ADVANCE DATA

MECHANICAL DATA

Bulb: T-6½
Base: E9-1, Small Button, 9-Pin
Outline: 6-3
Basing: 9A
Cathode: Coated Unipotential
Mounting Position: Preferred—upright, or with plate majors in a vertical position
Permissible—Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage ± 5% (Series/Parallel) 12.6/6.3 Volts
Heater Current (Series/Parallel) 300/600 mA
Heater Power (Series/Parallel) 3.8/3.8 Watts
Heater-Cathode Voltage (Design Center Values)
  Heater Negative with Respect to Cathode
    Total DC and Peak 200 Volts Max.
  Heater Positive with Respect to Cathode
    DC 100 Volts Max.
    Total DC and Peak 200 Volts Max.

DIRECT INTERELECTRODE CAPACITANCES (Each Section) Unshielded

Grid to Plate (g to p) 3.4 μuf
Input: (g to h x k) 3.6 μuf
Output: (p to h x k) 0.50 μuf
Grid No. 1 to Grid No. 2 (g1 to g2) 0.30 μuf Max.
Plate No. 1 to Plate No. 2 (p1 to p2) 1.40 μuf Max.
Heater to Cathode (h to k) 5.0 μuf

RATINGS (Design Center Values—Except as Noted)

Plate Voltage (dc) 300 Volts Max.
Peak Plate Voltage (Abs., Max.)² 1000 Volts
Negative DC Grid Voltage 75 Volts Max.
Positive DC Grid Voltage 3.5 Volts Max.
Peak Negative Grid Voltage 400 Volts Max.
Peak Positive Grid Voltage² 13 Volts Max.
Average Positive Grid Current 5 MA Max.
Peak Positive Grid Current² 100 MA Max.
Average Cathode Current 25 MA Max.
Peak Cathode Current² 300 MA Max.
Plate Dissipation/Plate 3.5 Watts Max.
Total Plate Dissipation 7.0 Watts Max.
Bulb Temperature 120 °C Max.
Grid Circuit Resistance
  Fixed Bias 0.1 Megohm Max.
  Cathode Bias 0.5 Megohm Max.

QUICK REFERENCE DATA

The Sylvania Type 6913 is a miniature T-6½, twin triode designed for use in high speed digital computers. Each section of the 6913 features a high zero bias plate current, sharp cutoff and a separate cathode connection.
CHARACTERISTICS (Each Section)$^3$

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>12.6 Volts</td>
</tr>
<tr>
<td>Plate Voltage</td>
<td>150 Volts</td>
</tr>
<tr>
<td>Grid Voltage</td>
<td>-5.0 Volts</td>
</tr>
<tr>
<td>Plate Current</td>
<td>11.0 mA</td>
</tr>
<tr>
<td>Transconductance</td>
<td>4600 μhmhos</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>18</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>3900 Ohms</td>
</tr>
<tr>
<td>Grid Voltage for Ib = 100 μA$^4$</td>
<td>-11 Volts (Approx.)</td>
</tr>
<tr>
<td>Grid Voltage for Ib = 1.0 mA$^5$</td>
<td>-12 Volts (Approx.)</td>
</tr>
</tbody>
</table>

Interelectrode Resistance (Each Section)$^3$

<table>
<thead>
<tr>
<th>Resistance Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate to All (Min.)</td>
<td>50 Megohms</td>
</tr>
<tr>
<td>Grid to All (Min.)</td>
<td>50 Megohms</td>
</tr>
</tbody>
</table>

**Time Dependant Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Number of Heater Cycles</td>
<td>2000</td>
</tr>
<tr>
<td>Regulation of Heater Supply (Max.)</td>
<td>4 %</td>
</tr>
<tr>
<td>Heater Voltage (AC)</td>
<td>7.0 Volts</td>
</tr>
<tr>
<td>Heater Cathode Voltage (AC)</td>
<td>140 Volts</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Heater Positive is not recommended for reliable operation.

2. At 8% duty cycle, 1 megacycle repetition rate.

3. Section not under test shall be grounded.

4. With plate voltage of 150 volts.

5. With plate voltage of 200 volts.

6. With applied dc voltage of 300 volts and heater voltage of 6.3 volts. Cathode Positive so that no cathode emission occurs.
AVERAGE CHARACTERISTICS

![Graph showing current versus plate voltage with various current levels and a note indicating $E_f = 6.3$ volts.]
AVERAGE PLATE CHARACTERISTICS

Each Section

$E_1 = 6.3$ VOLTS