Voltage-Regulator

GLOW-DISCHARGE TYPE
150 VOLTS

For Applications Requiring a Relatively
Constant DC Output Voltage, Independent
of Load and Supply-Voltage Variations

Mechanical:
Operating Position. Any
Type of Cathode . Cold
Maximum Overall Length. 3-1/16"
Maximum Seated Length. 2-1/2"
Maximum Diameter. 1-9/32"
Dimensional Outline. See General Section
Bulb. T9
Base. Intermediate-Shell Octal 6-Pin, Arrangement 1
(JEDEC Group 1, No.B6-8)
Basing Designation for BOTTOM VIEW. AJ

Pin 1—No Internal Connection
Pin 2—Cathode
Pin 3—Jumper
Pin 5—Anode
Pin 7—Jumper
Pin 8—No Internal Connection

VOLUME REGULATOR

Maximum and Minimum Ratings, Absolute-Maximum Values:
Average Cathode
  Starting Current. 100 max. ma
DC Cathode Current. 40 max. ma
  5 min. ma
DC or AC Jumper Current. 2 max. amp
Ambient-Temperature Range. -55 to +90 °C

Circuit Values:
Shunt Capacitor. 0.1 max. μf
Series Resistor. See Operating Considerations

a With suitable socket connections, the jumper within the tube base (between pins 3 and 7) provides for opening the power-supply circuit to protect circuit components when the voltage-regulator tube is removed from its socket.

b Averaged over starting period not exceeding 10 seconds. When starting currents greatly in excess of the maximum dc-cathode-current rating of 40 milliamperes are encountered, it may be necessary to operate these tubes as much as 20 minutes under steady-state conditions to assure stable operation.
**CHARACTERISTICS RANGE VALUES**

*Values are initial unless otherwise specified*

<table>
<thead>
<tr>
<th>Note</th>
<th>Min.</th>
<th>Av.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Anode Supply Voltage.</td>
<td>See Note 2</td>
<td></td>
<td></td>
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<tr>
<td>DC Anode Starting Voltage in:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total darkness</td>
<td>–</td>
<td>–</td>
<td>225</td>
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<tr>
<td>Normal ambient light</td>
<td>–</td>
<td>–</td>
<td>160</td>
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<tr>
<td>Anode Voltage Drop for dc cathode current of:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5 ma.</td>
<td>–</td>
<td>145</td>
<td>–</td>
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<tr>
<td>30 ma.</td>
<td>–</td>
<td>145</td>
<td>149</td>
</tr>
<tr>
<td>40 ma.</td>
<td>–</td>
<td>145</td>
<td>150</td>
</tr>
<tr>
<td>Regulation for dc-cathode-current range of:</td>
<td></td>
<td></td>
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<tr>
<td>5 to 30 ma.</td>
<td>2</td>
<td>–</td>
<td>2</td>
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<tr>
<td>5 to 40 ma.</td>
<td>2</td>
<td>–</td>
<td>4</td>
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<tr>
<td>Tube Noise for dc cathode current of</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>40 ma.</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>DC Leakage Current for dc anode supply voltage of 50 volts and anode resistor of 3000 ohms</td>
<td>–</td>
<td>–</td>
<td>10</td>
</tr>
</tbody>
</table>

*Note 1: The minimum value to insure starting throughout useful tube life must be equal to the dc anode starting voltage plus the voltage drop across the series resistor at the maximum value of the load current.*

*Note 2: The maximum values for the specified regulation range apply throughout useful tube life.*

**OPERATING CONSIDERATIONS** shown under Type OA3A also apply to the OD3A