CHARACTERISTICS

GENERAL DATA

Focusing Method ................................................................. Electrostatic
Deflection Method ............................................................... Magnetic
Deflection Angles (Approx.)
  Horizontal ................................................................. 104 Degrees
  Diagonal ................................................................. 110 Degrees
  Vertical ................................................................. 85 Degrees
Phosphor ................................................................. Aluminized P4
Fluorescence ................................................................. White
Persistence ................................................................. Short to Medium
Faceplate 
  Gray Filterglass Safety Plate Laminated Directly to 
  Face of Plate 
  Light Transmittance of Faceplate Assembly (Approx.) ............... 45 Percent

ELECTRICAL DATA

Heater Voltage ................................................................. 6.3 Volts
Heater Current—27ADP4 ....................................................... 0.6 ± 5 % Ampere
Heater Current—27AFP4 ....................................................... 0.3 ± 5 % Ampere
Heater Warm-up Time ......................................................... 11 Seconds
Direct Interelectrode Capacitance (Approx.)
  Cathode to All Other Electrodes ........................................ 5 μF
  Grid No. 1 to All Other Electrodes ...................................... 6 μF
  External Conductive Coating to Anode ................................ 2500 μF Max.
  ................................................................. 2000 μF Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Max. Assured)
  Height ................................................................. 185 5/8 Inches
  Width ................................................................. 24 1/4 Inches
  Diagonal ................................................................. 25 3/4 Inches
Minimum Useful Screen Area ................................................ 425 Square Inches
Neck Length ................................................................. 53 5/8 ± 3/6 Inches
Overall Length ................................................................. 173 5/6 ± 3/8 Inches
Bulb Contact (Recessed Small Cavity Cap) ................................ J1-21
Bulb ................................................................. J214 ½A
Safety Plate ................................................................. FP-214 ½A1
Base ................................................................. B7-208
Basing ................................................................. 8HR
Weight (Approx.) ............................................................... 51 Pounds

RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Grid Drive Service .............................................................
  Maximum Anode Voltage .................................................. 22,000 Volts dc
  Minimum Anode Voltage .................................................. 12,000 Volts dc
  Grid No. 4 Voltage (Focusing Electrode) ................................ -550 to +1100 Volts dc
  Maximum Grid No. 2 Voltage ............................................. 550 Volts dc
  Minimum Grid No. 2 Voltage ............................................. 200 Volts dc
  Grid No. 1 Voltage ........................................................
    Negative Bias Value ................................................. 155 Volts dc
    Negative Peak Value .............................................. 220 Volts dc
    Positive Bias Value ................................................. 0 Volts dc
    Positive 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
      After Equipment Warm-up Period ................................ 200 Volts
    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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TELEVISION PICTURE TUBES
MAXIMUM RATINGS (Design Maximum Values) Continued

Cathode Drive Service¹
Maximum Anode Voltage ........................................... 22,000 Volts dc
Minimum Anode Voltage ........................................... 12,000 Volts dc
Grid No. 4 Voltage (Focusing Electrode) ..................... −400 to +1250 Volts dc
Maximum Grid No. 2 Voltage .................................... 700 Volts dc
Minimum Grid No. 2 Voltage .................................... 350 Volts dc
Cathode Voltage
Positive Bias Value .................................................. 155 Volts dc
Positive Peak Value ............................................... 220 Volts dc
Negative Bias Value ............................................... 0 Volts 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
After Equipment Warm-up Period .............................. 200 Volts
Heater Positive with Respect to Cathode ...................... 200 Volts

TYPICAL OPERATING CONDITIONS

Grid Drive Service²
Anode Voltage ...................................................... 18,000 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 Cutoff³ ...................... −37 to −74 Volts
cathode Drive Service⁴
Anode Voltage ...................................................... 18,000 Volts dc
Grid No. 4 Voltage for Focus .................................. 0 to 400 Volts dc
Grid No. 2 Voltage ................................................ 300 Volts dc
Cathode Voltage Required for Cutoff⁵ ......................... +37 to +62 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 its rated value 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 rated heater voltage divided by rated heater current.
2. External conductive coating must be grounded.
3. Unless otherwise specified, voltages are positive with respect to cathode.
4. Unless otherwise specified, voltages are positive with respect to Grid No. 1.
5. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be increased 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 gauge is seated against the bulb.
2. Base Pin No. 4 aligns with horizontal centerline of tube within 30°, and is on same side as anode contact, J1-21.