DESCRIPTION:

The 6130 is a unipotential cathode, three element hydrogen filled thyatron designed for network discharge service. In such service it is suitable for producing pulse outputs of 55 kW as an average power level of more than 65 watts.

The electrical characteristics of the 6130 are identical with those of the 3C45. A special anode top cap insulator is installed to permit operation at high altitude.

ELECTRICAL DATA, GENERAL:

<table>
<thead>
<tr>
<th></th>
<th>Nom.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3</td>
<td>5.7</td>
<td>6.6</td>
</tr>
<tr>
<td>Heater Current (At 6.3 Volts)</td>
<td>2.0</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Minimum Heating Time</td>
<td></td>
<td></td>
<td>2 Minutes</td>
</tr>
</tbody>
</table>

Volts a.c. Amperes

MECHANICAL DATA, GENERAL:

Mounting Position Any
Base

Anode Cap
Cooling (Note 1)

Net Weight
Dimensions

2.5 Ounces
See Outline
RATINGS:

Max. Peak Anode Voltage, Forward 3.0 Kilovolts
Max. Peak Anode Voltage, Inverse (Note 2) 3.0 Kilovolts
Min. Anode Supply Voltage 800 Volts d.c.
Max. Peak Anode Current 35 Amperes
Max. Average Anode Current 45 Milliamperes
Max. RMS Anode Current (Note 3) 1.25 Amperes a.c.
Max. |EPY X 1B X PRR| 0.3 x 10^9 Amperes/μSecond
Max. Anode Current Rate of Rise 750 Amperes/μSecond
Peak Trigger Voltage (Note 4)
Max. Peak Inverse Trigger Voltage 200 Volts
Max. Anode Delay Time (Note 5) 0.6 Microsecond
Max. Anode Delay Time Drift 0.15 Microsecond
Max. Time Jitter (Note 6) 0.02 Microsecond (Initial)
  0.04 μSecond (End of Life)
Ambient Temperature -50° to +90° Cent.

TYPICAL OPERATION AS PULSE MODULATOR, DC RESONANT CHARGING:

Peak Network Voltage 3.0 Kilovolts
Pulse Repetition Rate 2500 Pulses/second
Pulse Length 0.5 Microsecond
Pulse Forming Network impedance 45.2 Ohms
Trigger Voltage 200 Volts
Peak Power Output (Resistive Load 92% Zn) 47.2 Kilowatts
Peak Anode Current 35 Amperes
Average Anode Current 0.044 Amperes d.c.

Note 1:
Cooling is permitted. However, there shall be no air blast directly on the bulb.

Note 2:
In pulse operation, the peak inverse voltage, exclusive of a spike of 0.5 Microsecond max. duration, shall not exceed 1500 volts during the first 25 microseconds after the pulse.

Note 3:
The root mean square anode current shall be computed as the square root of the product of the peak current and the average current.
Note 4:

The voltage between grid and cathode terminals of the socket with the tube removed should have the following characteristics:

A. Voltage 175-250 Volts  
B. Duration 2 Microseconds (at 70% points)  
C. Source of Impedance 1500 Ohms (max.)  
D. Rate of Rise 200 Volts/microsecond (min.)

The limits of anode time delay and anode time jitter are based on the minimum trigger. Using the highest permissible trigger voltage and lowest trigger source impedance materially reduces these values below the limits specified.

Note 5:

The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage pulse and the point at which evidence of anode conduction first appears on the loaded grid pulse.

Note 6:

Time jitter is measured at the 50 percent point on the anode current pulse.