THE 12GE5 IS A BEAM-POWER PENTODE IN THE COMPACT 12 PIN, T-12 CONSTRUCTION. IT IS DESIGNED PRIMARILY FOR USE AS THE HORIZONTAL-DEFLECTION AMPLIFIER IN TELEVISION RECEIVERS. EXCEPT FOR HEATER CHARACTERISTICS AND HEATER WARM-UP TIME, THE 12GE5 IS IDENTICAL TO THE 6GE5.

**DIRECT INTERELECTRODE CAPACITANCES - APPROX.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid #1 to Plate: (G1 to P)</td>
<td>0.34  pf</td>
</tr>
<tr>
<td>Input: G1 to H<em>G2</em>B.P.</td>
<td>16 pf</td>
</tr>
<tr>
<td>Output: P to (H<em>G2</em>B.P.)</td>
<td>7.0   pf</td>
</tr>
</tbody>
</table>

**HEATER CHARACTERISTICS AND RATINGS**

*DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-799*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Characteristics</td>
<td>12.5 VOLTS</td>
</tr>
<tr>
<td>Heater Supply Limits:</td>
<td>600 MA</td>
</tr>
<tr>
<td>Maximum Heater-Cathode Voltage:</td>
<td></td>
</tr>
<tr>
<td>Heater Positive with Respect to Cathode DC</td>
<td>100 VOLTS</td>
</tr>
<tr>
<td>Heater Negative with Respect to Cathode DC and PEAK</td>
<td>200 VOLTS</td>
</tr>
<tr>
<td>Heater Warm-Up Time (*)</td>
<td>11 SECONDS</td>
</tr>
</tbody>
</table>

*Heater Warm-Up Time is defined as the time required for the voltage across the heater to reach 80% of its rated voltage after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance of value 1 times the nominal heater operating resistance.

TUNG-SOL ELECTRIC INC., ELECTRON TUBE DIVISION, BLOOMFIELD, NEW JERSEY, U.S.A., JANUARY 1, 1962 PLATE #658B
MAXIMUM RATINGS

DC PLATE—SUPPLY VOLTAGE (BOOST + DC POWER SUPPLY))  770 VOLTS
PEAK POSITIVE PULSE PLATE VOLTAGE  6500 VOLTS
PEAK NEGATIVE PULSE PLATE VOLTAGE  1500 VOLTS
GRID #2 VOLTAGE  220 VOLTS
NEGATIVE DC GRID #1 VOLTAGE  55 VOLTS
PEAK NEGATIVE GRID #1 VOLTAGE  350 VOLTS
PLATE DISSIPATION A  17.5 WATTS
GRID #2 DISSIPATION  3.5 WATTS
DC CATHODE CURRENT  175 MA.
PEAK CATHODE CURRENT  550 MA.
GRID #1 CIRCUIT RESISTANCE  1.0 MEGOHMS
BULB TEMPERATURE AT HOTTEST POINT  220 °C

TYPICAL OPERATING CHARACTERISTICS

PLATE VOLTAGE  60  250 VOLTS
GRID #2 VOLTAGE  150  150 VOLTS
GRID #1 VOLTAGE  0 B  22.5 VOLTS
PLATE RESISTANCE, APPROX.  ---  20,000 OHMS
TRANSCONDUCTANCE  ---  6600 ΜΗΜΟΣ
PLATE CURRENT  345  75 MA.
GRID #2 CURRENT  33  2.4 MA.
GRID #1 VOLTAGE, APPROX.  1b = 4.0 MA.  ---  -46 VOLTS
TRIODE AMPLIFICATION FACTOR
G2 TIED TO PLATE, E_b = E_c2 = 150 V.,
E_c1 = -22.5 V.  ---  4.1

*FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

A IN STAGES OPERATING WITH GRID LEAK R1A5, AN ADEQUATE CATHODE R1A5 RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

B APPLIED FOR SHORT INTERVAL (TWO SECONDS MAXIMUM) SO AS NOT TO DAMAGE TUBE.