



# engineering data service

SYLVANIA  
7ABP7  
7ABP7A  
7ABP14  
7ABP14A  
7ABP19  
7ABP19A

## CHARACTERISTICS

### GENERAL DATA

|                            |                               |
|----------------------------|-------------------------------|
| Focusing Method            | Self Focusing (Electrostatic) |
| Deflection Method          | Magnetic                      |
| Deflection Angle (approx.) | 50 Degrees                    |
| Phosphor                   | P7                            |
| Fluorescence               | Blue-White                    |
| Phosphorescence            | Yellow                        |
| Persistence                | Long                          |
| Faceplate                  | Clear                         |

### ELECTRICAL DATA

|                                              |                       |
|----------------------------------------------|-----------------------|
| Heater Voltage                               | 6.3 Volts             |
| Heater Current                               | $0.6 \pm 10\%$ Ampere |
| Direct Interelectrode Capacitances (approx.) |                       |
| Cathode to All Other Electrodes              | $5 \mu\text{f}$       |
| Grid No. 1 to All Other Electrodes           | $6 \mu\text{f}$       |

### MECHANICAL DATA

|                                          |                  |
|------------------------------------------|------------------|
| Minimum Useful Screen Diameter           | 6 Inches         |
| Bulb Contact (Recessed Small Cavity Cap) | J1-21            |
| Base (Small Shell Duodecal 6-Pin)        | B6-63            |
| Basing                                   | 12M              |
| Bulb Contact Aligns with Pin No. 3       | $\pm 10$ Degrees |

### MAXIMUM RATINGS (Absolute Maximum Values)

|                                         |                     |    |
|-----------------------------------------|---------------------|----|
| Anode Voltage                           | 11,000 Volts        | dc |
| Grid No. 4 (Focusing Electrode) Voltage | -550 to +1100 Volts | dc |
| Grid No. 2 Voltage                      | 770 Volts           | dc |
| Grid No. 1 Voltage                      |                     |    |
| Negative Bias Value                     | 200 Volts           | dc |
| Positive Bias Value <sup>1</sup>        | 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           |    |

### TYPICAL OPERATING CONDITIONS

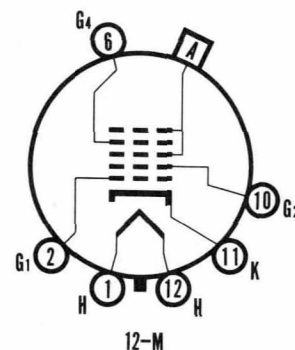
|                                           |                  |    |
|-------------------------------------------|------------------|----|
| Anode Voltage <sup>2</sup>                | 7000 Volts       | dc |
| Grid No. 4 Voltage for Focus <sup>3</sup> | 0 to 250 Volts   | dc |
| Grid No. 2 Voltage                        | 300 Volts        | dc |
| Grid No. 1 Voltage <sup>4</sup>           | -28 to -72 Volts | dc |

### CIRCUIT VALUES

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

## QUICK REFERENCE DATA

Special Purpose Tube  
7" Direct Viewed  
Round Glass Type  
Electrostatic Focus  
Magnetic Deflection  
High Resolution



SYLVANIA ELECTRIC  
PRODUCTS INC.

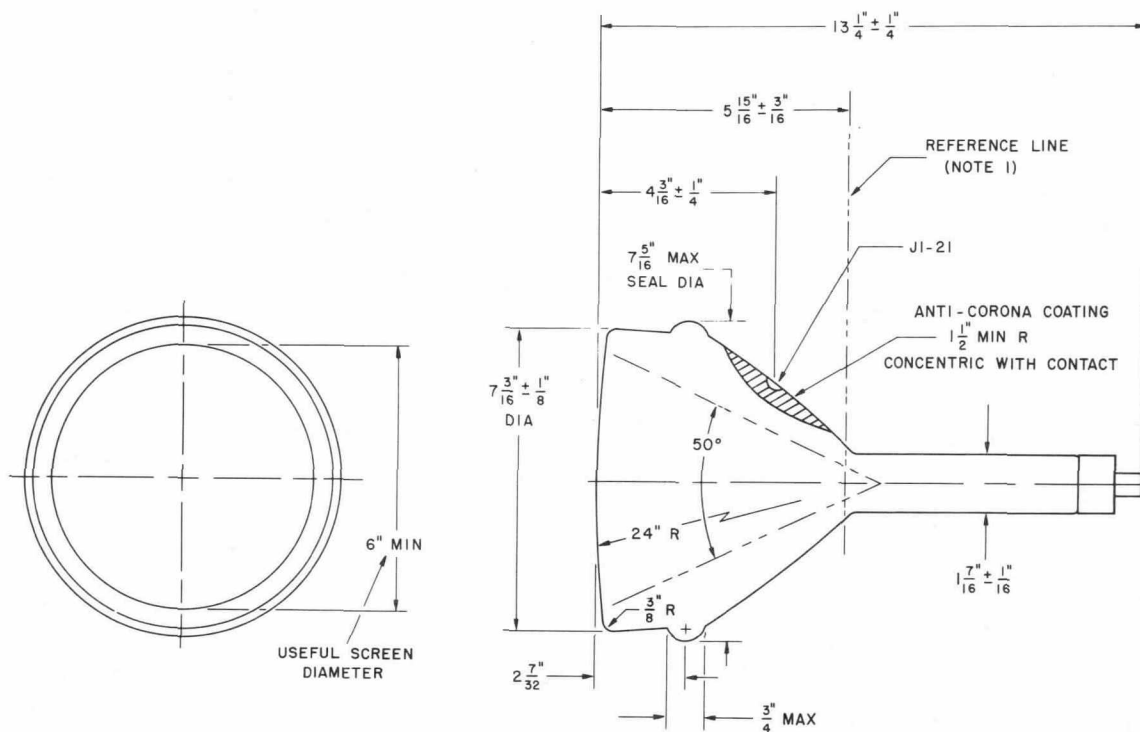
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DIVISION  
SENECA FALLS, NEW YORK

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NOTES:

1. At or near this rating, the effective resistance of the anode supply should be adequate to limit the anode input power to 6 watts. The screen of the 7ABP19 can be permanently damaged should the current density be permitted to rise too high. To prevent burning, minimum beam current densities should be employed.
2. Brilliance and definition decrease with decreasing anode voltage. In general, anode voltage should not be less than 5,000 volts, except for the 7ABP19. For this type the anode voltage should not be less than 7,000 volts.
3. With  $E_{g1}$  adjusted for  $I_b = 100 \mu a$  and beam focused for minimum width of individual lines at center of screen.
4. Visual extinction of undeflected focused spot.



557004

DIAGRAM NOTES:

1. Reference line is determined by the point where  $1.500 \pm \frac{.003}{.000}$  inch diameter ring gauge 2 inches long will stop.

## **7ABP7A**

The Sylvania Type 7ABP7A is identical to the Type 7ABP7 except that it has an aluminized screen.

## **7ABP14**

The Sylvania Type 7ABP14 is identical to the Type 7ABP7 except that it has a purple fluorescence, orange phosphorescence and medium long persistence phosphor.

## **7ABP14A**

The Sylvania Type 7ABP14A is identical to the Type 7ABP14 except that it has an aluminized screen.

## **7ABP19**

The Sylvania Type 7ABP19 is identical to the Type 7ABP7 except that it has an orange fluorescence and long persistence.

## **7ABP19A**

The Sylvania Type 7ABP19A is identical to the Type 7ABP19 except that it has an aluminized screen.

### **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.*