



## DESCRIPTION

The Sylvania Type SC-2840 is a 3-inch diameter, electrostatic focus and deflection cathode ray tube designed for compact analyzer equipment. It features short length and high brightness at low operating voltages.

## CHARACTERISTICS

## GENERAL DATA

|                   |               |
|-------------------|---------------|
| Focusing Method   | Electrostatic |
| Deflection Method | Electrostatic |
| Phosphor*         | P1            |
| Fluorescence      | Green         |
| Persistence       | Medium        |
| Faceplate         | Clear         |

\*In addition to the P1 phosphor the SC-2840 can be supplied with several other screen phosphors.

## ELECTRICAL DATA

|                                                         |                       |
|---------------------------------------------------------|-----------------------|
| Heater Voltage                                          | 6.3 Volts             |
| Heater Current                                          | $0.6 \pm 10\%$ Ampere |
| Direct Interelectrode Capacitances (Approx.)            |                       |
| Grid to All Other Electrodes                            | 5.0 pf                |
| Between Deflecting Plates 1-2                           | 1.5 pf                |
| Between Deflecting Plates 3-4                           | 1.5 pf                |
| Deflecting Plate 1 to All Other Electrodes <sup>1</sup> | 6.5 pf                |
| Deflecting Plate 2 to All Other Electrodes <sup>1</sup> | 8.5 pf                |
| Deflecting Plate 3 to All Other Electrodes <sup>1</sup> | 5.5 pf                |
| Deflecting Plate 4 to All Other Electrodes <sup>1</sup> | 6.5 pf                |

## MECHANICAL DATA

|                                    |                       |
|------------------------------------|-----------------------|
| Minimum Useful Screen Diameter     | $2\frac{3}{4}$ Inches |
| Base (Small-Shell Duodecal 10-Pin) | B10-75                |
| or (Small-Shell Duodecal 12-Pin)   | B12-43                |
| Basing                             | 12F                   |

## RATINGS

## MAXIMUM RATINGS (Absolute Maximum Values)

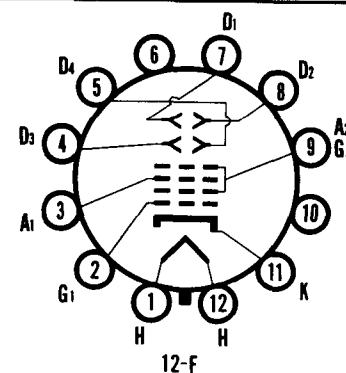
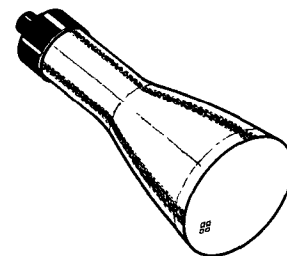
|                                                           |               |
|-----------------------------------------------------------|---------------|
| Anode No. 2 Voltage                                       | 2250 Volts dc |
| Anode No. 1 Voltage                                       | 1100 Volts dc |
| Grid Voltage                                              |               |
| Negative Bias Value                                       | 220 Volts dc  |
| Positive Bias Value                                       | 0 Volt        |
| Positive Peak Value                                       | 2 Volts       |
| Peak Heater-Cathode Voltage                               |               |
| Heater Negative with Respect to Cathode                   | 140 Volts     |
| Heater Positive with Respect to Cathode                   | 140 Volts     |
| Peak Voltage Between Anode No. 2 and Any Deflection Plate | 550 Volts     |

## TYPICAL OPERATING CONDITIONS

|                                               |                          |
|-----------------------------------------------|--------------------------|
| Anode No. 2 Voltage <sup>2</sup>              | 1200 Volts dc            |
| Anode No. 1 Voltage for Focus <sup>3</sup>    | 120 to 400 Volts dc      |
| Grid Voltage Required for Cutoff <sup>4</sup> | -42 to -90 Volts dc      |
| Deflection Factor <sup>5,6</sup>              |                          |
| Deflecting Plates 1-2 <sup>7</sup>            | 210 to 290 Volts dc/Inch |
| Deflecting Plates 3-4 <sup>8</sup>            | 180 to 260 Volts dc/Inch |

## QUICK REFERENCE DATA

Special Purpose Tube  
3" Direct Viewed  
Short Length  
Round Glass Type  
Electrostatic Deflection  
Electrostatic Focus  
High Brightness



SYLVANIA ELECTRIC  
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Electronic Components Group  
ELECTRONIC TUBE DIVISION  
SENECA FALLS, NEW YORK

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File Under

SPECIAL AND GENERAL  
PURPOSE CATHODE RAY TUBES

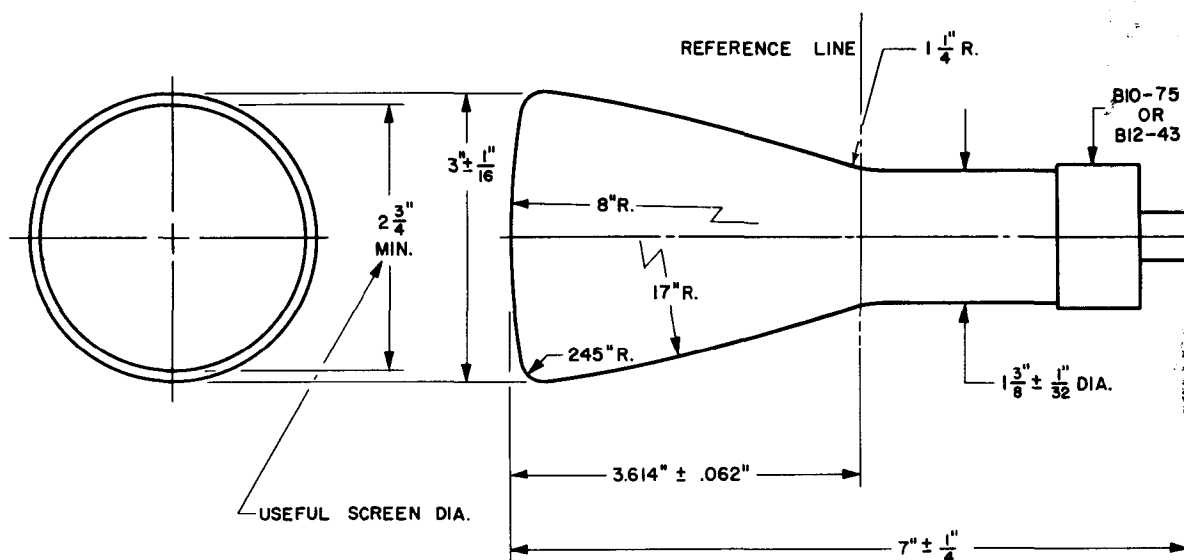
## CIRCUIT VALUES

|                                         |                  |
|-----------------------------------------|------------------|
| Grid Circuit Resistance . . . . .       | 1.5 Megohms Max. |
| Deflection Circuit Resistance . . . . . | 5.0 Megohms Max. |

## NOTES:

1. Positive voltage on D1 with respect to D2 will move the spot approximately in the direction of Pin No. 4,  $\pm 10^\circ$ .  
Positive voltage on D3 with respect to D4 will move the spot approximately in the direction of Pin No. 1.
2. Brilliance and definition decrease with decreasing Anode No. 2 Voltage. In general, Anode No. 2 Voltage should not be less than 1200 volts.
3. Eg set at 22.5 volts above spot cutoff.
4. Visual extinction of undeflected focused spot.
5. Angle between trace produced by plates D1-D2 and the plane through the tube axis and Pin No. 4 does not exceed  $15^\circ$ .
6. Angle between D1-D2 trace and D3-D4 trace is  $90^\circ \pm 3^\circ$ .
7. Deflecting Plates 1-2 are nearer the screen.
8. Deflecting Plates 3-4 are nearer the base.

## OUTLINE



D60008