



DESCRIPTION

Sylvania Type SC-3863 is an electrostatic charge printing tube designed for use in high speed printing equipment. It is a cathode ray tube which has as a target for the beam, an array of fine, closely spaced, wires extending through the bulb wall. Deflection and modulation of the beam striking the wires will produce charge patterns on a dielectric in contact with the outer surface of the tube.

The fine focus beam of the SC-3863, the small wire size and close spacing in the array, and the low capacitance between wire elements, permit high resolution along with extremely rapid printing. The SC-3863 can be used for single line scanning, and the .160" height of the array permits two-dimensional scanning for other types of operation. The useful printing width of the array is 2 3/4 inches.

CHARACTERISTICS

ELECTRICAL DATA

Focusing Method	Magnetic
Deflection Method	Magnetic
Horizontal Deflection Angle (Approx.)	24 Degrees
Heater Current at 6.3 Volts	600 ± 30 Ma
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 pf
Grid No. 1 to All Other Electrodes	8 pf

MECHANICAL DATA

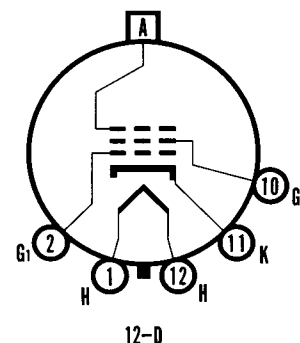
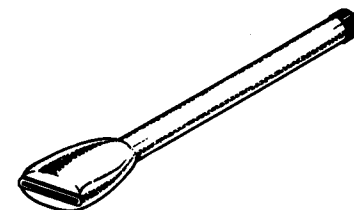
Printing Head	
0.001" Diameter Conductive Elements Spaced Approximately 0.004" on Centers in Both Directions.	
Minimum Useful Printing Array Width	2.750 Inches
Minimum Useful Printing Array Height	0.160 Inches
Array Thickness (Approx.)	0.050 Inches
Overall Length	18 ± 3/8 Inches
Width	3 1/4 ± 1/32 Inches
Height	1 3/4 ± 1/32 Inches
Neck Length	13 5/8 ± 1/4 Inches
Neck Diameter	1 7/16 ± 1/16 Inches
Bulb Contact	C1-3
Base	B5-57
Basing	12D
Weight (Approx.)	1 Pound

MAXIMUM RATINGS (Absolute Maximum Values)

Unless Otherwise Specified, All Voltages are Positive with Respect to Cathode.		
Maximum Anode Voltage	25,000 Volts	
Maximum Grid No. 2 Voltage	700 Volts	
Grid No. 1 Voltage		
Maximum Negative Value	155 Volts	dc
Maximum Negative Peak Value	200 Volts	
Maximum Positive Value	0 Volt	dc
Maximum Heater Voltage	6.9 Volts	
Minimum Heater Voltage	5.7 Volts	
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	

QUICK REFERENCE DATA

Electrostatic Charge Printing
Tube
Magnetic Deflection
Magnetic Focus
High Speed Printing
High Resolution
Printing Dimensions
1.6" x 2.75" Minimum



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Electronic Components Group
ELECTRONIC TUBE DIVISION
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File Under

SPECIAL AND GENERAL
PURPOSE CATHODE RAY TUBES

TYPICAL OPERATING CONDITIONS (Grid Drive Service)

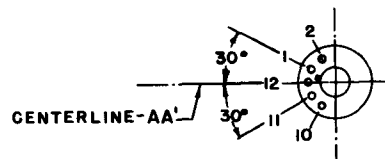
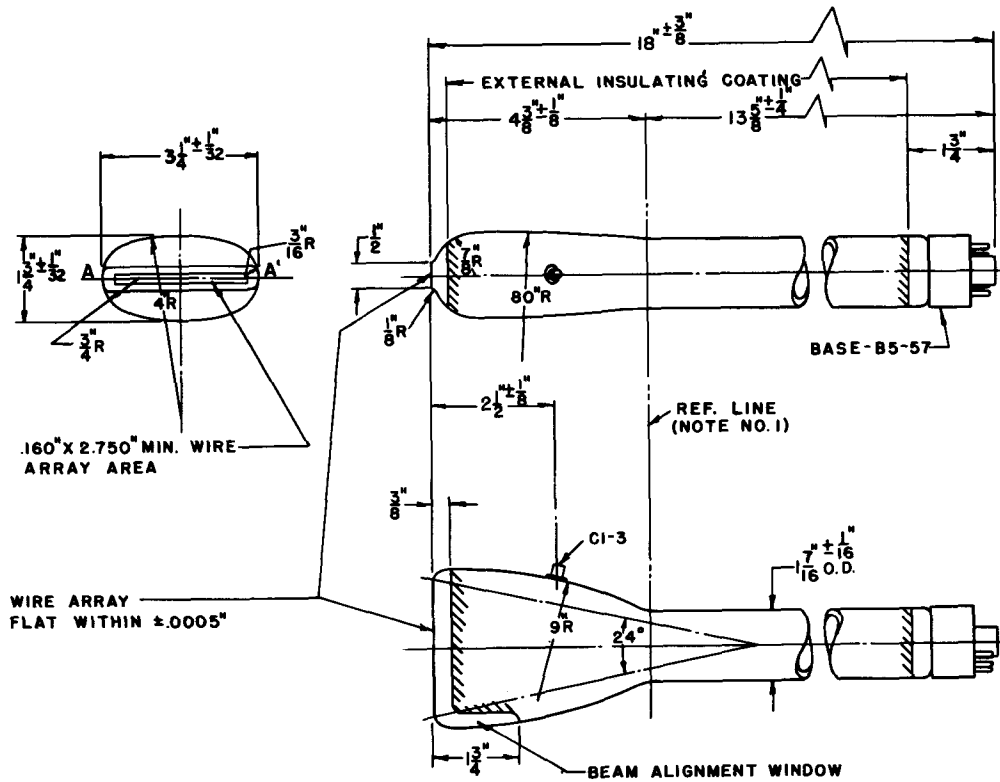
Unless Otherwise Specified, All Voltages are Positive with Respect to Cathode.

Anode Voltage	20,000 Volts	dc
Grid No. 2 Voltage	300 Volts	dc
Grid No. 1 Voltage for Cutoff	-40 to -77 Volts	dc
Focusing Coil Current ¹	70 ± 10 Ma	dc

NOTE:

1. For JEDEC Focus Coil No. 122 or equivalent, with the combined Grid No. 1 bias voltage and video-signal voltage adjusted to produce 100 μ a anode current. Distance from tube face to center of air gap on focus coil is $7\frac{3}{8}$ inches.

OUTLINE



DS1030A

BOTTOM VIEW OF BASE
(NOTE NO. 2)

DIAGRAM NOTES:

1. Reference line determined by plane where JEDEC Gauge No. 112 (a cylinder 1.500" + .003" - .000" I.D. and 2" long) will stop against body of bulb.
2. Base Pin No. 12 aligns with horizontal centerline (A-A') within 30° and is on the side opposite the anode contact, (C1-3).