

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	100 Degrees
Diagonal	114 Degrees
Vertical	83 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Short to Medium
Faceplate	Gray Filter Glass
Light Transmittance (Approx.)	75 Percent

ELECTRICAL DATA

	23AMP4	23ALP4	23MP4	
Heater Voltage	6.3	6.3	6.3	Volts
Heater Current $\pm 5\%$	0.30	0.45	0.60	Ampere
Heater Warm-up Time ¹	11	11	11	Seconds
Direct Interelectrode Capacitances (Approx.)				
Cathode to All Other Electrodes			5 μf	
Grid No. 1 to All Other Electrodes			6 μf	
External Conductive Coating to Anode ²			2500 μf	Max.
			1700 μf	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 Inches
Width	19 1/8 Inches
Diagonal	22-5/16 Inches
Minimum Useful Screen Area	276 Sq. Inches
Neck Length	5 1/8 $\pm$ 1/8 Inches
Overall Length	14 3/8 $\pm$ 5/16 Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Bulb	J187B1
Base	B7-208
Basing	8HR
Weight (Approx.)	26 Pounds

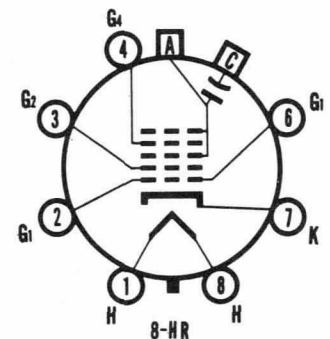
RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Grid Drive Service ⁴		
Maximum Anode Voltage	22,000 Volts	dc
Minimum Anode Voltage	11,000 Volts	dc
Grid No. 4 Voltage (Focusing Electrode)	-550 to +1100 Volts	dc
Maximum Grid No. 2 Voltage	550 Volts	dc
Minimum Grid No. 2 Voltage	200 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
114° Magnetic Deflection
1 1/8" Neck Diameter
No Ion Trap
External Conductive Coating



SYLVANIA ELECTRONIC TUBES

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File Under
TELEVISION PICTURE TUBES

MAXIMUM RATINGS (Design Maximum Values) (Continued)

Cathode Drive Service³

Maximum Anode Voltage	22,000 Volts	dc
Minimum Anode Voltage	11,000 Volts	dc
Grid No. 4 Voltage (Focusing Electrode)	-400 to +1250 Volts	dc
Maximum Grid No. 2 Voltage	700 Volts	dc
Minimum Grid No. 2 Voltage	300 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 Service⁴

Anode Voltage	18,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to 400 Volts	dc
Grid No. 2 Voltage	400 Volts	dc
Grid No. 1 Voltage Required for Cutoff ⁵	-46 to -94 Volts	dc

Cathode Drive Service³

Anode Voltage	18,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to 400 Volts	dc
Grid No. 2 Voltage	400 Volts	dc
Cathode Voltage Required for Cutoff ⁵	42 to 78 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 its rated value after applying (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times rated heater voltage divided by rated heater current.
2. External conductive coating must be grounded.
3. Voltages are positive with respect to Grid No. 1 unless indicated otherwise.
4. Voltages are positive with respect to Cathode unless indicated otherwise.
5. Visual extinction of focused raster. For cutoff of the undeflected spot, the absolute value of the bias between cathode and grid will increase 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

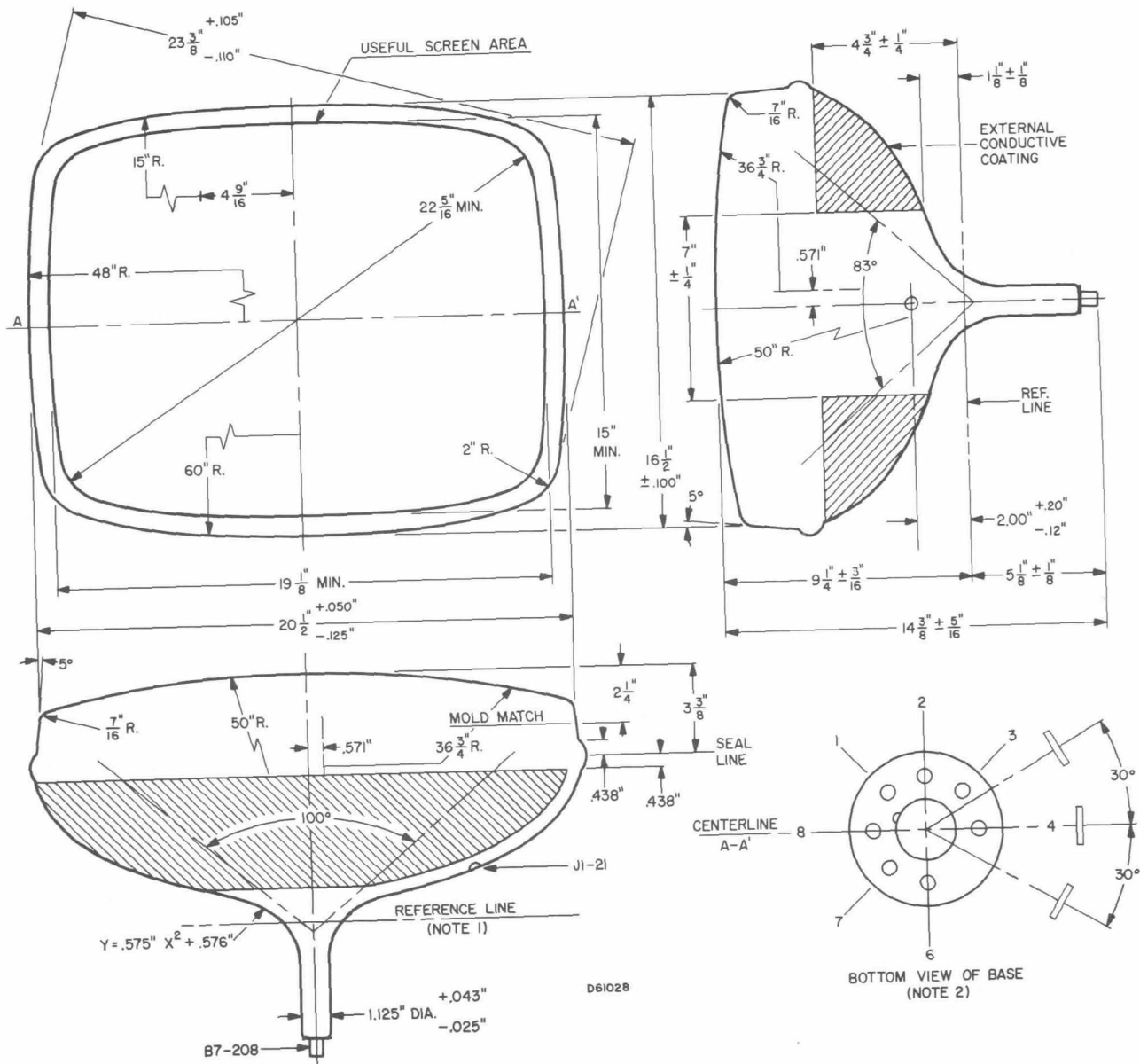


DIAGRAM NOTES:

- DIAGRAM NOTES:**
1. Reference line is determined by plane C-C' of JEDEC No. 126 Reference Line Gauge, when the gauge is seated against the bulb.
 2. Base Pin No. 4 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.