PENTODE

COATED UNIPOTENTIAL CATHODE

HEATER
6.3 VOLTS 0.15 AMP.
AC OR DC
ANY MOUNTING POSITION

THE 6BU5 IS A HIGH VOLTAGE BEAM PENTODE DESIGNED PRIMARILY FOR USE AS A SHUNT VOLTAGE REGULATOR IN THE HIGH VOLTAGE POWER SUPPLY OF COLOR TELEVISION RECEIVERS. IT HAS LOW CURRENT REQUIREMENTS AND EXHIBITS A SHARP CUT-OFF CHARACTERISTIC.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

GRID #1 TO PLATE
INPUT
OUTPUT

WITH NO EXTERNAL SHIELD

0.024 µuf
3.0 µuf
0.9 µuf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

TV HIGH VOLTAGE REGULATOR SERVICE

HEATER VOLTAGE
6.3 VOLTS

MAXIMUM HEATER-CATHODE VOLTAGE:
HEATER POSITIVE WITH RESPECT TO CATHODE
DC
100 VOLTS
TOTAL DC AND PEAK
200 VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE
TOTAL DC AND PEAK
200 VOLTS

MAXIMUM PLATE VOLTAGE
20,000 VOLTS

MAXIMUM GRID #2 VOLTAGE
100 VOLTS

MAXIMUM POSITIVE DC GRID #1 VOLTAGE
0 VOLTS

MAXIMUM NEGATIVE DC GRID #1 VOLTAGE
50 VOLTS

MAXIMUM PLATE DISSIPATION
20 WATTS

MAXIMUM GRID #2 DISSIPATION
0.1 WATT

MAXIMUM CATHODE CURRENT
2.5 MA.

MAXIMUM GRID #1 CIRCUIT RESISTANCE
SEE RATING CHART

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

AVERAGE CHARACTERISTICS

HEATER VOLTAGE
6.3 VOLTS

HEATER CURRENT
0.15 AMP.

PLATE VOLTAGE
20,000 VOLTS

SUPPRESSOR VOLTAGE
0 VOLTS

GRID #2 VOLTAGE
70 VOLTS

GRID #1 VOLTAGE
-3.4 VOLTS

PLATE CURRENT
0.55 MA.

GRID #2 CURRENT
0.4 MA.

GRID #1 VOLTAGE (APPROX.) |l_b| = 30 MA.

CONTINUED ON FOLLOWING PAGE
### Typical Operating Conditions and Characteristics - Cont'd

**TV High-Voltage Regulator Service**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3</td>
<td>Volts</td>
</tr>
<tr>
<td>Heater Current</td>
<td>0.15</td>
<td>Aps</td>
</tr>
<tr>
<td>Unregulated DC Supply Voltage</td>
<td>2990</td>
<td>Volts</td>
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<tr>
<td>Equivalent Resistance of Unregulated Supply</td>
<td>8.5</td>
<td>Megas</td>
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<tr>
<td>Grid #2 Voltage</td>
<td>70</td>
<td>Volts</td>
</tr>
<tr>
<td>DC Reference Voltage</td>
<td>200</td>
<td>Volts</td>
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<tr>
<td>Suppressor Voltage</td>
<td>0</td>
<td>Volts</td>
</tr>
<tr>
<td>DC Load Current</td>
<td>0</td>
<td>1.0</td>
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<tr>
<td>DC Plate Current</td>
<td>1.0</td>
<td>0.05</td>
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<tr>
<td>DC Grid #2 Current</td>
<td>0.5</td>
<td>0.03</td>
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<tr>
<td>Regulated DC Output Voltage</td>
<td>20000</td>
<td>19600</td>
</tr>
</tbody>
</table>

*Note: High voltage operation of the 6BU5 can result in the production of X-rays which can constitute a health hazard unless these tubes are adequately shielded. The need for this precaution should be considered in equipment design. Relatively simple shielding should prove adequate.*
6BU5

$E_f = 6.3$ Volts
$E_b = 20000$ Volts

**Graph 1:**
- **X-axis:** Grid #1 Volts
- **Y-axis:** Plate Current - Milliamperes

**Graph 2:**
- **X-axis:** Grid #1 Volts
- **Y-axis:** Grid #2 Current - Milliamperes