



engineering data service

SYLVANIA
SC-3179
SC-3180

DESCRIPTION

The Sylvania Types SC-3179 and SC-3180 are short, electrostatic focus, magnetic deflection cathode-ray tubes with necks located off the bulb axis, intended for sector-scan radar applications. They feature low grid drive characteristic, small neck diameter to permit use of light weight, efficient deflection yokes, and 6.3 Volt, 300 Ma heaters. These types are similar except that SC-3179 has one inch shorter bulb body than SC-3180.

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflecting Method	Magnetic
Maximum Deflection Angle (from Axis, Approx.)	SC-3179: 36°; SC-3180: 30 Degrees

Phosphor*	Fluorescence	Phosphorescence	Persistence
P7	Blue-White	Yellow	Long
P19	Orange	Orange	Long
P25	Orange	Orange	Long
Screen	Aluminized		
Faceplate	Clear, Spherical		

*In addition to the types shown, the SC-3179 and SC-3180 can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	$0.3 \pm 10\%$ Ampere
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	3 pf
Grid No. 1 to All Other Electrodes	6.5 pf

MECHANICAL DATA

Minimum Useful Screen Diameter	4 1/4 Inches
Bulb	SC-3179: J39 1/2 S; SC-3180: LEA-698
Bulb Contact (Recessed Small Ball Cap)	J1-22
Base (9-Pin Miniature) ¹	E9-37
Basing	See Diagram
Weight	1 3/4 Pound

RATINGS

MAXIMUM RATINGS (Absolute Maximum Values)

Anode Voltage	12,500 Volts dc
Grid No. 4 Voltage (Focusing Electrode)	-100 to +500 Volts dc
Grid No. 2 Voltage	500 Volts dc
Grid No. 1 Voltage	
Negative Bias Value	100 Volts dc
Positive Bias Value	0 Volt
Positive Peak Value	0 Volt
Peak Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	180 Volts
Heater Positive with Respect to Cathode	180 Volts

TYPICAL OPERATING CONDITIONS⁴

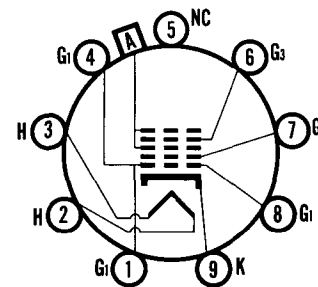
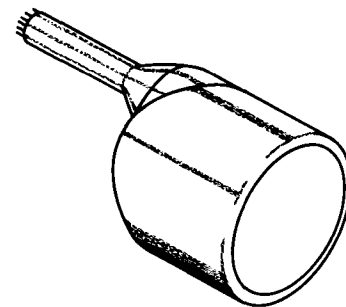
Anode Voltage	8000 Volts dc
Grid No. 4 Voltage for Focus ²	-40 to +250 Volts dc
Grid No. 2 Voltage	250 Volts dc
Grid No. 1 Voltage Required for Spot Cutoff	-10 to -25 Volts dc
Line Width "A" ³	0.014 Inch Max.
Modulation ³	20 Volts dc Max.

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.
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QUICK REFERENCE DATA

Radar Indicator
Sector Scan
5" Direct Viewed
Round Glass Type
Offset Neck
Aluminized Screen
Magnetic Deflection
Electrostatic Focus
7/8 Inch Neck Diameter
6.3 Volt—300 Ma Heater
SC-3179: Short Length



SYLVANIA ELECTRIC
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ELECTRONIC TUBE DIVISION
SENECA FALLS, NEW YORK

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PAGE 1 OF 2

File Under

SPECIAL AND GENERAL
PURPOSE CATHODE RAY TUBES

NOTES:

1. A socket with a center opening to clear the tubulation must be used. Care should be exercised to avoid damage to the tubulation.
2. With Grid No. 1 Voltage adjusted to give an anode current of 100 μ a.
3. Measured per Mil-E-1 specifications at an anode current of 100 μ a.
4. The P19 and P25 screens can be permanently damaged if current density is permitted to rise too high. To prevent burning, minimum beam current densities should be employed.

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.

OUTLINE—SC-3180

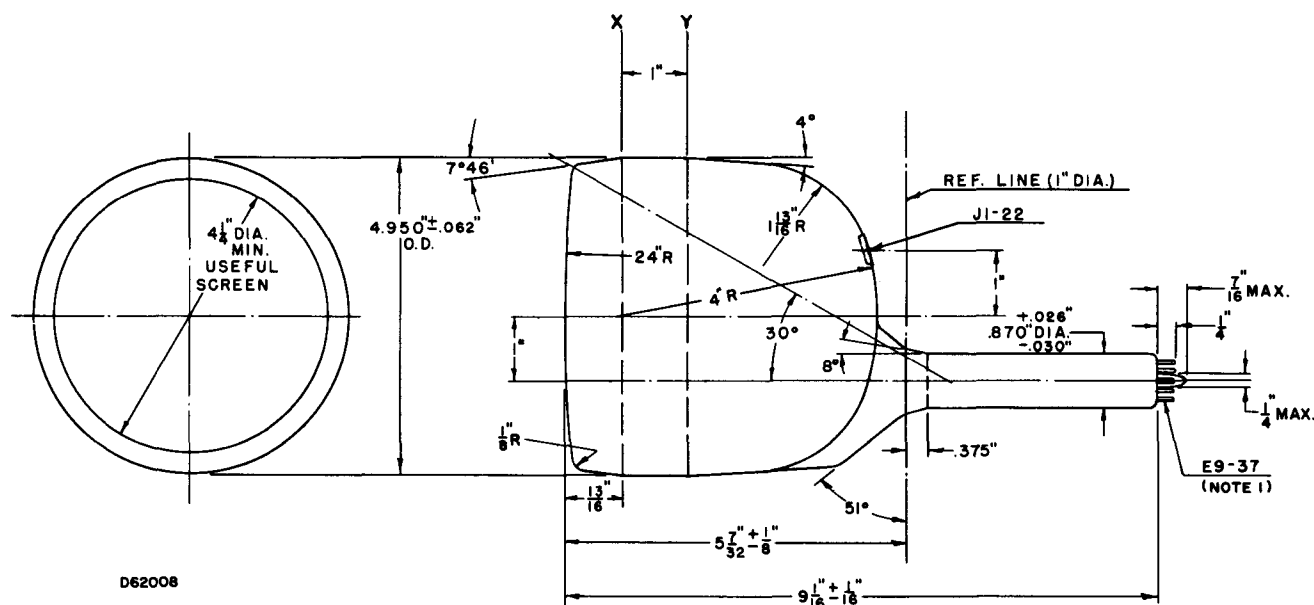


DIAGRAM NOTE:

1. Mid-plane between base pins No. 1 and No. 9 aligns with bulb contact (J1-22), $\pm 30^\circ$.

OUTLINE—SC-3179

Dimensions are similar to SC-3180 except that X and Y planes are common, reducing body length to $4\frac{7}{32}$ inch and overall length to $8\frac{1}{16}$ inch, and increasing deflection angle to 36 degrees approximate.