



**DESCRIPTION**

Sylvania Type SC-3850 is a 5-inch diameter cathode ray tube designed for high resolution photographic recording using a fiber optics faceplate. An integral encapsulated high voltage connector is utilized to minimize corona at high altitude.

**CHARACTERISTICS**

**GENERAL DATA**

Focusing Method	Magnetic
Deflection Method	Magnetic
Deflection Angle (Approx.)	50 Degrees
Type*	SC-3850
Phosphor	Fine Grain P11
Fluorescence	Blue
Persistence	Short
Faceplate	Fiber Optic Insert See Dwg.

\*In addition to the type shown, the SC-3850 can be supplied with several other screen phosphors.

**ELECTRICAL DATA**

Heater Voltage	6.3 Volts	
Heater Current	0.6 ± 10 % Ampere	
Direct Interelectrode Capacitances (Approx.)		
Grid No. 1 to All Other Electrodes	10 pf	
Cathode to All Other Electrodes	5.5 pf	
External Conductive Coating to Anode	500 pf	Max.
	100 pf	Min.

**MECHANICAL DATA**

Minimum Useful Screen Area	4 x ¼ Inches
Overall Length	16 ¾ Inches
Bulb	C40 Exp. 14 or Equivalent
Anode Terminal	16", HV Cable, Corona Protected
Base	Small Shell Duodecal 5-Pin B5-57
Basing	12N

**MAXIMUM RATINGS (Absolute Maximum Values)**

Anode Voltage	15,000 Volts	dc
Anode Current (Eg1 = 0 Volt)	3.0 µa	dc
Grid No. 2 Voltage	2500 Volts	dc
Grid No. 2 Current (Eg1 = 0 Volt)	2000 µa	dc
Grid No. 1 Voltage		
Negative Bias Value	150 Volts	dc
Positive Bias Value	0 Volt	dc
Positive Peak Value	0 Volt	
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	165 Volts	
Heater Positive with Respect to Cathode	165 Volts	

**TYPICAL OPERATING CONDITIONS**

Anode Voltage	10,000 Volts	dc
Grid No. 2 Voltage	2000 Volts	dc
Grid No. 1 Voltage Required for Cutoff	-33 to -77 Volts	dc
Focusing Coil Current (Approx.)	100 Ma	
Line Width	0.0008 Inch	

**CIRCUIT VALUES**

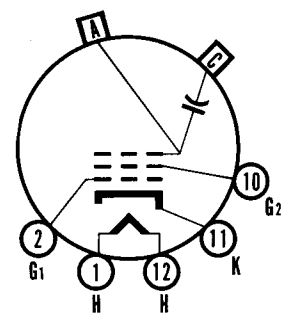
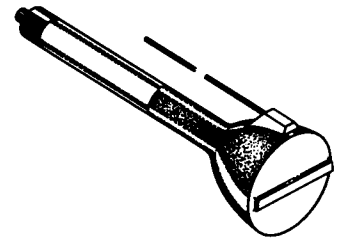
Grid No. 1 Circuit Resistance	1.5 Megohms Max.
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**FIBER OPTICS SPECIFICATIONS**

Size of Fiber Optics Insert	4 ½" x ½" x 3/16"
Fiber Size	5 Microns
Numerical Aperture	0.84

**QUICK REFERENCE DATA**

5" Fiber Optics Tube  
Magnetic Focus  
Magnetic Deflection  
Integral H.V. Connector  
For Very High Resolution  
Photographic Recording



12-N

**SYLVANIA ELECTRIC PRODUCTS INC.**

**Electronic Components Group  
ELECTRONIC TUBE DIVISION  
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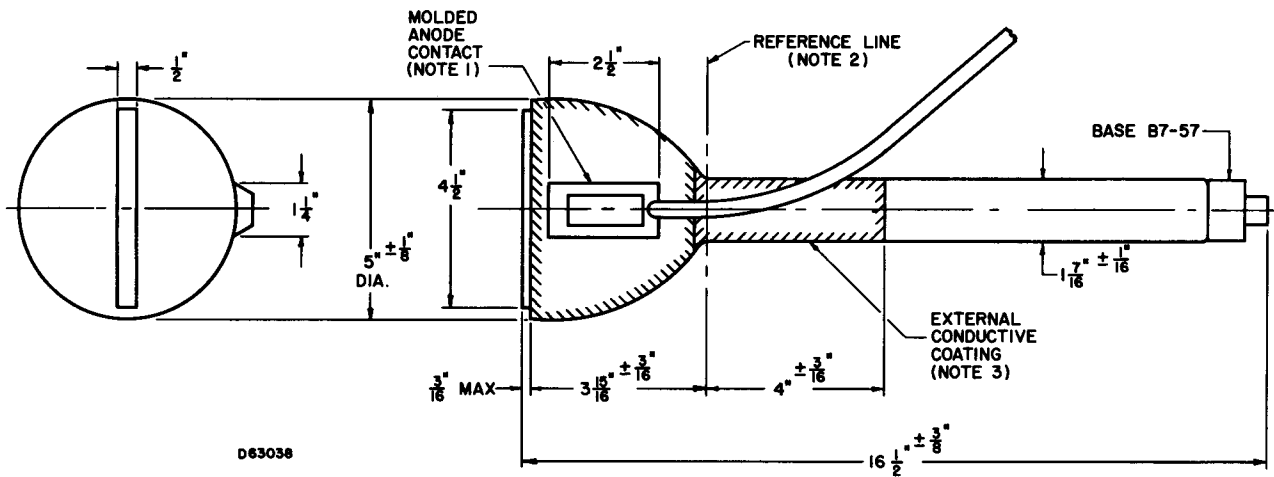
APRIL, 1964

PAGE 1 OF 2

*File Under*

**SPECIAL AND GENERAL  
PURPOSE CATHODE RAY TUBES**

**OUTLINE**



**DIAGRAM NOTES:**

1. The plane through the tube axis and vacant pin position No. 3 may vary from the plane through the axis and centerline of molded anode contact by an angular tolerance (measured about the tube axis) of  $\pm 30^\circ$ . Molded anode contact is on same side as vacant pin No. 3.
2. Reference line is determined by the plane C-C' of reference line gauge (JEDEC No. G112), when gauge is seated on the glass cone.
3. External conductive coating must be grounded.