Compactron Triple Triode

The 6MN8 is a compactron triple triode intended for use as a chroma matrixing amplifier in color television receivers. Combining three triodes in one envelope allows one tube to drive all three picture tube guns.

**GENERAL**

**ELECTRICAL**

- Cathode - Coated Unipotential
- Heater Characteristics and Ratings
  - Heater Voltage, AC or DC*: 6.3 ± 0.6 Volts
  - Heater Current*: 0.9 Amperes
- Direct Inter electrode Capacitances

<table>
<thead>
<tr>
<th>Section</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid to Plate: (g to p)</td>
<td>2.6</td>
<td>2.6</td>
<td>2.6 pf</td>
</tr>
<tr>
<td>Input: g to (h + k)</td>
<td>4.6</td>
<td>4.6</td>
<td>4.6 pf</td>
</tr>
<tr>
<td>Output: p to (h + k)</td>
<td>0.33</td>
<td>0.57</td>
<td>0.65 pf</td>
</tr>
</tbody>
</table>

**MECHANICAL**

- Operating Position: Any
- Envelope: T-9, Glass
- Base: E12-70, Button 12-Pin
- Outline Drawing: EIA 9-60

<table>
<thead>
<tr>
<th>Maximum Diameter</th>
<th>1.188 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Diameter</td>
<td>1.062 inches</td>
</tr>
<tr>
<td>Maximum Over-all Length</td>
<td>2.875 inches</td>
</tr>
<tr>
<td>Maximum Seated Height</td>
<td>2.500 inches</td>
</tr>
<tr>
<td>Minimum Seated Height</td>
<td>2.250 inches</td>
</tr>
</tbody>
</table>

**MAXIMUM RATINGS**

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

**PHYSICAL DIMENSIONS**

<table>
<thead>
<tr>
<th>1.188&quot; MAX.</th>
<th>1.062&quot; MIN.</th>
</tr>
</thead>
</table>

**TERMINAL CONNECTIONS**

- Pin 1 - Heater
- Pin 2 - Plate (Section 3)
- Pin 3 - Cathode
- Pin 4 - Plate (Section 2)
- Pin 5 - No Connection
- Pin 6 - Plate (Section 1)
- Pin 7 - Internal Connection - Do Not Use
- Pin 8 - Grid (Section 1)
- Pin 9 - Internal Connection - Do Not Use
- Pin 10 - Grid (Section 2)
- Pin 11 - Grid (Section 3)
- Pin 12 - Heater

**BASING DIAGRAM**

EIA 12HU

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.
MAXIMUM RATINGS (Cont’d)

DESIGN-MAXIMUM VALUES, EACH SECTION
Plate Voltage ................................................................. 330 Volts
Positive DC Grid Voltage .............................................................. 0 Volts
Plate Dissipation ........................................................................ 3.0 Watts
Heater-Cathode Voltage
  Heater Positive with respect to Cathode
    DC Component ........................................................................ 100 Volts
    Total DC and Peak ................................................................... 200 Volts
  Heater Negative with respect to Cathode
    Total DC and Peak ................................................................... 200 Volts
Grid-Circuit Resistance
  With Fixed Bias .......................................................................... 1.0 Megohms

CHARACTERISTICS AND TYPICAL OPERATION\footnote{\textsuperscript{a}}

CLASS A\textsubscript{1} AMPLIFIER, EACH SECTION
Plate Voltage ................................................................. -200 125 Volts
Grid Voltage ................................................................. -4.0 -1.0 Volts
Amplification Factor ............................................................. 40 47
Plate Resistance, approximate .................................................. 10000 6250 Ohms
Transconductance .............................................................. 4000 7500 Micromhos
Plate Current ........................................................................ 4.8 11 Milliamperes
Grid Voltage, approximate
  Ib = 50 Microamperes ........................................................... -11 -5 Volts

NOTES
\footnote{\textsuperscript{a}} The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
\footnote{\textsuperscript{b}} Heater current of a bogey tube at \(E_f = 6.3\) volts.
\footnote{\textsuperscript{c}} Without external shield.
\footnote{\textsuperscript{a}} Control grid to cathode spacing on this type is of such low order of magnitude as to preclude the use of voltage between these elements of more than 100 volts dc or peak ac in commercial tube checkers and short indicator devices, particularly where mechanical excitation of the tube is employed.