CHARACTERISTICS

GENERAL DATA

<table>
<thead>
<tr>
<th>Focusing Method</th>
<th>Electrostatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deflection Method</td>
<td>Electrostatic</td>
</tr>
<tr>
<td>Types*</td>
<td></td>
</tr>
<tr>
<td>3ACP1A</td>
<td>Green</td>
</tr>
<tr>
<td>3ACP2A</td>
<td>Blue-Green</td>
</tr>
<tr>
<td>3ACP7A</td>
<td>Blue-White</td>
</tr>
<tr>
<td>3ACP11A</td>
<td>Blue</td>
</tr>
<tr>
<td>3ACP12A</td>
<td>Orange</td>
</tr>
<tr>
<td>Faceplate</td>
<td>Flat, Clear</td>
</tr>
</tbody>
</table>

*In addition to the types shown, the 3ACP-A can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage | 6.3 Volts |
Heater Current | 0.6 ± 10% Ampere |
Direct Interelectrode Capacitances (Maximum) | |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathode to All Other Electrodes</td>
<td>4.2 μF</td>
</tr>
<tr>
<td>Grid to All Other Electrodes</td>
<td>5.5 μF</td>
</tr>
<tr>
<td>Between Deflecting Plates 1-2</td>
<td>2.1 μF</td>
</tr>
<tr>
<td>Between Deflecting Plates 3-4</td>
<td>1.5 μF</td>
</tr>
<tr>
<td>Deflecting Plate 1 to All Other Electrodes</td>
<td>5.8 μF</td>
</tr>
<tr>
<td>Deflecting Plate 2 to All Other Electrodes</td>
<td>5.8 μF</td>
</tr>
<tr>
<td>Deflecting Plate 3 to All Other Electrodes</td>
<td>4.5 μF</td>
</tr>
<tr>
<td>Deflecting Plate 4 to All Other Electrodes</td>
<td>4.5 μF</td>
</tr>
</tbody>
</table>

MECHANICAL DATA

Minimum Useful Screen Diameter | 2.68 Inches |
Bulb Contact (Recessed Small Ball Cap) | J1-22 |
Bulb | J24V |
Base (Medium-Shelf Diheptal 12-Pin) | B12-37 |
Basing | 14J |
Base Alignment | |
D1-D2 trace aligns with Pin No. 5 and Tube Axis | ±10 Degrees |
Positive Voltage on D1 deflects beam approx. toward Pin No. 5 |
Positive Voltage on D3 deflects beam approx. toward Pin No. 2 |
Angle between traces D1-D2 and D3-D4 | 90 ±1 Degrees |
Bulb Contact alignment | |
J1-22 contact aligns with D1-D2 trace | ±10 Degrees |
J1-22 contact on same side as Pin No. 5 |

SYLVANIA

ENGINEERING DATA SERVICE

3ACP1A
3ACP-A*

QUICK REFERENCE DATA

3” Direct Viewed
Round Glass Type
Electrostatic Type
Electrostatic Focus
Close Tolerances
Flat Face Plate
Post Deflection Acceleration

SYLVANIA

ELECTRONIC TUBES

A Division of
Sylvania Electric Products, Inc.

PICTURE TUBE OPERATIONS
SENECA FALLS, NEW YORK

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JULY, 1959

PAGE 1 OF 3
RATINGS

MAXIMUM RATINGS (Absolute Maximum Values)

- Anode No. 3 Voltage: 6600 Volts dc
- Anode No. 2 Voltage: 2200 Volts dc
- Ratio Anode No. 3 to Anode No. 2 Voltage\(^1\): 3.0
- Anode No. 2 Input (Av. except for 3ACP12A): 6.0 Watts
- Anode No. 1 Voltage (Focusing Electrode): 1650 Volts dc
- Grid No. 1 Voltage
  - Negative Bias Value: 220 Volts dc
  - Positive Bias Value: 0 Volts dc
  - Positive Peak Value: 0 Volts
- Peak Heater-Cathode Voltage
  - Heater Negative with Respect to Cathode: 200 Volts
  - Heater Positive with Respect to Cathode: 200 Volts
- Peak Voltage Between Anode No. 2 and Any Deflection Plate: 600 Volts

TYPICAL OPERATING CONDITIONS\(^3\)

- Anode No. 3 Voltage: 4000 Volts dc
- Anode No. 2 Voltage: 2000 Volts dc
- Anode No. 1 Voltage for Focus: 390 to 550 Volts dc
- Grid No. 1 Voltage Required for Cutoff\(^3\): -45 to -75 Volts dc
- Anode No. 3 Current\(^4\): 500 \(\mu A\) dc Min.
- Cathode Current\(^5\): 125 \(\mu A\) dc Max.
- Cathode Current\(^6\): 600 \(\mu A\) dc Max.
- Deflection Factor
  - Deflecting Plates 1-2: 175 to 205 Volts dc/Inch
  - Deflecting Plates 3-4: 138 to 158 Volts dc/Inch
- Deflection Factor Uniformity\(^7\): 2% Max.
- Pattern Distortion\(^8\): 2% Max.
- Modulation at Anode No. 3 Current = 25 \(\mu A\)dc\(^7\): 21 Volts dc Max.
- Modulation at Anode No. 3 Current = 200 \(\mu A\)dc\(^7\)
  (Except 3ACP12A): 45 Volts dc Max.
- Line Width "A" at Anode No. 3 Current = 5 \(\mu A\) (3ACP12A): .012 Inches Max.
- Line Width "A" at Anode No. 3 Current = 50 \(\mu A\)dc\(^7\)
  (Except 3ACP12A): .016 Inches Max.
- Line Width "A" at Anode No. 3 Current = 200 \(\mu A\)dc\(^7\)
  (Except 3ACP12A): .028 Inches Max.
- Light Output at Anode No. 3 Current = 100 \(\mu A\)dc\(^5\)
  3ACP1A: 80 Foot Lamberts Min.
  3ACP11A: 35 Foot Lamberts Min.
- Spot Position (Focused and Undelected)\(^10\) Within a 3/16 Inch Radius Circle

CIRCUIT VALUES

- Grid Circuit Resistance: 1.5 Megohms Max.
- Deflection Circuit Resistance\(^11\): 1.0 Megohms Max.
NOTES:

1. These types are designed for optimum performance when operating at EB3/EB2 ratio of 2.0.
2. Type 3ACP12A can be severely and permanently damaged if current density is allowed to rise too high. Test and operate at minimum usable currents.
3. Visual extinction of undeflected focused spot.
4. At EG1 = 0 V dc.
5. At IB3 = 50 µA dc.
6. At IB3 = 200 µA dc.
7. Per MIL-E-1 specifications.
8. All portions of a raster pattern, adjusted so its widest points just touch the sides of a 1.938 inch square, will fall within the area bounded by the 1.938 inch square and an inscribed 1.862 inch square.
9. Measured in accordance with MIL-E-1 specifications using a raster size of 17/6 x 17/6 inches. The P11 phosphor is measured with a photronic cell without eye correction.
10. Centered with respect to tube face and with tube shielded. Connect deflecting plates to Anode No. 2.
11. It is recommended that the deflecting electrode circuit resistance be approximately equal. Higher resistance values up to five megohms may be used for low beam current operation.
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