VOLTAGE REGULATOR
7-PIN MINIATURE, 75-VOLT, GLOW-DISCHARGE TYPE

GENERAL DATA

Electrical:
Cathode........................................... Cold

Mechanical:
Operating Position...................... Any
Maximum Overall Length.............. 2.63"
Maximum Seated Length.................. 2.38"
Length, Base Seat to Bulb Top (Excluding tip)........... 2.00" ± 0.09"
Maximum Diameter.......................... 0.75"
Dimensional Outline...................... See General Section
Bulb............................................... T5-1/2
Base........................................... Small-Button Miniature 7-Pin (JE7EC No.E7-1)
Basing Designation for BOTTOM VIEW.............. 5BO

Pin 1 - Anode
Pin 2 - Cathode
Pin 3 - Internal Connection—
Do Not Use
Pin 4 - Cathode
Pin 5 - Anode
Pin 6 - Internal Connection—
Do Not Use
Pin 7 - Cathode

Maximum and Minimum Ratings, Absolute Values:
AVERAGE STARTING CURRENT........................................... 75 max. ma
DC CATHODE CURRENT........................................... {30 max. ma
{ 5 min. ma
FREQUENCY............................................... 0 max. cps
AMBIENT-TEMPERATURE RANGE............................. -55 to +90 °C

Maximum Circuit Values:
Shunt Capacitance........................... 0.1 max. µf

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

<table>
<thead>
<tr>
<th>DC Anode-Supply Voltage</th>
<th>Min.</th>
<th>Av.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode Breakdown Voltage:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under total darkness</td>
<td>-</td>
<td>-</td>
<td>145** volts</td>
</tr>
<tr>
<td>Under normal ambient light conditions</td>
<td>-</td>
<td>105</td>
<td>115** volts</td>
</tr>
<tr>
<td>Anode Voltage Drop</td>
<td>68*</td>
<td>75</td>
<td>83 volts</td>
</tr>
<tr>
<td>Regulation (5 to 30 ma.)</td>
<td>-</td>
<td>3</td>
<td>4.5 volts</td>
</tr>
</tbody>
</table>

* Averaged over starting period not exceeding 10 seconds. This starting period must be followed by a steady-state operating condition of at least 20 minutes, or tube performance will be impaired.

** The minimum value to insure "starting" throughout tube life must be equal to the anode breakdown voltage plus the voltage drop across the series resistor at the maximum value of the load current.

TENTATIVE DATA

7-58

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
OPERATING CONSIDERATIONS

Sufficient resistance must always be used in series with the OC2 to limit the current through the tube.

The value for the series resistor is dependent on the dc supply voltage, anode voltage drop, load current, and cathode current and should be chosen to limit the operating current through the tube to 30 milliamperes at all times after the starting period.