1G3-GT
DIODE

DESCRIPTION AND RATING

FOR TV HIGH-VOLTAGE-RECTIFIER APPLICATIONS

The 1G3-GT is a filamentary diode designed for use in high-voltage low-current rectifier applications. It is especially suitable for use as the high-voltage rectifier in television receivers to supply power to the anode of television picture tubes.

GENERAL

ELECTRICAL
Cathode—Coated Filament
Filament Characteristics and Ratings
Filament Voltage, AC or DC* ... 1.25 ± 0.2 Volts
Filament Current† ... 0.2 Amperes
Direct Interelectrode Capacitances, approximate†:
Plate to All: p to (f+i.s.) ... 1.3 pf

MECHANICAL
Mounting Position—Any
Envelope—T-9, Glass
Base—B5-82, B5-85, B6-8, B6-60, B7-47, B7-166,
or B8-6, Octal 5, 6, 7, or 8-pin
Top Cap—C1-34, Small
Outline Drawing—EIA 9-53 or 9-54

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Inverse Plate Voltage</td>
<td>33000 Volts</td>
</tr>
<tr>
<td>DC Component</td>
<td>21000 Volts</td>
</tr>
<tr>
<td>Total DC and Peak</td>
<td>26000 Volts</td>
</tr>
<tr>
<td>Steady-State Peak Plate Current</td>
<td>35 Milliamperes</td>
</tr>
<tr>
<td>DC Output Current</td>
<td>1.1 Milliamperes</td>
</tr>
<tr>
<td>Frequency of Supply Voltage</td>
<td>100 Kilocycles</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.5 Kilocycles</td>
</tr>
<tr>
<td>Minimum</td>
<td></td>
</tr>
</tbody>
</table>

TERMINAL CONNECTIONS

Pin 1—Internal Connection—Do Not Use
Pin 2—Filament
Pin 3—Internal Connection—Do Not Use
Pin 4—No Connection
Pin 5—Internal Connection—Do Not Use
Pin 6—No Connection
Pin 7—Filament and Internal Shield
Pin 8—Internal Connection—Do Not Use
Cap—Plate

EIA 3C

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AVERAGE CHARACTERISTICS

Tube Voltage Drop, approximate $I_b = 7.0$ Milliamperes ................. 100 Volts

* The equipment designer should design the equipment so that filament voltage is centered at the specified bogey value, with filament supply variations restricted to maintain filament voltage within the specified tolerance.
† Filament current of a bogey tube at $E_f = 1.25$ volts.
‡ Without external shield.
§ Socket terminals 1, 3, 4, 5, 6, and 8 may be connected to terminal 7 or to a corona shield which is connected to terminal 7. Terminals 4 and 6 may be used as tie points for components at or near filament potential.
Φ For operation in a 525-line, 30-frame television system as described in “Standards of Good Engineering Practice Concerning Television Broadcast Stations,” Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

Note: The voltages employed in some television receivers and other high-voltage equipment are sufficiently high that high-voltage rectifier tubes may produce soft x-rays which can constitute a health hazard unless such tubes are adequately shielded. The need for this precaution should be considered in equipment design. Relatively simple shielding should prove adequate.

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

AVERAGE PLATE CHARACTERISTICS

$E_f = 1.25$ VOLTS

Plate Current in Milliamperes

Plate Voltage in Volts

RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky