tr>
<td>Filter Input Capacitor</td>
<td>20</td>
</tr>
<tr>
<td>Filter Input Choke</td>
<td>...</td>
</tr>
<tr>
<td>Total Plate-Supply Resistance per Plate</td>
<td>50</td>
</tr>
<tr>
<td>DC Output Current</td>
<td>125</td>
</tr>
<tr>
<td>DC Output Voltage at Filter Input</td>
<td>360</td>
</tr>
</tbody>
</table>

Tube Voltage Drop

\[ I_b = 125 \text{ Milliamperes DC per Plate} \]

50 Volts

* Horizontal operation is permitted if pins 2 and 4 are in a vertical plane.

† To simplify the application of the maximum ratings to circuit design, the electrical design-center maximum ratings are also presented in chart form as Rating Charts I, II, and III. Rating Chart I presents the maximum ratings for a-c plate supply voltage and d-c output current. Rating Chart II provides a convenient method for checking conformance with the maximum steady-state peak-plate-current rating. Rating Chart III offers a convenient method for checking conformance with the maximum transient peak-plate-current rating.

With a capacitor-input filter, the conditions of each of Rating Charts I, II, and III must be satisfied; with a choke-input filter, operation must be within the indicated boundary of Rating Chart I.

‡ The maximum ratings for a-c plate supply voltage and d-c output current are interrelated and are also dependent on whether a choke- or capacitor-input filter is employed. This relationship is shown in Rating Chart I. With a capacitor-input filter, the operating point of d-c output current and a-c supply voltage must fall within the curve FAEDG. With a choke-input filter, the operating point must fall within the curve FABCDG.

Note: The indicated values of a-c plate supply voltage shown throughout the data are measured without load.

![RATING CHART I](image-url)
**RATING CHART II**

For capacitor-input filter

The boundary curve is based on a steady-state peak plate current of 440 milliamperes maximum per plate.

Rectification efficiency = \( \frac{\bar{E}}{1.41 E_s} \)

Where \( \bar{E} \) = DC output voltage at filter input in volts

\( E_s \) = RMS supply voltage per plate in volts

Area of permissible operation

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**RATING CHART III**

For capacitor-input filter

The values of \( R_s \) are based on a transient (hot switching) peak plate current of 2.5 amperes maximum per plate.

If series inductance is present in the plate supply, it is permissible to use a smaller-than-indicated value of \( R_s \) providing the rated maximum value of transient peak plate current is never exceeded.
AVERAGE PLATE CHARACTERISTICS

E_f = RATED VALUE