SYLVANIA TYPE 6BN8 8BN8

MECHANICAL DATA

Bulb: T-5½
Base: E9-1, Small Button 9-Pin
Outline: 6-3
Basing: 9ER
Cathode: Coated Unipotential
Mounting Position: Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>6BN8</th>
<th>8BN8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3</td>
<td>8.4</td>
</tr>
<tr>
<td>Heater Current</td>
<td>600</td>
<td>450</td>
</tr>
<tr>
<td>Heater Warm-up Time</td>
<td>11</td>
<td>11 Seconds</td>
</tr>
<tr>
<td>Heater-Cathode Voltage (Triode and Diodes Design Center Values)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater Negative with respect to Cathode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total D C and Peak</td>
<td>200</td>
<td>200 Volts Max.</td>
</tr>
<tr>
<td>Heater Positive with respect to Cathode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D C</td>
<td>100</td>
<td>100 Volts Max.</td>
</tr>
<tr>
<td>Total D C and Peak</td>
<td>200</td>
<td>200 Volts Max.</td>
</tr>
</tbody>
</table>

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

<table>
<thead>
<tr>
<th>Triode</th>
<th>Grid to Plate</th>
<th>2.5 μF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input: g to (h + Tk)</td>
<td>3.6 μF</td>
<td></td>
</tr>
<tr>
<td>Output: p to (h + Tk)</td>
<td>0.25 μF</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diodes</th>
<th>No. 1 Diode Plate to No. 1 Diode Cathode + Heater</th>
<th>1.9 μF</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 2 Diode Plate to No. 2 Diode Cathode + Heater</td>
<td>4.8 μF</td>
<td></td>
</tr>
<tr>
<td>No. 1 Diode Cathode to No. 1 Diode Plate + Heater</td>
<td>4.8 μF</td>
<td></td>
</tr>
<tr>
<td>No. 2 Diode Cathode to No. 2 Diode Plate + Heater</td>
<td>4.8 μF</td>
<td></td>
</tr>
</tbody>
</table>

SYLVANIA ELECTRONIC TUBES
DIRECT INTERELECTRODE CAPACITANCES (Unshielded) (Cont'd)

Coupling
No. 1 Diode Plate to Triode Grid ........................................... 0.060 µF Max.
No. 2 Diode Plate to Triode Grid ........................................... 0.10 µF Max.
No. 1 Diode Cathode-to-All: 1Dk to (h + Tk + 2Dk + Tp + 1Dp + Tg + 2Dp) ... 5.0 µF
No. 2 Diode Cathode-to-All: 2Dk to (h + Tk + 1Dk + Tp + 1Dp + 2Dp + Tg) ... 5.0 µF
No. 1 Diode Plate to No. 2 Diode Plate ................................... 0.070 µF Max.
No. 1 Diode Plate to All: 1Dp to (h + Tk + 1Dk + 2Dk + Tp + 2Dp + Tg) ... 3.0 µF
No. 2 Diode Plate to All: 2Dp to (h + Tk + 1Dk + 2Dk + Tp + 1Dp + Tg) ... 3.0 µF

MAXIMUM RATINGS (Design Center Values)

Plate Voltage ................................................................. Triode Section
Positive D C Grid Voltage ................................................ 300 Volts
Plate Dissipation ......................................................... 0 Volts
Grid Circuit Resistance .................................................. 1.5 Watts

Peak Plate Current (Each Plate) ........................................ Diode Section
D C Current (Each Plate) ................................................ 1.0 Megohm
54 Ma
9 Ma

CHARACTERISTICS AND TYPICAL OPERATION

Triode Section
Class A, Amplifier ....................................................... 100
Plate Voltage ......................................................... 250 Volts
Grid Voltage .......................................................... -3 Volts
Plate Current .......................................................... 1.5 Ma
Transconductance ....................................................... 3500
Amplification Factor .................................................... 75
Plate Resistance (approx.) .............................................. 21,000 Ohms
Grid Voltage (approx.) for lb = 10 µA ................................ -2.5
Average Current Each Plate at 10 Volts D C ................................ 28,000 Ohms
Voltage Drop Each Section at lb = 9 Ma D C ................................ -5.5 Volts

Diode Section
50 Ma
2.6 Volts

NOTE:
1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times rated heater voltage divided by rated heater current.

2. Test conditions only.

APPLICATION DATA
The Sylvania Type 6BN8 is a miniature, high mu triode, double diode intended for application in color and monochrome television receivers. The tube features separate cathode connections for each section and controlled heater warm-up time to insure dependable operation in series string receivers.

The 8BN8 is identical to the 6BN8 except for heater characteristics.

AVERAGE TRANSFER CHARACTERISTICS

SYLVANIA ELECTRONIC TUBES
AVERAGE PLATE CHARACTERISTICS

$E_f = \text{RATED VALUE}$

CURRENT IN MA

PLATE VOLTAGE

SYLVANIA ELECTRONIC TUBES