6KA8
8KA8

High Mu Triode and Sharp Cutoff Pentode

Construction ................ Miniature T-6½
Base ................ Button 9 Pin, E9-1
Basing ...................... 0.9PV
Outline ..................... 6-3
Maximum Diameter ........... 0.875 In.
Maximum Seated Height ...... 2.375 In.
Maximum Overall Height ...... 2.625 In.

ELECTRICAL DATA
HEATER OPERATION

Heater Voltage ................ 8.4 Volts
Heater Current ................. 450 Ma
Heater Warm-up Time ......... 11 Seconds

Maximum Heater-Cathode Voltage
Heater Negative with Respect to Cathode
Total DC and Peak ................ 200 Volts
Heater Positive with Respect to Cathode
DC .................................. 100 Volts
Total DC and Peak ................ 200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Triode Section
Grid to Plate .................. 2.2 Pf
Input: g to (k + h + is) .... 2.8 Pf
Output: g to (k + h + is) .... 2.2 Pf

Pentode Section
Grid No. 1 to Plate (Max.) ...... 0.1 Pf
Input: g1 to (h + k + g2 + g3 + is) .. 9.5 Pf
Grid No. 3 to (h + k + g2 + g1 + is) .. 7 Pf
Grid No. 1 to Grid No. 3 ........ 0.5 Pf
Grid No. 3 to Plate ............. 2.2 Pf

RATINGS (Design Maximum Rating System)

Triode Section
Plate Voltage (Max.) ........... 300 Volts
Peak Positive Pulse Plate Voltage (Max.) \(\text{supply}^{(1)}\) ........... — 300 Volts
Grid No. 2 Supply Voltage (Max.) .... — 300 Volts
Grid No. 2 Voltage ......... See Rating Chart (Gen. Info. Sec.)
Positive Grid No. 3 Voltage (Max.) ... — 0 Volt
Negative Grid No. 1 Voltage (Max.) ... — 0 Volt
Positive Grid No. 1 Voltage (Max.) ... — 50 Volts
Negative Grid No. 1 Voltage (Max.) ... — 2.0 Watts
Plate Dissipation (Max.) ...... — 1.1 Watt
Grid No. 2 Input (Max.) .......... — 0.25 Watt
Grid No. 1 Circuit Resistance
Self Bias (Max.) ............ 1.0 Megohm
Fixed Bias (Max.) ........... 0.25 Megohm
Grid No. 3 Circuit Resistance (Max.) .......... 0.68 Megohm

Pentode Section
Plate Supply Voltage .......... 150 Volts
Grid No. 2 Voltage ........... 100 Volts

CHARACTERISTICS AND TYPICAL OPERATION

Class A1 Amplifier

Triode Section
— 200 Volts

Pentode Section
— 150 Volts

### AVERAGE PLATE CHARACTERISTICS

**Pentode Section**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid No. 1 Voltage</td>
<td>-2 Volts</td>
</tr>
<tr>
<td>Cathode Bias Resistor</td>
<td>0 Volts</td>
</tr>
<tr>
<td>Plate Current</td>
<td>180 Ohms</td>
</tr>
<tr>
<td>Grid No. 2 Current</td>
<td>-4 Ma</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>2.8 Ma</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>17,500</td>
</tr>
<tr>
<td>Transconductance (G1 to P)</td>
<td>4,000</td>
</tr>
<tr>
<td>Transconductance (G3 to P)</td>
<td>600 μmhos</td>
</tr>
<tr>
<td>Ec3 for Ib = 20 μA (Approx.)</td>
<td>-7 Volts</td>
</tr>
<tr>
<td>Ec1 for Ib = 10 μA (Approx.)</td>
<td>-5 Volts</td>
</tr>
<tr>
<td>20 μA (Approx.)</td>
<td>-4 Volts</td>
</tr>
</tbody>
</table>

**Triode Section**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ef * RATED VALUE (500 Volts)</td>
<td></td>
</tr>
<tr>
<td>Ef * RATED VALUE (250 Volts)</td>
<td></td>
</tr>
<tr>
<td>Ef * RATED VALUE (100 Volts)</td>
<td></td>
</tr>
</tbody>
</table>

*NOTE:*

1. The duration of the voltage pulse must not exceed 15% of one horizontal scanning cycle. In a 525-line, 30-frame system, 15% of one horizontal scanning cycle is 10 μsec.