EDISWAN
6HI
HEXODE
Indirectly heated—for parallel operation

GENERAL
The 6H1 is a miniature based hexode intended for use as a frequency changer with a separate triode oscillator, and will operate up to a frequency of 20 Mc/s. It is also suitable for use as a gated amplifier, and may be used in equipment having AC or DC powered parallel connected heater chains.

RATING

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>$V_h$</td>
</tr>
<tr>
<td>Heater Current</td>
<td>$I_h$</td>
</tr>
<tr>
<td>Maximum Anode Voltage</td>
<td>$V_{a(b)\max}$</td>
</tr>
<tr>
<td>Maximum Operating Anode Voltage</td>
<td>$V_{a(max)}$</td>
</tr>
<tr>
<td>Maximum Screen Voltage</td>
<td>$V_{g2,4(b)\max}$</td>
</tr>
<tr>
<td>Maximum Operating Screen Voltage</td>
<td>$V_{g2,4(max)}$</td>
</tr>
<tr>
<td>Maximum Anode Dissipation</td>
<td>$P_{a(max)}$</td>
</tr>
<tr>
<td>Maximum Screen Dissipation</td>
<td>$P_{g2,4(max)}$</td>
</tr>
<tr>
<td>Mutual Conductance</td>
<td>$g_m$</td>
</tr>
</tbody>
</table>

* Measured at $V_a = 250$ V; $V_{g2} + g_4 = 100$ V; $V_{g1} = -1.8$ V.
† $I_a = 0$.

All Maximum Values quoted are absolute.

INTER-ELECTRODE CAPACITANCES (pF)

<table>
<thead>
<tr>
<th>Electrode Configuration</th>
<th>$c_{a-g1}$</th>
<th>$c_{a-E}$</th>
<th>$c_{g1-E}$</th>
<th>$c_{g3-all}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode/Grid 1</td>
<td>0.06</td>
<td>9.25</td>
<td>4.3</td>
<td>4.9</td>
</tr>
<tr>
<td>Anode/Earth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid 1/Earth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid 3/All</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"Earth" denotes all earth potential electrodes, shields and heater connected to the cathode.

These capacities are measured cold with a metal screening can fitted to the valve.

September 1959

INDUSTRIAL
VALVE & CRT DIVISION
Issue 2/7

SIEMENS EDISON SWAN LIMITED
EDISWAN
6HI
HEXODE
Indirectly heated—for parallel operation

DIMENSIONS
Maximum Overall Length (mm) 54.5
Maximum Diameter (mm) 19.0
Maximum Seated Height (mm) 47.5
Approximate Nett Weight (ozs) ½
Approximate Packed Weight (ozs) ½

MOUNTING POSITION—Unrestricted.

TYPICAL OPERATION—Frequency Changer
Anode Voltage (volts) $V_a$ 250
Screen Voltage (volts) $V_{g2+4}$ 100
Grid 1 Bias Voltage (volts) $V_{g1}$ −2.2
Anode Current (approx) (mA) $I_a$ 2.3
Screen Current (approx) (mA) $I_{g2+4}$ 2.7
Conversion Conductance ($\mu$A/V) $g_c$ 560†
Valve Anode Resistance ($\delta a/\delta I_a$) (MΩ) $r_a$ 1.0
Peak Heterodyne Voltage (volts) $V_{het(pk)}$ 12
Grid 3 Resistor (kΩ) $R_{g3}$ 47

* Grid 3 connected in parallel with the grid of the oscillator valve and biased by grid current through the Grid 3 resistor.

† Measured with an anode circuit of low dynamic impedance.
EDISWAN
6HI
HEXODE
Indirectly heated—for parallel operation

BASE—B7G

Viewed from free end of pins

VALVE HOLDER—Ediswan Clix VH337/7, VH437/7 and VH17/7 series.

CONNECTIONS

<table>
<thead>
<tr>
<th>Pin</th>
<th>Connection</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grid 1</td>
<td>g1</td>
</tr>
<tr>
<td>2</td>
<td>Cathode</td>
<td>k</td>
</tr>
<tr>
<td>3</td>
<td>Heater</td>
<td>h</td>
</tr>
<tr>
<td>4</td>
<td>Heater</td>
<td>h</td>
</tr>
<tr>
<td>5</td>
<td>Anode</td>
<td>a</td>
</tr>
<tr>
<td>6</td>
<td>Grid 3</td>
<td>g3</td>
</tr>
<tr>
<td>7</td>
<td>Grid 2 and Grid 4</td>
<td>g2+g4</td>
</tr>
</tbody>
</table>

INDUSTRIAL VALVE & CRT DIVISION

September 1959 Issue 2/7

SIEMENS EDISON SWAN LIMITED

Indicates a change →
EDISWAN

6HI

HEXODE

Indirectly heated—for parallel operation

AVERAGE CHARACTERISTIC CURVES:
$8c \cdot I_a \cdot I_g2 \cdot I_g3 \cdot I_g0 / V_{het(pk)}$
Heterodyne injected into g3

$V_a = 250V$  
$V_g2 = 100V$  
$V_g3 = \text{Self Bias}$  
$V_{g1} = -2.2V$  
$Z_L = 49k\Omega$  
$R_{g3} = 47k\Omega$

Note: g3 is connected in parallel with the grid of an external oscillator and is biased by grid current.