N.V. PHILIPS' GLOEILAMPENFABRIEKEN EINDHOVEN HOLLAND

TUBE TYPE 12S7

The 12S7 is a single diode, remote cut-off R.F. pentode.

PHYSICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathode</td>
<td>Coated unipotential</td>
</tr>
<tr>
<td>Base</td>
<td>F8-30</td>
</tr>
<tr>
<td>Bulb</td>
<td>Glass</td>
</tr>
<tr>
<td>Maximum overall length</td>
<td>2-3/8&quot; (60mm)</td>
</tr>
<tr>
<td>Maximum seated height</td>
<td>2-1/16&quot; (53mm)</td>
</tr>
<tr>
<td>Maximum diameter</td>
<td>7/8&quot; (22mm)</td>
</tr>
<tr>
<td>Mounting position</td>
<td>Any</td>
</tr>
</tbody>
</table>

BASING CONNECTIONS 8GX

<table>
<thead>
<tr>
<th>Pin 1</th>
<th>Pin 5</th>
<th>Grid No. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin 2</td>
<td>Pin 6</td>
<td>Grid No. 1</td>
</tr>
<tr>
<td>Pentode plate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin 3</td>
<td>Pin 7</td>
<td>Cathode, Internal Shield</td>
</tr>
<tr>
<td>Diode plate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin 4</td>
<td>Pin 8</td>
<td>Heater</td>
</tr>
<tr>
<td>Grid No. 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GENERAL ELECTRICAL DATA

- Heater voltage: 12.6 volts
- Heater current: 0.1 amps

ELECTRODE CAPACITANCES

- Diode plate to grid No. 1: <0.0015 μF
- Diode plate to Pentode plate: <0.15 μF

Pentode Section

- Plate to Grid No. 1: <0.002 μF
- Grid No. 1 to heater: <0.05 μF
- Input: 4.5 μF
- Output: 5.1 μF

Diode Section

- Plate to cathode: 3.8 μF
- Plate to heater: <0.02 μF

CHARACTERISTICS

- Plate voltage: 200 volts
- Grid No. 2 voltage: 85 volts
- Plate current: 5.0 mA
- Grid No. 2 current: 1.5 mA
- Grid No. 1 voltage: -2.0 volts
- Transconductance: 2,000 μmhos
- Plate resistance: 1 megohm
- Grid No. 1 voltage for transconductance of 20 μmhos: -34 volts
- Amplification factor of Grid No. 2 with respect to Grid No. 1: 18
MAXIMUM RATINGS (Design Centre Values)

Pentode Section

Plate supply voltage 550 volts
Plate voltage 250 volts
Plate dissipation 2 watts
Grid No. 2 supply voltage 550 volts
Grid No. 2 voltage
  (plate current < 2.5 ma) 250 volts
Grid No. 2 voltage
  (plate current = 5.0 ma) 125 volts
Grid No. 2 dissipation 0.3 watts
Cathode current 10 ma
Grid No. 1 circuit resistance 3 megohms
Grid No. 3 circuit resistance
  (for peak voltage on Grid No. 3
  not exceeding 10 volts positive) 3 megohms
Voltage between heater and cathode 150 volts
External resistance between heater
  and cathode 20,000 ohms

Diode Section

Peak Plate voltage 200 volts
Plate current 0.8 ma
Plate voltage = 100-200 volts
Grid No. 3 voltage = 0 volt

Supply voltage = 170 volts
Grid No. 2 series resistor = 56 000 ohms

= 100 volts
= 56 000 ohms

Grid No. 1 bias (volts)
Plate voltage = 100 - 200 volts
Grid No. 3 voltage = 0 volt

Supply voltage = 170 volts
Grid No. 2 series resistor = 56 000 ohms

= 100 volts
= 56 000 ohms

Grid No. 1 bias (volts)