The 6FM8 is a duplex-diode, high-mu triode with separate cathodes for each of the diode sections and the triode section. The tube is designed primarily for use as an FM detector and AF voltage-amplifier.

**ELECTRICAL**

- **GENERAL**
  - Cathode—Coated Unipotential
  - Heater Voltage, AC or DC: 6.3 Volts
  - Heater Current: 0.45 Amperes

**Direct Inter-electrode Capacitances**

- Triode Grid to Plate: 1.8 µuf
- Triode Input: 1.5 µuf
- Triode Output: 0.16 µuf
- Grid to Diode-Number 1 Plate: 0.05 µuf
- Grid to Diode-Number 2 Plate: 0.04 µuf
- Diode-Number 1 Input: 2.4 µuf
- Diode-Number 2 Input: 2.2 µuf
- Diode-Number 1 Cathode to All: 4.6 µuf
- Diode-Number 2 Cathode to All: 4.8 µuf

**MECHANICAL**

- Mounting Position—Any
- Envelope—T-6½, Glass
- Base—E9-1, Small Button 9-Pin

**MAXIMUM RATINGS**

**DESIGN-MAXIMUM VALUES**

- Allowable Heater Voltage: 5.7 to 6.9 Volts
- Plate Voltage: 330 Volts
- Positive DC Grid Voltage: 0 Volts
- Plate Dissipation: 1.1 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

**Diode Current for Continuous Operation, Each Diode**

- 5.0 Milliamperes

**Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey 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, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics. 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, and environmental conditions.

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.

**PHYSICAL DIMENSIONS**
CHARACTERISTICS AND TYPICAL OPERATION

**CLASS A: AMPLIFIER**

Plate Voltage ................................................................. .250 Volts
Grid Voltage ................................................................. -3.0 Volts
Amplification Factor .......................................................... 70
Plate Resistance, approximate ........................................ 58000 Ohms
Transconductance ............................................................ 1200 Micromhos
Plate Current ................................................................. 1.0 Milliamperes

Average Diode Current, Each Diode
  With 5.0 Volts DC Applied ............................................. .20 Milliamperes

*Without external shield.*

**CLASS A RESISTANCE-COUPLED AMPLIFIER**

<table>
<thead>
<tr>
<th>Rp Meq.</th>
<th>Rs Meq.</th>
<th>Rg1 Meq.</th>
<th>Ebb = 90 Volts</th>
<th>Ebb = 180 Volts</th>
<th>Ebb = 300 Volts</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rk Gain Eq</td>
<td>Rk Gain Eq</td>
<td>Rk Gain Eq</td>
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<td>1800 33 35</td>
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<td>0.10</td>
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<td>2000 38 42</td>
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<td>3000 44 43</td>
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<td>4700 45 31</td>
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<td>0 42 10</td>
<td>0 54 28</td>
<td>0 58 56</td>
</tr>
</tbody>
</table>

Note: Coupling capacitors (C) should be selected to give desired frequency response. Rp should be adequately by-passed.

Notes: 1. Eo is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data, generator impedance is negligible.