**CIK/6014**

**XENON THYRATRON**

**NEGATIVE-CONTROL TRIODE TYPE**

**GENERAL DATA**

**Electrical:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Av.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>2.4</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Current at 2.5 volts</td>
<td>5.5</td>
<td>6.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Minimum heating time prior to tube conduction</td>
<td></td>
<td></td>
<td>25 sec</td>
</tr>
</tbody>
</table>

Direct Inter-electrode Capacitances (Approx.):

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid to anode</td>
<td>1 μuf</td>
</tr>
<tr>
<td>Grid to cathode</td>
<td>10 μuf</td>
</tr>
<tr>
<td>Maximum Delicitation Time</td>
<td>500 μsec</td>
</tr>
<tr>
<td>Maximum Critical Grid Current</td>
<td>5 μamp</td>
</tr>
</tbody>
</table>

**Anode Voltage Drop:**

- Average, at beginning of life | 8 volts |
- Maximum, at end of life | 14 volts |
- Maximum Commutation Factor, averaged over first 500 volts of inverse anode voltage rise | 0.15 va/μs

**Grid Control Ratio (Approx.):**

For conditions: 10000-ohm grid resistor, circuit returns to filament transformer center-tap, dc anode voltage, and dc grid voltage | 230 |

**Mechanical:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Position</td>
<td>Any</td>
</tr>
<tr>
<td>Maximum Overall Length</td>
<td>4-1/4&quot;</td>
</tr>
<tr>
<td>Maximum Diameter</td>
<td>1-9/16&quot;</td>
</tr>
<tr>
<td>Weight (Approx.)</td>
<td>3 oz</td>
</tr>
<tr>
<td>Bulb</td>
<td>T-12</td>
</tr>
<tr>
<td>Base</td>
<td>Medium-Metal-Shell Small 4-Pin with Bayonet (JETEC No.A4-89)</td>
</tr>
</tbody>
</table>

**Basing Designation for BOTTOM VIEW:**

- Pin 1 - Filament
- Pin 2 - Anode
- Pin 3 - Grid
- Pin 4 - Filament

**GRID-CONTROLLED RECTIFIER SERVICE**

**Maximum Ratings, Absolute Values:**

**PEAK ANODE VOLTAGE:**

- Forward | 1000 max. volts |
- Inverse | 1250 max. volts |

**GIRD VOLTAGE:**

- Peak, before tube conduction | -100 max. volts |

† Defined as the product of the rate of current decay in amperes per microsecond just before conduction ceases and the rate of inverse voltage rise in volts per microsecond following current conduction.

12-56

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XENON THYRATRON

ANODE CURRENT:

- Peak: 8 max. amp
- Average: 1 max. amp

Overload*, for duration of:

- 0.56 sec.: 8 max. amp
- 1 sec.: 4.5 max. amp
- 2 sec.: 2.25 max. amp
- 3 sec.: 1.5 max. amp
- 4 sec.: 1.13 max. amp

Fault, for duration of 0.1 second:

- Maximum: 77 max. amp

AMBIENT-TEMPERATURE RANGE: -55 to +75 °C

* Averaged over any period of 4.5 seconds.
* Averaged for duration of overload occurring no more than once in any period of 4.5 seconds.

OPERATING CONSIDERATIONS

Circuit returns may be made to either side of filament or to transformer center-tap.

The anode of the CIK/6014 may show a red color when the tube is operated at full load.

Sufficient anode-circuit resistance, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings of the tube.
OPERATIONAL RANGE
OF CRITICAL GRID VOLTAGE

RANGE IS FOR CONDITIONS WHERE:
E_f = 2.5 VOLTS AC ± 5%; CIRCUIT
RETURNS TO FILAMENT TRANSFORMER CENTER-TAP; THE RANGE INCLUDES INITIAL AND LIFE VARIATIONS OF INDIVIDUAL TUBES. GRID RESISTOR = 0 TO 10000 OHMS, AMBIENT-TEMPERATURE RANGE = -55 TO +75°C.

CONDUCTING

CRITICAL

NON-CONDUCTING

DC ANODE VOLTS

-10 -8 -6 -4 -2 0 +2 +4 +6

DC GRID SUPPLY VOLTS

92CS-9111T

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