6BL7-GTA
TWIN TRIODE
FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6BL7-GTA is a twin triode especially designed for use as a combined vertical deflection amplifier and vertical oscillator in television receivers. The 6BL7-GTA is interchangeable with the 6BL7-GT but differs from it in having an improved section 1 for increased life as an oscillator, and controlled zero-bias plate current in both sections.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC ........................................ 6.3 Volts
Heater Current ....................................................... 1.5 Amperes
Direct Inter-electrode Capacitances, approximate*

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Section 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid to Plate</td>
<td>6.0</td>
</tr>
<tr>
<td>Input</td>
<td>4.2</td>
</tr>
<tr>
<td>Output</td>
<td>0.9</td>
</tr>
</tbody>
</table>

MECHANICAL
Mounting Position—Any
Envelope—T-9, Glass
Base—B8-58, Short Intermediate-Shell Octal 8-Pin

MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>DESIGN-CENTER VALUES UNLESS OTHERWISE INDICATED, EACH SECTION</th>
<th>Vertical Oscillator Service††</th>
<th>Vertical-Deflection Amplifier††</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage ..................................................</td>
<td>500</td>
<td>500 Volts</td>
</tr>
<tr>
<td>Peak Positive Plate Voltage ....................................</td>
<td>2000§ Volts</td>
<td></td>
</tr>
<tr>
<td>Peak Negative Grid Voltage ....................................</td>
<td>400</td>
<td>250 Volts</td>
</tr>
<tr>
<td>Plate Dissipation, Each Plate ................................</td>
<td>10 Δ Watts</td>
<td></td>
</tr>
<tr>
<td>Total Plate Dissipation, Both Plates ........................</td>
<td>12 Watts</td>
<td></td>
</tr>
<tr>
<td>DC Cathode Current ...............................................</td>
<td>60</td>
<td>60 Milliamperes</td>
</tr>
<tr>
<td>Peak Cathode Current .............................................</td>
<td>210</td>
<td>210 Milliamperes</td>
</tr>
<tr>
<td>Heater-Cathode Voltage ...........................................</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater Positive with Respect to Cathode ........................</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Component ....................................................</td>
<td>100</td>
<td>100 Volts</td>
</tr>
<tr>
<td>Total DC and Peak ................................................</td>
<td>200</td>
<td>200 Volts</td>
</tr>
<tr>
<td>Heater Negative with Respect to Cathode ........................</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total DC and Peak ................................................</td>
<td>200</td>
<td>200 Volts</td>
</tr>
</tbody>
</table>

PHYSICAL DIMENSIONS

EIA 9-41
CHARACTERISTICS AND TYPICAL OPERATION

**AVERAGE CHARACTERISTICS, EACH SECTION**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>150</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Grid Voltage</td>
<td>0</td>
<td>-17</td>
<td>-9.0</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Plate Resistance, approximate</td>
<td></td>
<td></td>
<td>2150</td>
</tr>
<tr>
<td>Transconductance</td>
<td></td>
<td></td>
<td>7000</td>
</tr>
<tr>
<td>Plate Current</td>
<td>65</td>
<td>4.0</td>
<td>40</td>
</tr>
<tr>
<td>Grid Voltage, approximate</td>
<td></td>
<td></td>
<td>-23</td>
</tr>
<tr>
<td>$I_b = 50$ Microamperes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Without external shield.

† Section 1 is recommended for vertical oscillator service.

‡ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

§ Absolute-Maximum value.

△ In stages operating with grid-leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.