CHARACTERISTICS

GENERAL DATA

Focusing Method ........................................ Electrostatic
Deflection Method ....................................... Magnetic
Deflection Angles (Approx.)
   Horizontal ............................................ 102 Degrees
   Diagonal ............................................... 114 Degrees
   Vertical ................................................ 86 Degrees
Phosphor .................................................. Aluminized P4
Fluorescence ............................................ White
Persistence ............................................... Medium Short
Faceplate ................................................. Bonded Shield
   (Gray Filter Glass Safety Plate Laminated
   Directly to Face of Tube)
Light Transmittance of Faceplate Assembly
   (Approx.) .................................................. 44 Percent

ELECTRICAL DATA

Heater Voltage .......................................... 6.3 Volts
Heater Current ......................................... 0.45 ± 5% Ampere
Heater Warm-up Time\(^1\) ................................ 11 Seconds
Direct Inter-electrode Capacitances (Approx.)
   Cathode to All Other Electrodes .................. 5 pf
   Grid No. 1 to All Other Electrodes ............... 6 pf
   External Conductive Coating to Anode\(^2\) .......... 2100 pf Max.
   ......................................................... 1700 pf Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)
   Height .................................................. 12\(\frac{3}{8}\) Inches
   Width ................................................... 15\(\frac{3}{8}\) Inches
   Diagonal .............................................. 17\(\frac{5}{8}\) Inches
   Area ..................................................... 172 Sq. Inches
Neck Length ............................................. 4\(\frac{1}{8}\) ± \(\frac{1}{8}\) Inches
Overall Length .......................................... 11\(\frac{5}{8}\) ± \(\frac{3}{8}\) Inches
Bulb ....................................................... J149C
Safety Plate ............................................. FP159A
Bulb Contact (Recessed Small Cavity Cap) .......... J1-21
Base ...................................................... B7-208
Basing ...................................................... 8HR
Weight (Approx.) ........................................ 18 \(\frac{1}{2}\) Pounds

RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Cathode Drive Service\(^3\)
   Maximum Anode Voltage ................................ 23,000 Volts dc
   Minimum Anode Voltage ................................ 15,000 Volts dc
Grid No. 4 Voltage (Focusing Electrode) ............. -400 to +1250 Volts dc
Grid No. 2 Voltage ...................................... 70 Volts dc
Cathode Voltage
   Positive Bias Value .................................. 100 Volts dc
   Positive Peak Value ................................ 150 Volts dc
   Negative Bias Value ................................ 0 Volt dc
   Negative Peak Value ................................ 2 Volts dc
Peak Heater-Cathode Voltage
   Heater Negative with Respect to Cathode During
   Warm-up Period not to Exceed 15 Seconds .......... 450 Volts dc
   After Equipment Warm-up Period ..................... 200 Volts dc
   Heater Positive with Respect to Cathode .......... 200 Volts dc

SYLVANIA ELECTRONIC TUBES

A Division of Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS

SENeca FALLS, NEW YORK

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PAGE 1 OF 3
File Under
TELEVISION PICTURE TUBES
TYPICAL OPERATING CONDITIONS

Cathode Drive Service\(^3\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode Voltage</td>
<td>16,000 Volts dc</td>
</tr>
<tr>
<td>Grid No. 4 Voltage for Focus</td>
<td>0 to +400 Volts dc</td>
</tr>
<tr>
<td>Grid No. 2 Voltage(^3)</td>
<td>50 Volts dc</td>
</tr>
<tr>
<td>Cathode Voltage Required for Cutoff(^4)</td>
<td>+32 to +50 Volts dc</td>
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</tbody>
</table>

CIRCUIT VALUES

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid No. 1 Circuit Resistance</td>
<td>1.5 Megohms Max.</td>
</tr>
</tbody>
</table>

NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.
2. External conductive coating must be grounded.
3. Voltages are positive with respect to Grid No. 1 unless indicated otherwise.
4. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more positive.

WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.
DIAGRAM NOTES:

1. Reference line is determined by plane C-C' of JEDEC No. 126 Reference line Gauge, when the gauge is seated against the bulb.
2. Base Pin No. 4 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.
3. Planes perpendicular to tube axis and passing through points X, Y and Z are located as follows:
   - Plane tangent to crown of face to plane of X: 0.500" Nominal
   - Plane of X to plane of Y = .421" ± .025"
   - Plane of X to plane of Z = .738" ± .043"