



engineering data service

SYLVANIA

23ARP4

23BCP4

ADVANCE DATA

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	99 Degrees
Diagonal	110 Degrees
Vertical	82 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Short to Medium
Faceplate	Gray Filter Glass
Light Transmittance (Approx.)	76 Percent

ELECTRICAL DATA

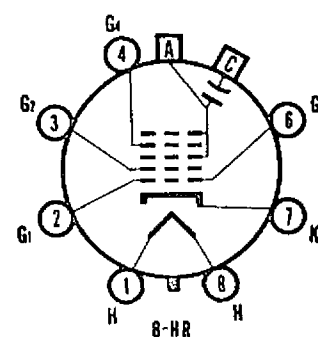
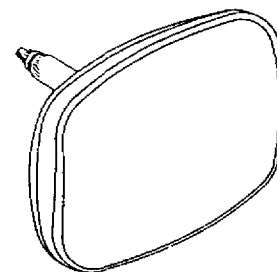
Heater Voltage	6.3 Volts
Heater Current	
23ARP4:	0.60 $\pm$ 5% Ampere
23BCP4:	0.30 $\pm$ 5% Ampere
Heater Warm-up Time ¹	11 Seconds
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 μ f
Grid No. 1 to All Other Electrodes ²	6 μ f
External Conductive Coating to Anode ²	2500 μ f Max. 1700 μ f Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 3/16 Inches
Width	19 1/4 Inches
Diagonal	22 5/16 Inches
Area	282 Sq. Inches
Neck Length	5 1/8 $\pm$ 1/8 Inches
Overall Length	14 7/8 $\pm$ 5/16 Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B7-208
Basing	8HR
Weight (Approx.)	24 Pounds

QUICK REFERENCE DATA

Television Picture Tube
23" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
110° Magnetic Deflection
No Ion Trap
External Conductive
Coating
23ARP4: 6.3 Volt, 600 Ma
Heater
23BCP4: 6.3 Volt, 300 Ma
Heater



SYLVANIA ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS
SENECA FALLS, NEW YORK

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RATINGS

MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service

Maximum Anode Voltage	22,000 Volts	dc
Minimum Anode Voltage	12,000 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

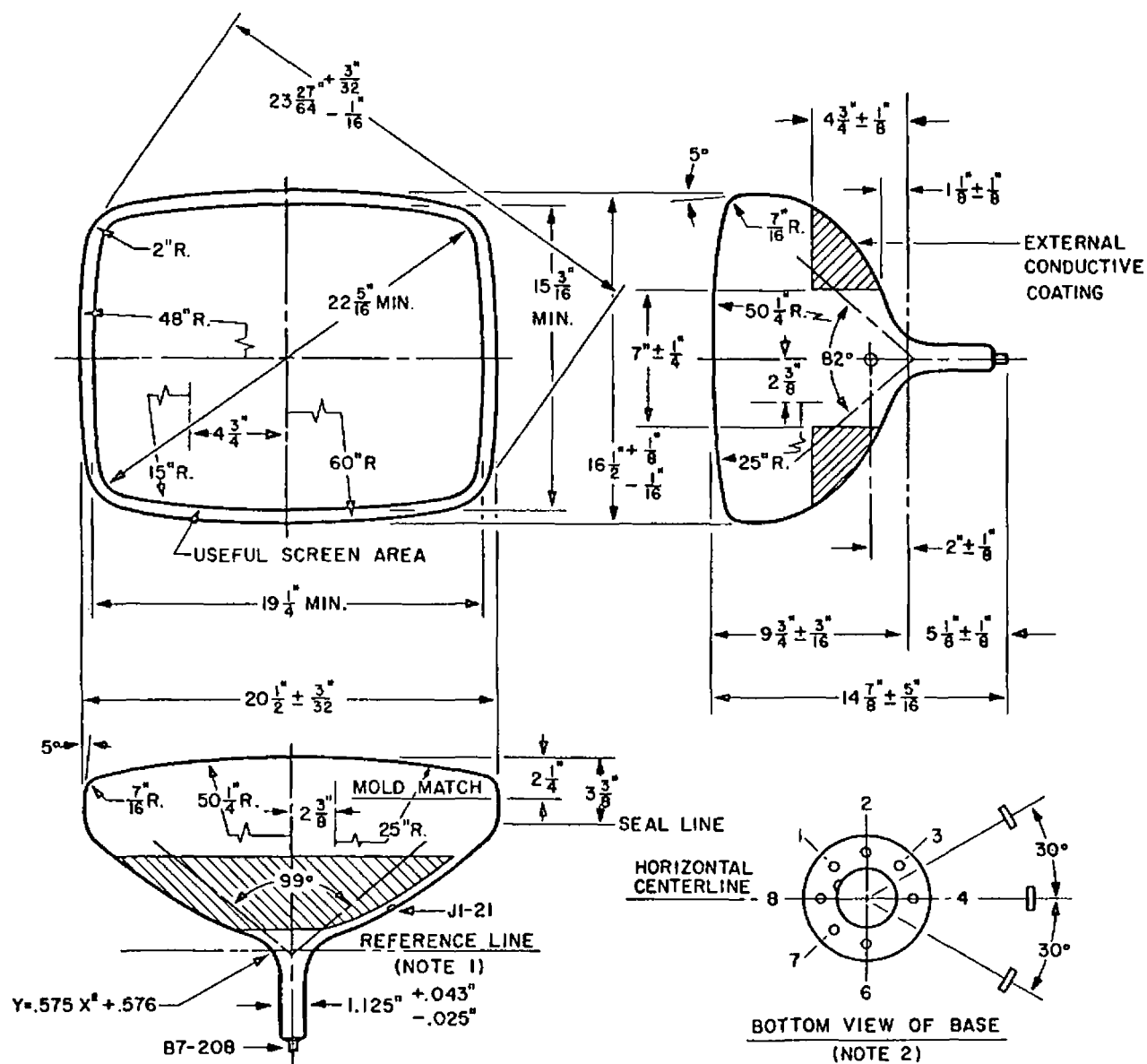
Grid No. 1 Circuit Resistance	1.5 Megohms Max.
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NOTES:

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. 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.



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DIAGRAM NOTES:

1. Reference line is determined by Plane C-C' of JEDEC No. 126 Reference Line Gauge, when gauge is seated against the bulb.
2. Base pin No. 4 aligns with horizontal centerline of face of tube within 30°, and is on same side as anode contact cap, J1-21.