EDISWAN

6F21

VARIABLE MU H.F. PENTODE

Indirectly heated—for parallel operation.

GENERAL

The 6F21 is a miniature based indirectly heated variable mu H.F. Pentode. It is intended for use in H.F. or L.F. Amplifiers having parallel connected heaters.

RATING

Heater Voltage (volts) \( V_h \) 6.3
Heater Current (amps) \( I_h \) 0.2
Maximum Anode Voltage (volts) \( V_{a\text{max}} \) 300
Maximum Screen Voltage (volts) \( V_{g2\text{max}} \) 300
Maximum Anode Voltage (volts) \( V_{a\text{max}} \) 500*
Maximum Screen Voltage (volts) \( V_{g2\text{max}} \) 300*
Mutual Conductance (mA/V) \( g_m \) 2.5††
Inner \( \mu \)
\( \mu g_{1g2} \) 30††
Maximum Potential Heater/Cathode (volts DC) \( V_{h,k\text{max}} \) 150
Maximum Anode Dissipation (watts) \( P_{a\text{max}} \) 3.0
Maximum Screen Dissipation (watts) \( P_{g2\text{max}} \) 0.7

* With 5,000 ohms in series with the anode, and 20,000 ohms in series with the screen, \( I_a = 0 \).
†† \( V_a = 250 \text{ v} \); \( V_{g2} = 200 \text{ v} \); \( V_{g1} = -2.5 \text{ v} \).

INTER-ELECTRODE CAPACITANCES (pF)

<table>
<thead>
<tr>
<th>Electrode Combination</th>
<th>( \text{cout} )</th>
<th>( \text{cin} )</th>
<th>( \text{c}_{a-g1} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode/Earth</td>
<td>7.0</td>
<td>4.7</td>
<td>0.0078</td>
</tr>
<tr>
<td>Grid 1/Earth</td>
<td>8.1</td>
<td>5.8</td>
<td>0.0098</td>
</tr>
<tr>
<td>Anode/Grid 1</td>
<td>0.0078</td>
<td>0.0083</td>
<td></td>
</tr>
</tbody>
</table>

January 1958

INDUSTRIAL

VALVE & CRT DIVISION

Issue 1/7

SIEMENS EDISON SWAN LIMITED
EDISWAN

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§ Inter-electrode capacity with holder capacity balanced out.
‡ Total capacity with a Benjamin B7G holder type 75/787R.
‡‡ Total capacity with a Benjamin type 75/787R holder and a perpendicular shield between pins 2, 3 and 6, 7.

“Earth” denotes the remaining earthy potential electrodes, heater and shields connected to cathode.

DIMENSIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Value (mm)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Overall Length</td>
<td>54.5</td>
<td></td>
</tr>
<tr>
<td>Maximum Diameter</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Maximum Seated Height</td>
<td>47.5</td>
<td></td>
</tr>
<tr>
<td>Approximate Nett Weight</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>Approximate Packed Weight</td>
<td>1/2</td>
<td></td>
</tr>
</tbody>
</table>

MOUNTING POSITION

Unrestricted.

TYPICAL OPERATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode Voltage (volts)</td>
<td>V_a</td>
<td>250</td>
</tr>
<tr>
<td>Screen Voltage (volts)</td>
<td>V_g2</td>
<td>100</td>
</tr>
<tr>
<td>Grid Bias (volts)</td>
<td>V_g1</td>
<td>-0.5</td>
</tr>
<tr>
<td>Anode Current (mA)</td>
<td>I_a</td>
<td>4.9</td>
</tr>
<tr>
<td>Screen Current (mA)</td>
<td>I_g2</td>
<td>1.25</td>
</tr>
<tr>
<td>Mutual Conductance (mA/V)</td>
<td>g_m</td>
<td>2.5</td>
</tr>
<tr>
<td>Grid Bias for Mutual</td>
<td></td>
<td>-34</td>
</tr>
<tr>
<td>Conductance of 10 μA/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(volts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equivalent Grid Noise</td>
<td>Req</td>
<td>7.5</td>
</tr>
<tr>
<td>Resistance (KΩ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anode Impedance (MΩ)</td>
<td>r_a</td>
<td>1.2</td>
</tr>
</tbody>
</table>
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BULB—Clear.

BASE—B7G.

Viewed from free end of pins

CONNECTIONS
Pin 1 Control Grid g1
Pin 2 Cathode k
Pin 3 Heater h
Pin 4 Heater h
Pin 5 Anode a
Pin 6 Suppressor Grid and Shield g3,s
Pin 7 Screen Grid g2

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6F2I
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AVERAGE CHARACTERISTIC CURVES:
$I_a/Vg1$ Curves taken at $V_a=250V$