DESCRIPTION AND RATING

The 7233 is a miniature, low-mu triode designed for service as a series regulator tube in power supplies. It is especially suited for use in compact electronic instruments.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC* .......... 6.3 ± 0.6 Volts
Heater Current† ...................... 1.0 Amperes
Direct Interelectrode Capacitances,
approximate‡
Grid to Plate: (g to p) ............... 14 μf
Input: g to (h+k) .................... 7.5 μf
Output: p to (h+k) ................... 2.2 μf

MECHANICAL
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

SERIES-REGULATOR SERVICE—ABSOLUTE-MAXIMUM
VALUES
Plate Voltage .......................... 330 Volts
Positive DC Grid Voltage .............. 0 Volts
Negative DC Grid Voltage ............. 135 Volts
Plate Dissipation ..................... 8.0 Watts
DC Cathode Current .................. 150 Milliamperes
Heater-Cathode Voltage
Heater Positive with Respect to
Cathode .............................. 300 Volts
Heater Negative with Respect to
Cathode ............................ 300 Volts
Grid-Circuit Resistance
With Fixed Bias§ ..................... 0.1 Megohms
With Cathode Bias ................... 1.0 Megohms
Cathode Resistor, minimum See Rating Chart, Page 2
Bulb Temperature at Hottest Point 200 C

PHYSICAL DIMENSIONS

TERMINAL CONNECTIONS
Pin 1—Plate
Pin 2—Grid
Pin 3—Plate
Pin 4—Heater
Pin 5—Heater
Pin 6—Plate
Pin 7—Grid
Pin 8—Cathode
Pin 9—Plate

BASE DIAGRAM

Supersedes ET-T1622 dated 6-60
CHARACTERISTICS AND TYPICAL OPERATION

**AVERAGE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>50 Volts</td>
</tr>
<tr>
<td>Plate Voltage</td>
<td>125 Volts</td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>22 Ohms</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>4.0</td>
</tr>
<tr>
<td>Plate Resistance, approximate</td>
<td>230 Ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>17500 Micromhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>120 Milliamperes</td>
</tr>
<tr>
<td>Grid Voltage, approximate</td>
<td>$-60$ Volts</td>
</tr>
<tr>
<td>$I_b = 1.0$ Milliamperes</td>
<td>$-60$ Volts</td>
</tr>
</tbody>
</table>

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† Heater current of a bogey tube at $E_f = 6.3$ volts.

‡ Without external shield.

§ The use of fixed bias is not recommended when two or more tubes are used in parallel.

Absolute-Maximum ratings are limiting values of operating and environmental conditions applicable to any 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 no allowance for equipment variations, environmental variations, and the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

The equipment manufacturer should design so that initially and throughout life no absolute-maximum value for the intended service is exceeded with any 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 the tube under consideration and of all other electron devices in the equipment.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

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**RATING CHART**

Rating Chart Applies When Two or More Tubes Are Operated in Parallel. A Separate Resistor Equal to or Greater Than the Minimum Value Given by the Chart Should Be Used in Series with Each Cathode.

**K-55611-TD119-1A**

November 9, 1961