TRIODE-PENTODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HEATER
6.3 VOLTS 0.45 AMP.
AC OR DC.
ANY MOUNTING POSITION


DIRECT INTERELECTRODE CAPACITANCES - APPROX.
WITHOUT EXTERNAL SHIELD

TRIODE:
GRID TO PLATE: G TO P
1.6 µµµf
INPUT: G TO (H + K)
1.9 µµµf
OUTPUT: P TO (H + K)
0.26 µµµf

PENTODE:
GRID #4 TO PLATE: G4 TO P (MAX.)
0.020 µµµf
INPUT: G4 TO (H+K+G2+G3+I.S.)
6.0 µµµf
OUTPUT: P TO (H+K+G2+G3+I.S.)
2.8 µµµf

COUPLING:
PENTODE PLATE TO TRIODE PLATE (MAX.)
0.12 µµµf
PENTODE GRID #4 TO TRIODE PLATE (MAX.)
0.15 µµµf
PENTODE PLATE TO TRIODE GRID (MAX.)
0.012 µµµf

RATINGS
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE

TRIODE 6.3 VOLS
PENTODE 6.3 VOLS

MAXIMUM HEATER-CATHODE VOLTAGE

HEATER NEGATIVE WITH RESPECT TO CATHODE
DC AND PEAK 200 VOLS
DC AND PEAK
HEATER POSITIVE WITH RESPECT TO CATHODE
DC 100 VOLS
DC AND PEAK
MAXIMUM PLATE VOLTAGE
DC AND PEAK
MAXIMUM GRID #2 SUPPLY VOLTAGE
MAXIMUM GRID #2 VOLTAGE
SEE RATING CHART

CONTINUED ON FOLLOWING PAGE
### TUNG-SOL

**RATINGS — CONT'D**

Interpreted according to Design Center System

<table>
<thead>
<tr>
<th></th>
<th>TRIODE</th>
<th>PENTODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3 V</td>
<td>6.3 V</td>
</tr>
<tr>
<td>Maximum Positive Grid #1 Voltage</td>
<td>0 V</td>
<td>0 V</td>
</tr>
<tr>
<td>Maximum Plate Dissipation</td>
<td>2.75 W</td>
<td>2.5 W</td>
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<tr>
<td>Maximum Grid #2 Dissipation</td>
<td>0.55 W</td>
<td></td>
</tr>
<tr>
<td>Maximum Grid #1 Circuit Resistance</td>
<td>Fixed Bias</td>
<td>0.5 M</td>
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<tr>
<td></td>
<td>Self Bias</td>
<td>1.0 M</td>
</tr>
<tr>
<td>Heater Warm-Up Time*</td>
<td></td>
<td>11.0 S</td>
</tr>
</tbody>
</table>

### TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

**CLASS A₁ AMPLIFIER**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3 V</td>
<td>6.3 V</td>
</tr>
<tr>
<td>Heater Current</td>
<td>0.45 A</td>
<td>0.45 A</td>
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<tr>
<td>Plate Voltage</td>
<td>125 V</td>
<td>125 V</td>
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<tr>
<td>Grid #2 Voltage</td>
<td>-2 V</td>
<td>0 V</td>
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<tr>
<td>Cathode Bias Resistor</td>
<td>12 MΩ</td>
<td>13 MΩ</td>
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<tr>
<td>Plate Current</td>
<td>22 A</td>
<td>3 M</td>
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<tr>
<td>Grid #2 Current</td>
<td>4.000</td>
<td>7.700</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>5.000</td>
<td>500.000</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>4.000</td>
<td>5.000</td>
</tr>
<tr>
<td>Grid #1 Voltage (Approx.) For (I_b = 10 \mu A)</td>
<td>-13 V</td>
<td>-6.5 V</td>
</tr>
<tr>
<td>Grid #1 Voltage (Approx.) For (I_b = 20 \mu A)</td>
<td>-13 V</td>
<td>-6.5 V</td>
</tr>
<tr>
<td>Plate Current With (E_{c1} = -3 \ V_{dc}, R_k = 0)</td>
<td>2.8 A</td>
<td>2.8 A</td>
</tr>
</tbody>
</table>

*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.

*Heater Warm-Up Time is defined as the time required for the voltage across the heater to reach 80% of its rated voltage after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance of value 3 times the nominal heater operating resistance.*