

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	80 Degrees
Diagonal	92 Degrees
Vertical	65 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Short to Medium
Faceplate	Gray Filter Glass
Light Transmittance at Center (Approx.)	78 Percent

ELECTRICAL DATA

Heater Voltage	6.3 Volts	
Heater Current	$0.60 \pm 5\%$ Ampere	
Heater Warm-up Time ¹	11 Seconds	
Direct Interelectrode Capacitances (Approx.)		
Cathode to All Other Electrodes	5 μ f	
Grid No. 1 to All Other Electrodes	6 μ f	
External Conductive Coating to Anode ²	2500 μ f	Max.
	2000 μ f	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 $\frac{1}{8}$ Inches
Width	19 $\frac{1}{4}$ Inches
Diagonal	22 $\frac{5}{16}$ Inches
Area	282 Sq. Inches
Neck Length	6 $\pm \frac{3}{16}$ Inches
Overall Length	18 $\frac{1}{2} \pm \frac{3}{8}$ Inches
Bulb	J187C or J187F
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B6-203
Basing	12L
Weight (Approx.)	27 Pounds

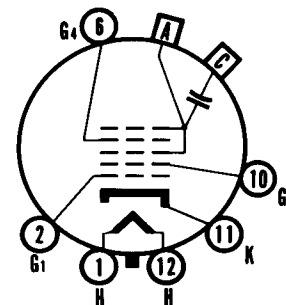
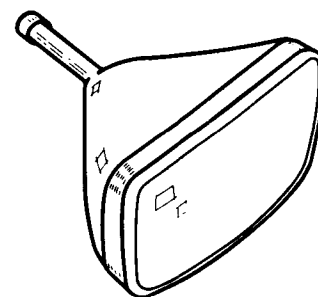
RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Grid Drive Service ³		
Maximum Anode Voltage	25,000 Volts	dc
Minimum Anode Voltage	12,000 Volts	dc
Grid No. 4 (Focusing Electrode) Voltage	-550 to +1100 Volts	dc
Grid No. 2 Voltage	550 Volts	dc
Grid No. 1 Voltage		
Negative Bias Value	155 Volts	dc
Negative Peak Value	220 Volts	
Positive Bias Value	0 Volts	dc
Positive Peak Value	2 Volts	
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 Period	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	

QUICK REFERENCE DATA

Television Picture Tube
23" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
92° Magnetic Deflection
No Ion Trap
External Conductive Coating



SYLVANIA ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS

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File Under
TELEVISION PICTURE TUBES

MAXIMUM RATINGS (Design Maximum Values) Continued

Cathode Drive Service⁴

Maximum Anode Voltage	25,000 Volts	dc
Minimum Anode Voltage	12,000 Volts	dc
Grid No. 4 (Focusing Electrode) Voltage	-400 to +1250 Volts	dc
Grid No. 2 Voltage	700 Volts	dc
Cathode Voltage		
Positive Bias Value	155 Volts	dc
Positive Peak Value	220 Volts	
Negative Bias Value	0 Volts	dc
Negative Peak Value	2 Volts	
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 Period	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	

TYPICAL OPERATING CONDITIONS

Grid Drive Service³

Anode Voltage	20,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to +400 Volts	dc
Grid No. 2 Voltage	300 Volts	dc
Grid No. 1 Voltage Required for Cutoff ⁵	-40 to -76 Volts	dc

Cathode Drive Service⁴

Anode Voltage	20,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to +400 Volts	dc
Grid No. 2 Voltage	300 Volts	dc
Cathode Voltage Required for Cutoff ⁵	+37 to +64 Volts	dc

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.
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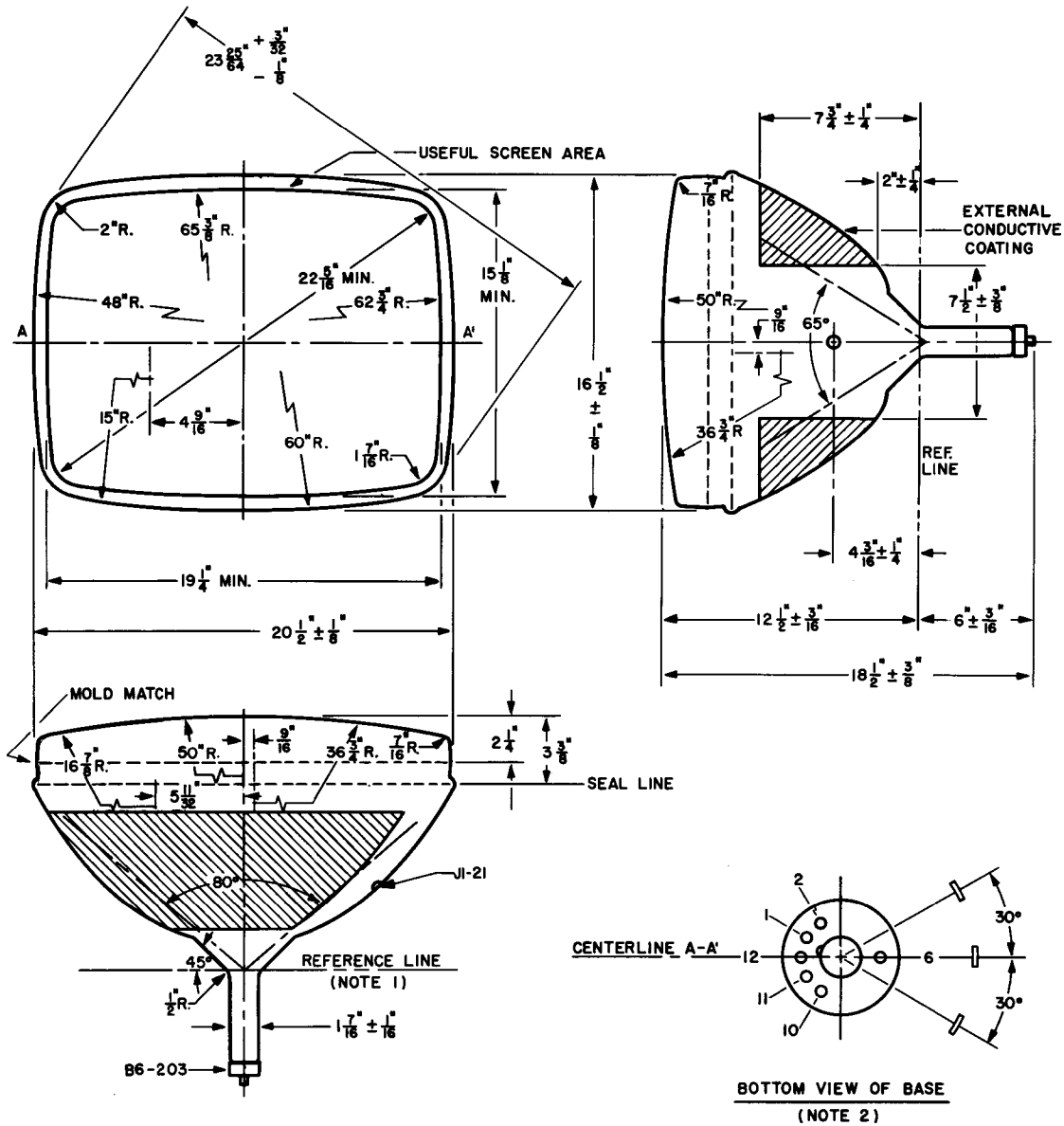
NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80 % of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.
2. External conductive coating must be grounded.
3. Voltages are positive with respect to cathode unless otherwise indicated.
4. Voltages are positive with respect to Grid No. 1 unless otherwise indicated.
5. Visual extinction of focused raster. Extinction of stationary focused spot will require that the absolute value of the bias between cathode and grid No. 1 be increased by about 5 volts.

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



D60032A

DIAGRAM NOTES:

1. Reference line is determined by plane C-C' of JEDEC No. 116 Reference Line Gauge, when the gauge is seated against the bulb.
2. Base Pin No. 6 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.