GENERAL DATA

Focusing Method ............... Electrostatic
Deflection Method ............. Magnetic
Deflection Angles (Approx.)
  Horizontal ................. 99 Degrees
  Diagonal ................... 110 Degrees
  Vertical .................. 82 Degrees
Phosphor ..................... Aluminized P4
Fluorescence ................. White
Persistence .................. Short to Medium
Faceplate .................... Bonded Shield
  (Gray Filter Glass Safety Plate
  Laminated Directly to Face of Tube)
Light Transmittance of Face plate Assembly (Approx.) .... 40 Percent
23 AVP4 and 23AYP4: External Surface of Safety Plate
  Treated to Reduce Specular Reflection

ELECTRICAL DATA

<table>
<thead>
<tr>
<th>23AYP4</th>
<th>23CP4</th>
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<tbody>
<tr>
<td>23SP4</td>
<td>23AVP4</td>
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</table>

Heater Voltage .............. 6.3 6.3 Volts
Heater Current ± 5% ......... 0.30 0.60 Ampere
Heater Warm-up Time¹ ....... 11 Seconds
Direct Interelectrode Capacitances (Approx.)
  Cathode to All Other Electrodes .......... 5 μF
  Grid No. 1 to All Other Electrodes ...... 6 μF
  External Conductive Coating to Anode² .... 2500 μF Max.
                                      2000 μF Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)
  Height ..................... 15 ½ inches
  Width ...................... 19 5/16 inches
  Diagonal .................. 22 5/16 inches
  Area ....................... 282 Sq. inches
Neck Length .................. 5 ½ ± ¼ inches
Overall Length ............. 15 3/16 ± ¾ inches
Bulb ......................... J187A or Equiv.
Safety Plate (23CP4, 23SP4) .... FP198A
Safety Plate (23AVP4, 23AYP4) ... FP198B
Bulb Contact (Recessed Small Cavity Cap) ...... J1-21
Base ......................... B7-208
Basing ....................... 8HR
Weight (Approx.) ........... 32½ pounds

RATINGS

MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service

Anode Voltage .............. 22,000 Volts dc
Grid No. 4 Voltage (Focusing Electrode) .... -550 to +1100 Volts dc
Grid No. 2 Voltage .......... 550 Volts dc
Grid No. 1 Voltage
  Negative Bias Value .... 155 Volts dc
  Negative Peak Value .... 220 Volts
  Positive Bias Value .... 0 Volts dc
  Positive Peak Value .... 2 Volts
MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service (Continued)

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 (Grid Drive Service)

Anode Voltage ................................................................. 16,000 Volts dc
Grid No. 4 Voltage for Focus ........................................ 0 to +400 Volts dc
Grid No. 2 Voltage ......................................................... 300 Volts dc
Grid No. 1 Voltage Required for Cutoff\(^5\) ......................... −35 to −72 Volts dc

CIRCUIT VALUES

Grid No. 1 Circuit Resistance ........................................ 1.5 Megohms Max.

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. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.

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 X, Y, and Z are located as follows:
   - Plane tangent to crown of face to plane of X: .758'' Nom.
   - Plane of X to plane of Y = .463'' ± 030''
   - Plane of X to plane of Z = .970'' ± 030''

4. Dimensions are in inches.