RATING

Heater Voltage (volts) \( V_h \) 6.3
Heater Current (amps) \( I_h \) 0.35
Maximum Anode Voltage (volts) \( V_a(\text{max}) \) 250
Maximum Screen Voltage (volts) \( V_{g2}(\text{max}) \) 250
Mutual Conductance (mA/V) \( g_m \) 9.0
\( § \)
Maximum Anode Dissipation (watts) \( P_a(\text{max}) \) 3.5
Maximum Screen Dissipation (watts) \( P_{g2}(\text{max}) \) 1.0
Maximum Potential Heater/Cathode (volts DC) \( V(h-k)\text{max} \) 150

\( § \) Taken at \( V_a = V_{g2} = 200\text{V} \); \( V_g_1 = -1.8\text{V} \).

\( † \) With grid cathode resistance not exceeding 10,000 ohms.

INTER-ELECTRODE CAPACITANCES (pF)

<table>
<thead>
<tr>
<th>Electrode Combination</th>
<th>( c_{out} )</th>
<th>( c_{a-g1} )</th>
<th>( c_{in} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode/Earth</td>
<td>4.6</td>
<td>6.1</td>
<td>—</td>
</tr>
<tr>
<td>Anode/Control Grid</td>
<td>—</td>
<td>.0077</td>
<td>.0068</td>
</tr>
<tr>
<td>Control Grid/Earth</td>
<td>9.0</td>
<td>10.5</td>
<td>—</td>
</tr>
</tbody>
</table>

* Inter-Electrode capacitances with holder capacitance balanced out.

\( † \) Total capacitances including Benjamin B8A moulded holder measured at 1 Mc/s.

\( † † \) Total capacitances including Benjamin B8A moulded holder measured at 1 Mc/s but with extra perpendicular shield.

DIMENSIONS

Maximum Overall Length \( (\text{mm}) \) 67
Maximum Diameter \( (\text{mm}) \) 22
Maximum Seated Height \( (\text{mm}) \) 54
Radius over Location Key \( (\text{mm}) \) 12.25
EDISWAN
MAZDA
6FI
HIGH SLOPE SCREENED R.F. PENTODE
Indirectly heated—for parallel operation
REPLACEMENT TYPE

MOUNTING POSITION—Unrestricted.

<table>
<thead>
<tr>
<th>TYPICAL OPERATION—As Amplifier</th>
<th>Va</th>
<th>200</th>
<th>190</th>
<th>208</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode Voltage (volts)</td>
<td>Vg1</td>
<td>1.45</td>
<td>1.8</td>
<td>1.55</td>
</tr>
<tr>
<td>Screen Voltage (volts)</td>
<td>Vg2</td>
<td>240*</td>
<td>200</td>
<td>190</td>
</tr>
<tr>
<td>Grid Bias Voltage (volts-ve)</td>
<td></td>
<td>20.3*</td>
<td>10.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Anode Current (mA)</td>
<td>lg2</td>
<td>5.6*</td>
<td>2.60</td>
<td>2.7</td>
</tr>
<tr>
<td>Screen Current (mA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutual Conductance (mA/V)</td>
<td>gm</td>
<td>9.0</td>
<td>9.25</td>
<td>8.95</td>
</tr>
<tr>
<td>Input Capacity, Working (pF)</td>
<td></td>
<td>12.1</td>
<td>12.25</td>
<td>12.1</td>
</tr>
<tr>
<td>Change in input capacity produced by biasing valve to 1µA/V (pF)</td>
<td>Δc in(w)</td>
<td>2.75</td>
<td>2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Self Bias Resistance (ohms)</td>
<td>Rk-E</td>
<td>56</td>
<td>120</td>
<td>150</td>
</tr>
<tr>
<td>Input Loss at 45 Mc/s (ohms)</td>
<td>φrg1-k(w)</td>
<td>14000</td>
<td>12500</td>
<td>14000</td>
</tr>
<tr>
<td>Equivalent Grid Noise Resistance (ohms)</td>
<td>req</td>
<td>780</td>
<td>750</td>
<td>790</td>
</tr>
</tbody>
</table>

* Maximum permissible rating D.C. connected as Video Output Valve. (no signal)
§ Inter-Electrode capacitance with holder capacitance balanced out.
† Hot capacity measurements taken at a frequency of 0.5 Mc/s.
φ Measured with grid circuit decoupled to cathode pin 7. Screen and Anode circuits and shield returned to cathode pin 5.
TYPICAL OPERATION—As Frequency Changer

Control Grid or Cathode Injection.
Anode Voltage (volts) \( V_a \) 250
Screen Supply Voltage (volts) \( V_{g2} \) 250
Screen Dropping Resistor (ohms) \( R_{g2} \) 100,000
Grid 1 Resistor for grid current bias (ohms) \( R_{g1} \) 100,000
Heterodyne Peak Voltage (volts) \( V_{(het)pk} \) 2.0
Anode Current (mA) \( I_a \) 5.2
Screen Current (mA) \( I_{g2} \) 1.3
Grid 1 Current (\( \mu \)A) \( I_{g1} \) 18
Conversion Conductance (mA/V) \( g_c \) 3.3

BULB—Clear.

BASE—B8A.

Viewed from free end of pins

CONNECTIONS

<table>
<thead>
<tr>
<th>Pin 1</th>
<th>Heater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 2</td>
<td>Anode</td>
</tr>
<tr>
<td>Pin 3</td>
<td>Internal Shield &amp; Suppressor</td>
</tr>
<tr>
<td>Pin 4</td>
<td>Screen Grid</td>
</tr>
<tr>
<td>Pin 5</td>
<td>Cathode</td>
</tr>
<tr>
<td>Pin 6</td>
<td>Control Grid</td>
</tr>
<tr>
<td>Pin 7</td>
<td>Cathode</td>
</tr>
<tr>
<td>Pin 8</td>
<td>Heater</td>
</tr>
</tbody>
</table>

Indicates a change
EDISWAN
MAZDA
6FI
HIGH SLOPE SCREENED R.F. PENTODE
Indirectly heated—for parallel operation
REPLACEMENT TYPE

AVERAGE CHARACTERISTIC CURVES
Curves taken at V2=250

GRID VOLTS

MUTUAL CONDUCTANCE IN mAA

Indicates a change

January 1959
VALVE & CRT DIVISION
SIEMENS EDISON SWAN LIMITED
EDISWAN
MAZDA
6FI
HIGH SLOPE SCREENED R.F. PENTODE
Indirectly heated—for parallel operation
REPLACEMENT TYPE

AVERAGE CHARACTERISTIC CURVES
Curves taken at $V_a = 250$

Grid Volts

Anode and Screen Currents in mA

Indicates a change

January 1959
VALVE & CRT DIVISION
Issue 2/2A
SIEMENS EDISON SWAN LIMITED
EDISWAN
MAZDA
6FI
HIGH SLOPE SCREENED R.F. PENTODE
Indirectly heated—for parallel operation
REPLACEMENT TYPE

AVERAGE CHARACTERISTIC CURVES
CURVES TAKEN AT Vg2=200

ANODE AND SCREEN CURRENT (MILLIAMPS)

Indicates a change

January 1959
VALVE & CRT DIVISION
Issue 2/2A
SIEMENS EDISON SWAN LIMITED