12SG7
Description and Rating
RADIO-FREQUENCY-AMPLIFIER PENTODE

GENERAL DESCRIPTION
Principal Application: The type 12SG7 is a semi-
remote cut-off amplifier pentode designed for use
as a high gain radio-frequency or intermediate-
frequency amplifier. The dual cathode connection
provides a method for reducing undesirable coupling
between cathode circuits.

Cathode: Coated Unipotential
Heater Voltage (A-C or D-C) 12.6 Volts
Heater Current 0.15 Ampere
Envelope: MT-B Metal Shell
Base: BS-21 Small Wafer Octal 6-Pin, Phenolic

Mounting Position: Any
Direct Interelectrode Capacitances:
Grid to Plate (Max) 0.003 µf
Input 8.5 µf
Output 7.0 µf

PHYSICAL DIMENSIONS

TERMINAL CONNECTIONS

Pin 1 - Shell and Internal Shield
Pin 2 - Heater
Pin 3 - Cathode and Grid Number 3
Pin 4 - Grid Number 1
Pin 5 - Cathode
Pin 6 - Grid Number 2 (Screen)
Pin 7 - Heater
Pin 8 - Plate

BASE Diagram

RMA 88K
BOTTOM VIEW

MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Design Center</th>
<th>Absolute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>300</td>
</tr>
<tr>
<td>Screen (Grid Number 2) Voltage</td>
<td>200</td>
</tr>
<tr>
<td>Screen Supply Voltage</td>
<td>300</td>
</tr>
<tr>
<td>Control Grid Bias Voltage</td>
<td>Never Positive</td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>3.0</td>
</tr>
<tr>
<td>Screen Dissipation</td>
<td>0.60</td>
</tr>
<tr>
<td>D-C Heater-Cathode Voltage</td>
<td>90</td>
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</tbody>
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CHARACTERISTICS AND TYPICAL OPERATION

CLASS A AMPLIFIER
Heater Voltage 12.6 12.6 12.6 Volts
Plate Voltage 100 250 250 Volts
Screen (Grid Number 2) Voltage 100 125 250 Volts
Grid Bias Voltage -1 -1 -2.5 Volts
Plate Resistance (Approx.) 0.25 0.9 >1.0 Megohm
Transconductance 4100 4700 4000 Micromhos
Grid Bias Voltage ° -11.5 -14 -17.5 Volts
Plate Current 8.2 11.8 9.2 Milliamperes
Screen Current 3.2 4.4 3.4 Milliamperes

(For notes see page 2)
- Measured with shell and internal shield connected.
- Approximate values for transconductance of 40 micromhos.