SYLVANIA

engineering data service

SYLVANIA
23ACP4
23TP4

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic	
Deflection Method	Magnetic	
Deflection Angles (Approx.)*		
Horizontal	76	Degrees
Diagonal	87	Degrees
Vertical	62	Degrees
Phosphor	Aluminized P4	
Fluorescence	White	
Persistence	Short to Medium	
Faceplate	Bonded Shield	
(Gray Filter Glass Safety Plate Laminated Directly to Face of Tube)		
Light Transmittance of Faceplate Assembly (Approx.)	40	Percent

ELECTRICAL DATA

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

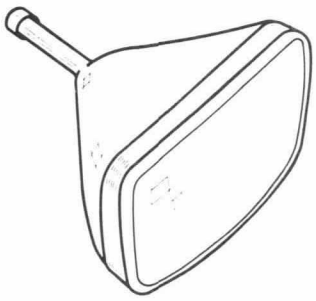
MECHANICAL DATA

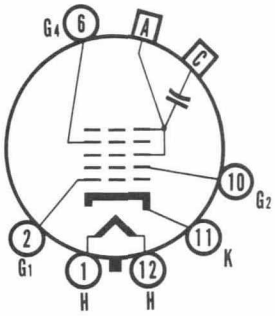
Minimum Useful Screen Dimensions (Maximum Assured)		
Height	15¼	Inches
Width	19 5/16	Inches
Diagonal	22 5/16	Inches
Area	282	Sq. Inches
Neck Length	5½ ± 3/16	Inches
Overall Length	19 11/32 ± 7/16	Inches
Bulb	C187 Exp. No. 2	
Safety Plate	FP198A or Equiv.	
Bulb Contact (Recessed Small Cavity Cap)	J1-21	
Base	B6-63	
Basing	12L	
Weight (Approx.)	35	Pounds

*Diagonal Deflection Angle is equal to that of earlier registered 21" tubes generally known as 90° types. Horizontal and vertical deflection angles are less.

QUICK REFERENCE DATA

Television Picture Tube
23" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Bonded Shield
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
90° Magnetic Deflection
No Ion Trap
External Conductive Coating





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SYLVANIA
ELECTRONIC TUBES
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RATINGS

MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service

	23TP4	23ACP4	
Maximum Anode Voltage	22,000	18,000 Volts	dc
Minimum Anode Voltage	12,000	8,000 Volts	dc
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 Seconds		450 Volts	
After Equipment Warm-up Period		200 Volts	
Heater Positive with Respect to Cathode		200 Volts	

TYPICAL OPERATING CONDITIONS (Grid Drive Service)

Anode Voltage	16,000 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[3]	−35 to −72 Volts	dc

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.

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. *Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.*

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

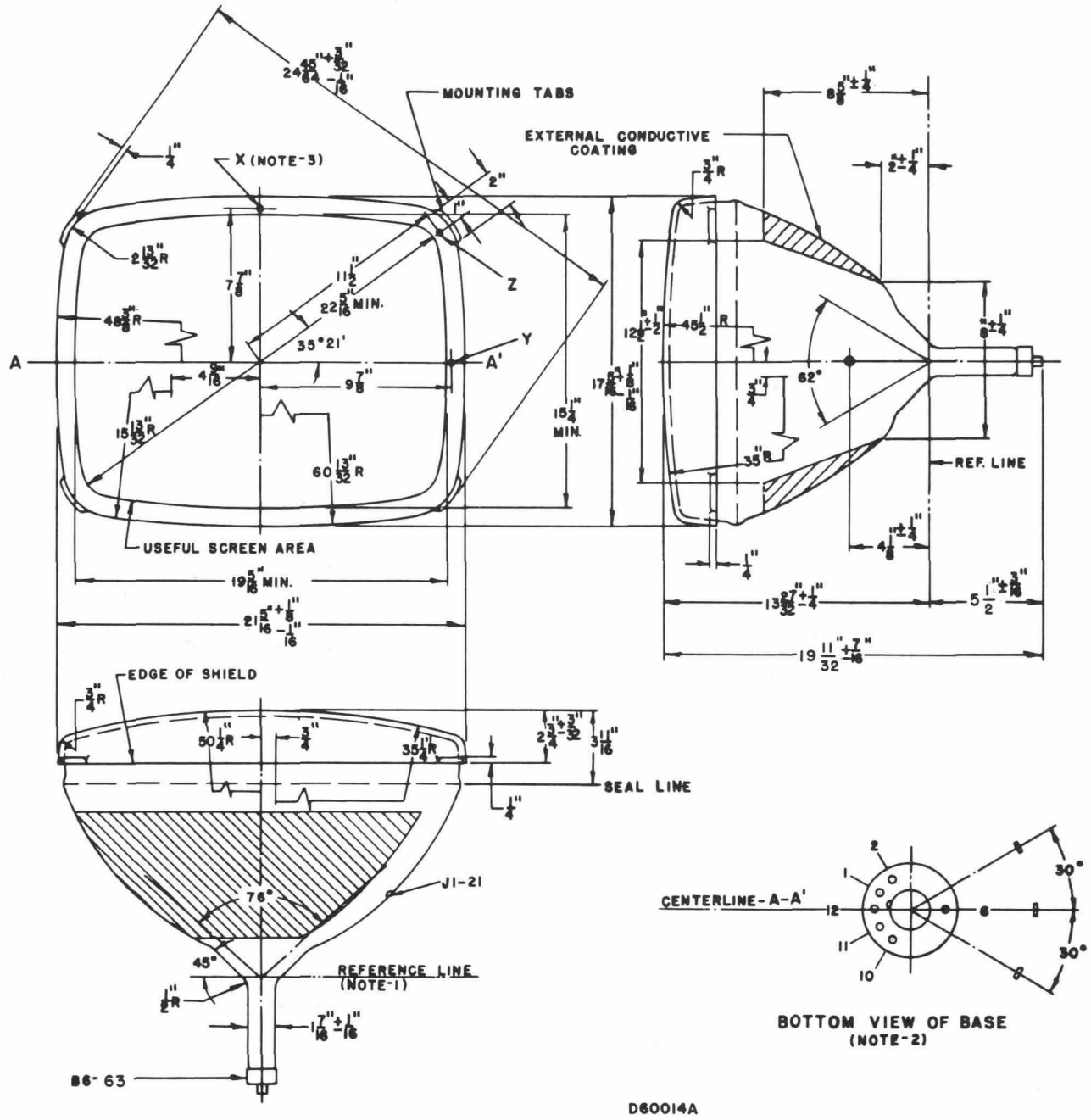

DIAGRAM NOTES:

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" ± .030".

   Plane of X to plane of Z = .970" ± .030".