CHARACTERISTICS

GENERAL DATA

Focusing Method ............................................. Electrostatic
Deflection Method ............................................ Magnetic
Deflection Angles (Approx.)
    Horizontal .............................................. 101 Degrees
    Diagonal ................................................ 114 Degrees
    Vertical ................................................... 86 Degrees
Phosphor ......................................................... Aluminized P4
Fluorescence .................................................. White
Persistence ..................................................... Medium Short
Faceplate ......................................................... Gray Filter Glass
Light Transmittance (Approx.) ................................ 78 Percent

ELECTRICAL DATA

Heater Voltage ................................................. 6.3 Volts
Heater Current ............................................... 0.60 ± 5 % Ampere
Heater Warm-up Time ...................................... 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 ........................................ 1500 pf Max.
                                                                 1000 pf Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)
    Height ..................................................... 12 Inches
    Width ..................................................... 15\(\frac{1}{8}\) Inches
    Diagonal .................................................. 17\(\frac{1}{2}\) Inches
Minimum Useful Screen Area ................................ 172 Sq. Inches
Neck Length .................................................. 4\(\frac{3}{8}\) ± \(\frac{1}{8}\) Inches
Overall Length ............................................... 11\(\frac{1}{2}\) ± \(\frac{1}{4}\) Inches
Bulb .......................................................... J149A
Bulb Contact (Recessed Small Cavity Cap) .............. J1-21
Base ......................................................... B7-208
Basing ......................................................... 8HR
Weight (Approx.) .............................................. 13\(\frac{1}{2}\) Pounds

RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Cathode Drive Service
  Maximum Anode Voltage ................................... 20,000 Volts \(\text{dc}\)
  Minimum Anode Voltage .................................. 10,000 Volts \(\text{dc}\)
  Grid No. 4 Voltage (Focusing Electrode) ................... -400 to +1250 Volts \(\text{dc}\)
  Maximum Grid No. 2 Voltage ................................ 70 Volts \(\text{dc}\)
  Minimum Grid No. 2 Voltage ................................ 40 Volts \(\text{dc}\)
Cathode Voltage
  Positive Bias Value ....................................... 100 Volts \(\text{dc}\)
  Positive Peak Value ...................................... 150 Volts \(\text{dc}\)
  Negative Bias Value ...................................... 0 Volt \(\text{dc}\)
  Negative Peak Value ..................................... 2 Volts \(\text{dc}\)
Peak Heater-Cathode Voltage
  Heater Negative with Respect to Cathode
    During Warm-up Period Not to Exceed 15 Seconds ............... 450 Volts
    After Equipment Warm-up Period ...................... 200 Volts
  Heater Positive with Respect to Cathode ..................... 200 Volts
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</td>
<td>50 Volts dc</td>
</tr>
<tr>
<td>Cathode Voltage Required for Cutoff(^4)</td>
<td>32 to 50 Volts dc</td>
</tr>
</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 heater current.

2. External conductive coating must be grounded.

3. Voltages are positive with respect to Grid 1 unless indicated otherwise.

4. Visual extinction of focused raster. For cutoff of the undeflected focused spot, the absolute value of the bias between cathode and grid will increase by about 5 volts.

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.