

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	81 Degrees
Diagonal	92 Degrees
Vertical	66 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Medium Short
Faceplate	Bonded Shield
(Gray Filter Glass Safety Plate Laminated Directly to Face of Tube)	
Light Transmittance of Faceplate Assembly (Approx.)	40 Percent
23EAP4 has external surface of safety plate treated to reduce specular reflection.	

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	$0.45 \pm 5\%$ Ampere
Heater Warm-up Time ¹	11 Seconds
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 pf
Grid No. 1 to All Other Electrodes	6 pf
External Conductive Coating to Anode ²	2500 pf
	2000 pf
	Max.
	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 $\frac{1}{4}$ Inches
Width	19 $\frac{5}{16}$ Inches
Diagonal	22 $\frac{5}{16}$ Inches
Area	282 Sq. Inches
Neck Length	5 $\frac{1}{2} \pm \frac{3}{16}$ Inches
Overall Length	18 $\frac{5}{16} \pm \frac{1}{16}$ Inches
Bulb	J187D or J187G
Safety Plate	
23CTP4	FP 198A
23EAP4	FP 198B
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B6-203
Basing	12L
Weight (Approx.)	34 $\frac{1}{2}$ Pounds

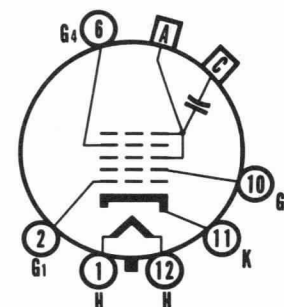
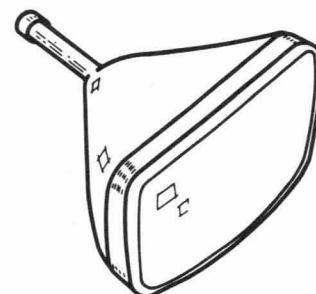
RATINGS

MAXIMUM RATINGS (Design Maximum Values)

	Grid Drive Service ³	
Anode Voltage	22,000 Volts dc	Max.
	12,000 Volts dc	Min.
Grid No. 4 Voltage (Focusing Electrode)	-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 Secs.	450 Volts	
After Equipment Warm-up Period	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	

QUICK REFERENCE DATA

Television Picture Tubes
23" Direct Viewed
Rectangular Glass Types
Bonded Shield
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
92° Magnetic Deflection
No Ion Trap
External Conductive Coating
6.3 Volt, 450 Ma Heater
23EAP4: Anti-Reflection
Treated



12-1

SYLVANIA ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS

SENECA FALLS, NEW YORK

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File Under

TELEVISION PICTURE TUBES

TYPICAL OPERATING CONDITIONS

	Cathode Drive Service ⁴	Grid Drive Service ³
Anode Voltage	16,000	16,000 Volts dc
Grid No. 4 Voltage for Focus	0 to +400	0 to +400 Volts dc
Grid No. 2 Voltage	300	300 Volts dc
Grid No. 1 Voltage Required for Cutoff ⁵	—	-35 to -72 Volts dc
Cathode Voltage Required for Cutoff ⁵	+33 to +59	— Volts dc

CIRCUIT VALUES

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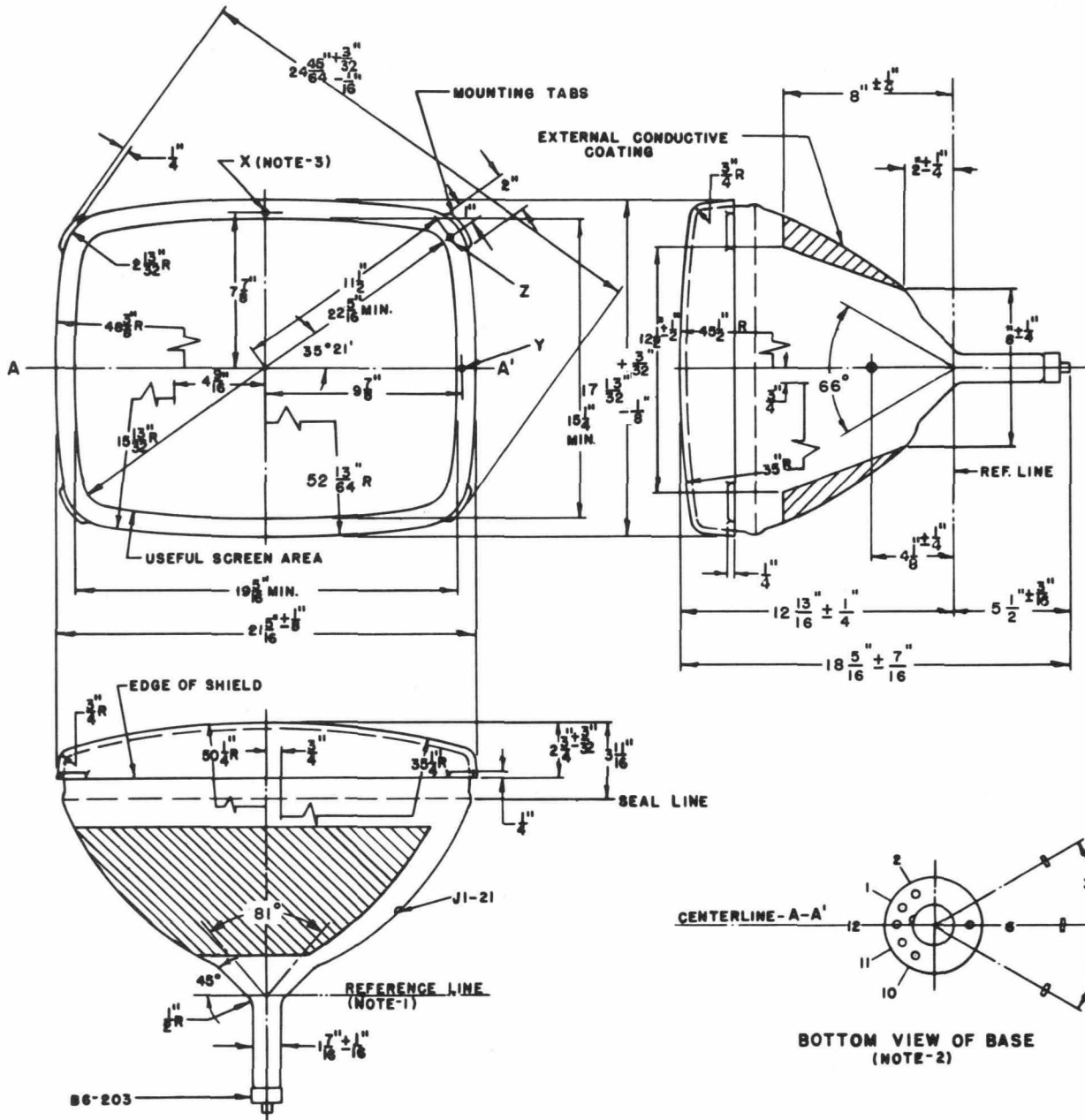
NOTES:

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 shown are positive with respect to Grid No. 1.
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



D60014B

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.
3. Planes perpendicular to tube axis and passing through points X, Y and Z are located as follows:
 Plane tangent to crown of face to plane of X: .758" Nom.
 Plane of X to plane of Y = .463" $\pm$.030".
 Plane of X to plane of Z = .970" $\pm$.030".