
DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

PENTODE SECTION:
GRID #1 TO PLATE 0.06 μuf
INPUT 9.0 μuf
OUTPUT 4.4 μuf

TRIODE SECTION:
GRID TO PLATE 4.4 μuf
INPUT 2.2 μuf
OUTPUT 0.38 μuf

PENTODE GRID #1 TO TRIODE PLATE (MAX.) 0.005 μuf
TRIODE GRID TO PENTODE PLATE (MAX.) 0.020 μuf
PENTODE PLATE TO TRIODE PLATE (MAX.) 0.17 μuf

RATINGS
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

<table>
<thead>
<tr>
<th></th>
<th>PENTODE SECTION</th>
<th>TRIODE SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER VOLTAGE</td>
<td>6.3 ± 10%</td>
<td>6.3 ± 10%</td>
</tr>
<tr>
<td>MAXIMUM PLATE VOLTAGE</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>MAXIMUM SCREEN-SUPPLY VOLTAGE</td>
<td>330</td>
<td>---</td>
</tr>
<tr>
<td>MAXIMUM SCREEN VOLTAGE</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>MAXIMUM POSITIVE DC GRID #1 VOLTAGE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MAXIMUM PLATE DISSIPATION</td>
<td>5.0</td>
<td>2.0</td>
</tr>
<tr>
<td>MAXIMUM SCREEN DISSIPATION</td>
<td>1.1</td>
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</tr>
</tbody>
</table>

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## Ratings - Cont'd

Interpreted according to Design Center System

### Maximum Heater-Cathode Voltage:
- **Heater Positive with Respect to Cathode**
  - DC Component: 100 Volts
  - Total DC and Peak: 200 Volts
- **Heater Negative with Respect to Cathode**
  - Total DC and Peak: 200 Volts

### Maximum Grid #1 Circuit Resistance
- With Fixed Bias: 0.25 Megohms
- With Cathode Bias: 0.5 Megohms
- Heater Warm-Up Time (Approx.)*: 11.0 Seconds

## Typical Operating Conditions and Characteristics
**Class A1 Amplifier**

<table>
<thead>
<tr>
<th></th>
<th>Pentode Section</th>
<th>Triode Section</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heater Voltage</strong></td>
<td>6.3±10%</td>
<td>6.3±10%</td>
</tr>
<tr>
<td><strong>Heater Current</strong></td>
<td>0.75 AMP</td>
<td>0.75 AMP</td>
</tr>
<tr>
<td><strong>Plate Voltage</strong></td>
<td>40</td>
<td>200</td>
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<tr>
<td><strong>Screen Voltage</strong></td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td><strong>Grid #1 Voltage</strong></td>
<td>0V</td>
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</tr>
<tr>
<td><strong>Cathode-Bias Resistor</strong></td>
<td>---</td>
<td>68</td>
</tr>
<tr>
<td><strong>Amplification Factor</strong></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Plate Resistance (Approx.)</strong></td>
<td>---</td>
<td>70 000</td>
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<tr>
<td><strong>Transconductance</strong></td>
<td>---</td>
<td>10 000</td>
</tr>
<tr>
<td><strong>Plate Current</strong></td>
<td>40</td>
<td>24</td>
</tr>
<tr>
<td><strong>Screen Current</strong></td>
<td>15.5</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Grid #1 Voltage (Approx.)</strong></td>
<td>---</td>
<td>-8.5</td>
</tr>
</tbody>
</table>

*Ib = 100µA.*

**Design-Maximum Ratings are the Limiting Values Expressed with Respect to Bogie Tubes at Which Satisfactory Tube Life Can Be Expected to Occur. To Obtain Satisfactory Circuit Performance, Therefore, the Equipment Designer Must Establish the Circuit Design So That No Design-Maximum Value Is Exceeded with a Bogie Tube Under the Worst Probable Operating Conditions with Respect to Supply-Voltage Variation, Equipment Component Variation, Equipment Control Adjustment, Load Variation, and Environmental Conditions.**
TENTATIVE DATA

6CX8
PENTODE SECTION
$E_f = 6.3$ Volts
$E_{C4} = 0$ Volts

Plate Current ($I_b$) in Milliamperes

Screen Current ($I_{C2}$) in Milliamperes

Plate Currents for $E_f = 6.3$ Volts and $E_{C2} = 125$ Volts

Plate (1b) or Screen ($I_{C2}$) Current - Milliamperes

Plate Volts

TUNG-SOL ELECTRIC INC. ELECTRON TUBE DIVISION BLOOMFIELD, NEW JERSEY, U.S.A. SEPTEMBER 2, 1957 PLATE #5063
6CX8
PENTODE SECTION
$E_f = 6.3$ Volts
$E_b = 200$ Volts

TRANSCONDUCTANCE - MICROMOS

GRID #1 VOLTS

40
30
20
10
0
-10.0 -7.5 -5.0 -2.5 0

PLATE CURRENT - MILLIAMPERES

6CX8
PENTODE SECTION
$E_f = 6.3$ Volts
$E_b = 200$ Volts

GRID #1 VOLTS

-10.0 -7.5 -5.0 -2.5 0
6CX8
PENTODE SECTION

\[ E_f = 6.3 \text{ Volts} \]
\[ E_b = 200 \text{ Volts} \]