6DZ7
TWIN PENTODE
FOR AF POWER AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6DZ7 is a twin power pentode designed for use in the output stage of high-fidelity audio amplifiers. The incorporation of two pentode sections in one envelope makes it especially suitable for compact stereo systems.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC ............................................ 6.3 Volts
Heater Current .......................................................... 1.52 Amperes

<table>
<thead>
<tr>
<th>Section</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Direct Interelectrode Capacitances, approximate*</td>
<td></td>
</tr>
<tr>
<td>Grid-Number 1 to Plate .................................. 0.7</td>
<td>0.5 μF</td>
</tr>
<tr>
<td>Input ....................................................... 11</td>
<td>11 μF</td>
</tr>
<tr>
<td>Output ....................................................... 5.0</td>
<td>5.0 μF</td>
</tr>
<tr>
<td>Grid-Number 1, Section 1 to Grid-Number 1, Section 2 ........ 0.03 μF</td>
<td></td>
</tr>
<tr>
<td>Plate, Section 1 to Plate, Section 2 ..................... 1.5 μF</td>
<td></td>
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</tbody>
</table>

MECHANICAL
Mounting Position—Any
Envelope—T-12, Glass
Base—B8-110, Short Medium-Shield Octal 8-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES, EACH SECTION UNLESS OTHERWISE INDICATED

Allowable Heater Voltage ............................................. 5.7 to 6.9 Volts
Plate Voltage .......................................................... 440 Volts
Screen Voltage .......................................................... 300 Volts
Plate Dissipation ..................................................... 13.2 Watts
Screen Dissipation, Total ........................................... 4.0 Watts
Heater-Cathode Voltage
  DC Component ....................................................... 100 Volts
  Total DC and Peak ................................................ 200 Volts
Heater Negative with Respect to Cathode
  DC Component ....................................................... 200 Volts
  Total DC and Peak ................................................ 200 Volts
Grid-Number 1 Circuit Resistance ................................ 0.027 Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey 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, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

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 the patents 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.

TERMINAL CONNECTIONS

Pin 1—Grid Number 1 (Section 2)
Pin 2—Heater
Pin 3—Plate (Section 2)
Pin 4—Grid Number 2 (Both Sections)
Pin 5—Grid Number 1 (Section 1)
Pin 6—Plate (Section 1)
Pin 7—Heater
Pin 8—Cathode and Grid Number 3 (Both Sections)

PHYSICAL DIMENSIONS

EIA 12–14
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS, EACH SECTION

Plate Voltage .................................................. 250 Volts
Screen Voltage .................................................. 250 Volts
Grid-Number 1 Voltage ........................................ -7.3 Volts
Plate Resistance, approximate .................................. 38000 Ohms
Transconductance ............................................ 11300 Micromhos
Plate Current .................................................. 0.48 Milliamperes
Screen Current .................................................. 0.55 Milliamperes

PUSH-PULL CLASS AB1 AMPLIFIER, SINGLE TUBE

<table>
<thead>
<tr>
<th></th>
<th>Fixed Bias</th>
<th>Cathode Bias</th>
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</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>400</td>
<td>300</td>
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<tr>
<td>Screen Voltage</td>
<td>250</td>
<td>250</td>
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<tr>
<td>Grid-Number 1 Voltage</td>
<td>-11</td>
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<tr>
<td>Cathode-Bias Resistor</td>
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<td>120</td>
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<tr>
<td>Peak AF Grid-to-Grid Voltage</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>40</td>
<td>66</td>
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<tr>
<td>Maximum-Signal Plate Current</td>
<td>100</td>
<td>80</td>
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<tr>
<td>Zero-Signal Screen Current</td>
<td>4.0</td>
<td>7.0</td>
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<tr>
<td>Maximum-Signal Screen Current</td>
<td>13</td>
<td>15</td>
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<tr>
<td>Effective Load Resistance, Plate-to-Plate</td>
<td>9000</td>
<td>9000</td>
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<tr>
<td>Total Harmonic Distortion</td>
<td>2.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Maximum-Signal Power Output</td>
<td>18</td>
<td>12</td>
</tr>
</tbody>
</table>

* Without external shield.

AVERAGE PLATE CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]
\[ E_{c2} = 250 \text{ VOLTTS} \]

\[ I_b \oplus E_{c1} = 0 \text{ VOLTS} \]
\[ I_{c2} \oplus E_{c1} = 0 \text{ VOLTS} \]

PLATE CURRENT (Ib) IN MILLIAMPERES

PLATE VOLTAGE IN VOLTS

SCREEN CURRENT (Ic2) IN MILLIAMPERES

APRIL 15, 1959

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