KRYTRON TRIGGER TUBES
7440  7595  7597
7441  7596  7598

Subminiature "Krytron" gaseous trigger tubes

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**
Heater voltages: None required

**MAXIMUM RATINGS (Absolute maximum ratings)**

<table>
<thead>
<tr>
<th>Anode operating voltage</th>
<th>Anode hold-off voltage</th>
<th>Anode current peak</th>
<th>Anode input</th>
<th>Glow current</th>
<th>Grid firing voltage</th>
<th>Grid firing pulse duration</th>
<th>Grid firing current</th>
<th>Grid resistor to ground</th>
<th>Anode delay time</th>
<th>Temperature normal</th>
<th>Temperature extremes</th>
<th>Anode delay time variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>7595</td>
<td>3</td>
<td>400</td>
<td>0.2</td>
<td>30 to 100</td>
<td>85 to 250</td>
<td>2 to 20</td>
<td>8</td>
<td>2.0</td>
<td>1.5</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>7596</td>
<td>5</td>
<td>100</td>
<td>0.5</td>
<td>30 to 150</td>
<td>30 to 150</td>
<td>2 to 20</td>
<td>15</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>7597</td>
<td>5</td>
<td>100</td>
<td>0.5</td>
<td>30 to 150</td>
<td>30 to 150</td>
<td>2 to 20</td>
<td>15</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>7598</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>30 to 100</td>
<td>130 min. volts</td>
<td>2 to dc</td>
<td>15</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**MAXIMUM RATINGS (Absolute maximum values)**

<table>
<thead>
<tr>
<th>Anode operating voltage</th>
<th>Hold-off voltage</th>
<th>Glow current</th>
<th>Grid resistor</th>
<th>Discharge capacitor</th>
<th>Power input</th>
<th>Grid bias</th>
<th>Grid pulse current</th>
<th>Output pulse current</th>
<th>Ambient temperature range</th>
<th>Anode delay time</th>
<th>Anode delay time variation</th>
<th>Pulse repetition rate</th>
<th>Potting temperature (not to exceed 2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440</td>
<td>1500</td>
<td>100</td>
<td>2.0</td>
<td>0.2</td>
<td>0.1</td>
<td>45</td>
<td>20</td>
<td>10</td>
<td>-55 to +85</td>
<td>4.0</td>
<td>0.4</td>
<td>1</td>
<td>+0°C</td>
</tr>
<tr>
<td>7441</td>
<td>1500</td>
<td>100</td>
<td>2.0</td>
<td>0.2</td>
<td>0.1</td>
<td>45</td>
<td>20</td>
<td>10</td>
<td>-55 to +85</td>
<td>4.0</td>
<td>0.4</td>
<td>1</td>
<td>+0°C</td>
</tr>
</tbody>
</table>

**APPLICATION**
"Krytrons" are cold-cathode miniature trigger and timer tubes used in applications where high hold-off voltage, short anode delay times, minimum anode delay variation and high pulse currents are required. Because of their special construction they will withstand wide ambient temperature range, high impact shocks, and severe vibrational stresses. They will operate in sealed enclosures and after storage periods without requiring incident light or other extraneous energies to initiate the glow discharge.
ENVIRONMENTAL TESTS FOR TYPES

7441       7595       7597

OPERATION TESTS (Performed under special conditions)
D-c trigger current, d-c trigger voltage, pulse trigger voltage
Anode delay time, anode delay time variation
Keep-alive starting characteristic

CONDITIONS FOR TESTS
Oven temperature range of -55°C to +85°C
Temperature cycles under MIL-E-1D 4.9.10
After impact shock of 2000g
After vibration test of 10-500 cps up to 10g for 4.5 hours in 3 planes

* May be triggered manually by applying d-c momentarily to grid.

TYPICAL OPERATION FOR CIRCUIT SHOWN (All Types)

Anode operating voltage ........................................ 550 volts
Grid voltage ....................................................... 0 volts
Glow current ...................................................... 50 μA

MINIMUM CONDITIONS
Anode operating voltage, d-c ..................................... 400 volts
Cathode current peak ............................................ 10 ame
Glow current ...................................................... 30 μA
Grid resistor ...................................................... 250,000 ohms
Grid pulse duration .............................................. 10 μsec
Grid pulse amplitude .......................................... 230 volts

Pulse repetition rate is governed by the relationship

\[ f = \frac{V}{C} \times \frac{1}{R} \]

where

- \( f \) = discharge capacitor
- \( V \) = Anode potential in kilovolts
- \( C \) = power input
- \( R \) = repetition frequency

* Hold-off voltage given is the highest voltage to which the tube may be safely subjected under any condition. Provision should be made that the circuits, tube base and socket will withstand this voltage. This may be accomplished by wider spacing, insulation coating, pressurizing, reduction of moisture, etc.

CBS ELECTRON TUBES