**PENTODE**

**MINIATURE TYPE**

**COATED UNIPOTENTIAL CATHODE**

**HEATER**

12.6 VOLTS 0.15 AMP.

AC OR DC

ANY MOUNTING POSITION

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**THE 12BZ6 IS A HIGH TRANSCONTACTANCE, SEMI-REMOTE CUT-OFF, PENTODE AMPLIFIER. IT IS DESIGNED FOR SERVICE AS AN AUTOMATIC GAIN CONTROLLED IF AMPLIFIER IN 150 MA. SERIES HEATER OPERATED TELEVISION RECEIVERS. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. WITH THE EXCEPTION OF HEATER RATINGS, ITS CHARACTERISTICS ARE IDENTICAL TO THE 6BZ6.**

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**DIRECT INTERELECTRODE CAPACITANCES**

<table>
<thead>
<tr>
<th></th>
<th>WITH SHIELD A</th>
<th>WITHOUT SHIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRID TO PLATE: G₂ TO P (MAX.)</td>
<td>0.015</td>
<td>0.025 pf</td>
</tr>
<tr>
<td>INPUT: G₂ TO (H+K+G₂+G₃+IS)</td>
<td>7.0</td>
<td>7.0 pf</td>
</tr>
<tr>
<td>OUTPUT: P TO (H+K+G₂+G₃+IS)</td>
<td>3.0</td>
<td>2.0 pf</td>
</tr>
</tbody>
</table>

A. EXTERNAL SHIELD #516 CONNECTED TO CATHODE AT SOCKET.

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**RATINGS B**

INTERPRETED ACCORDING TO DESIGN CENTER VALUES

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER VOLTAGE</td>
<td>12.6 VOLTS</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM HEATER CATHODE VOLTAGE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEATER NEGATIVE WITH RESPECT TO CATHODE</td>
<td></td>
<td>200 VOLTS</td>
</tr>
<tr>
<td>TOTAL DC AND PEAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEATER POSITIVE WITH RESPECT TO CATHODE</td>
<td></td>
<td>100 VOLTS</td>
</tr>
<tr>
<td>DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL DC AND PEAK</td>
<td></td>
<td>200 VOLTS</td>
</tr>
<tr>
<td>MAXIMUM PLATE VOLTAGE</td>
<td>330 VOLTS</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM GRID #2 VOLTAGE</td>
<td>SEE RATING CURVE</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM PLATE DISSIPATION</td>
<td>2.3 WATTS</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM GRID #2 DISSIPATION</td>
<td>0.55 WATT</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM GRID #2 SUPPLY VOLTAGE</td>
<td>330 VOLTS</td>
<td></td>
</tr>
<tr>
<td>MAXIMUM POSITIVE DC GRID #2 VOLTAGE</td>
<td>0 VOLTS</td>
<td></td>
</tr>
</tbody>
</table>

→ INDICATES A CHANGE.
### TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

**CLASS A1 AMPLIFIER**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLATE VOLTAGE</strong></td>
<td>125 VOLTS</td>
</tr>
<tr>
<td><strong>GRID #2 VOLTAGE</strong></td>
<td>125 VOLTS</td>
</tr>
<tr>
<td><strong>GRID #3 VOLTAGE</strong></td>
<td>PIN #7 CONNECTED TO PIN #2 AT SOCKET</td>
</tr>
<tr>
<td><strong>CATHODE BIAS RESISTOR</strong></td>
<td>56 OHMS</td>
</tr>
<tr>
<td><strong>PLATE RESISTANCE (APPROX.)</strong></td>
<td>0.26 MEGOHM</td>
</tr>
<tr>
<td><strong>TRANSCONDUCTANCE</strong></td>
<td>8 000 ( \mu )Mhos</td>
</tr>
<tr>
<td><strong>PLATE CURRENT</strong></td>
<td>14 MA</td>
</tr>
<tr>
<td><strong>GRID #2 CURRENT</strong></td>
<td>3.6 MA</td>
</tr>
<tr>
<td><strong>GRID #1 VOLTAGE (APPROX.)</strong></td>
<td>-19 VOLTS</td>
</tr>
<tr>
<td><strong>TRANSCONDUCTANCE</strong> ( \text{Ec1=-4.5 V., Rk=0} )</td>
<td>700 ( \mu )Mhos</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 in the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life 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.*
**Grid #2 Rating Curve**

Grid #2 Voltage Expressed as Percent of Maximum Grid #2 Supply Voltage Rating

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**I2BZ6**

- $E_f = 12.6$ Volts
- $E_{C2} = 150$ Volts

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Plate Milliamperes

Plate Volts

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TUNG-SOL ELECTRIC INC. ELECTRON TUBE DIVISION BLOOMFIELD, NEW JERSEY, U.S.A. JULY 1, 1959 PLATE 45562
12BZ6

$E_F = 12.6$ Volts

$E_b = 200$ Volts

$E_{C2} = 150$ Volts
12BZ6

$E_f = 12.6$ Volts

$E_b = 200$ Volts

$E_{c2} = 150$ Volts