SYLVANIA

engineering data service

SYLVANIA
19ANP4
19YP4

CHARACTERISTICS

GENERAL DATA

Focusing Method	Tri-Potential Electrostatic	
Deflection Method	Magnetic	
Deflection Angles (Approx.)		
Horizontal	102	Degrees
Diagonal	114	Degrees
Vertical	85	Degrees
Phosphor	Aluminized P4	
Fluorescence	White	
Persistence	Short to Medium	
Faceplate	Gray Filter Glass	
Light Transmittance (Approx.)	78	Percent

ELECTRICAL DATA

	19ANP4	19YP4	
Heater Voltage	6.3	6.3	Volts
Heater Current	0.450±5%	0.600±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]		1500	μμf Max.
		1000	μμf Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	15⅛ x 12	Inches
Minimum Useful Screen Area	172	Sq. Inches
Neck Length	3 9/16 ± ⅛	Inches
Overall Length	10 13/16 ±¼	Inches
Bulb	J149A1	
Bulb Contact (Recessed Small Cavity Cap)	J1-21	
Base	B7-208	
Basing	8JR	
Weight (Approx.)	14	Pounds

RATINGS

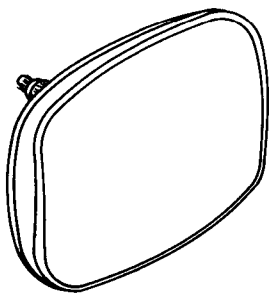
MAXIMUM RATINGS (Design Maximum Values)

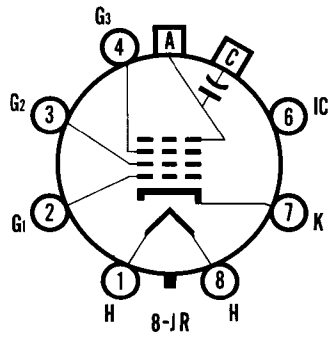
Grid Drive Service

Maximum Anode Voltage	20,000	Volts	dc
Minimum Anode Voltage	11,000	Volts	dc
Grid No. 3 Voltage (Focusing Electrode)	−350 to +700	Volts	dc
Maximum Grid No. 2 Voltage	600	Volts	dc
Minimum Grid No. 2 Voltage	300	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
19" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Gray Filter Glass
Aluminized Screen
Tri-Potential
Electrostatic Focus
114° Magnetic Deflection
1⅛" Neck Diameter
No Ion Trap
External Conductive Coating
Short Neck
19ANP4: 450 Ma Heater





SYLVANIA
ELECTRONIC TUBES

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MAXIMUM RATINGS (Design Maximum Values) (Continued)

Cathode Drive Service

Maximum Anode Voltage	20,000 Volts	dc
Minimum Anode Voltage	11,000 Volts	dc
Grid No. 3 Voltage (Focusing Electrode)	−200 to +850 Volts	dc
Maximum Grid No. 2 Voltage	750 Volts	dc
Minimum Grid No. 2 Voltage	450 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	dc
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. 3 Voltage for Focus	0 to 400 Volts	dc
Grid No. 2 Voltage	500 Volts	dc
Grid No. 1 Voltage Required for Cutoff[3]	−43 to −78 Volts	dc

Cathode Drive Service

Anode Voltage	16,000 Volts
Grid No. 3 Voltage for Focus	0 to 400 Volts
Grid No. 2 Voltage	500 Volts
Grid No. 1 Voltage	0 Volts
Cathode Voltage Required for Cutoff	41 to 69 Volts

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 its rated value 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 rated heater voltage divided by 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

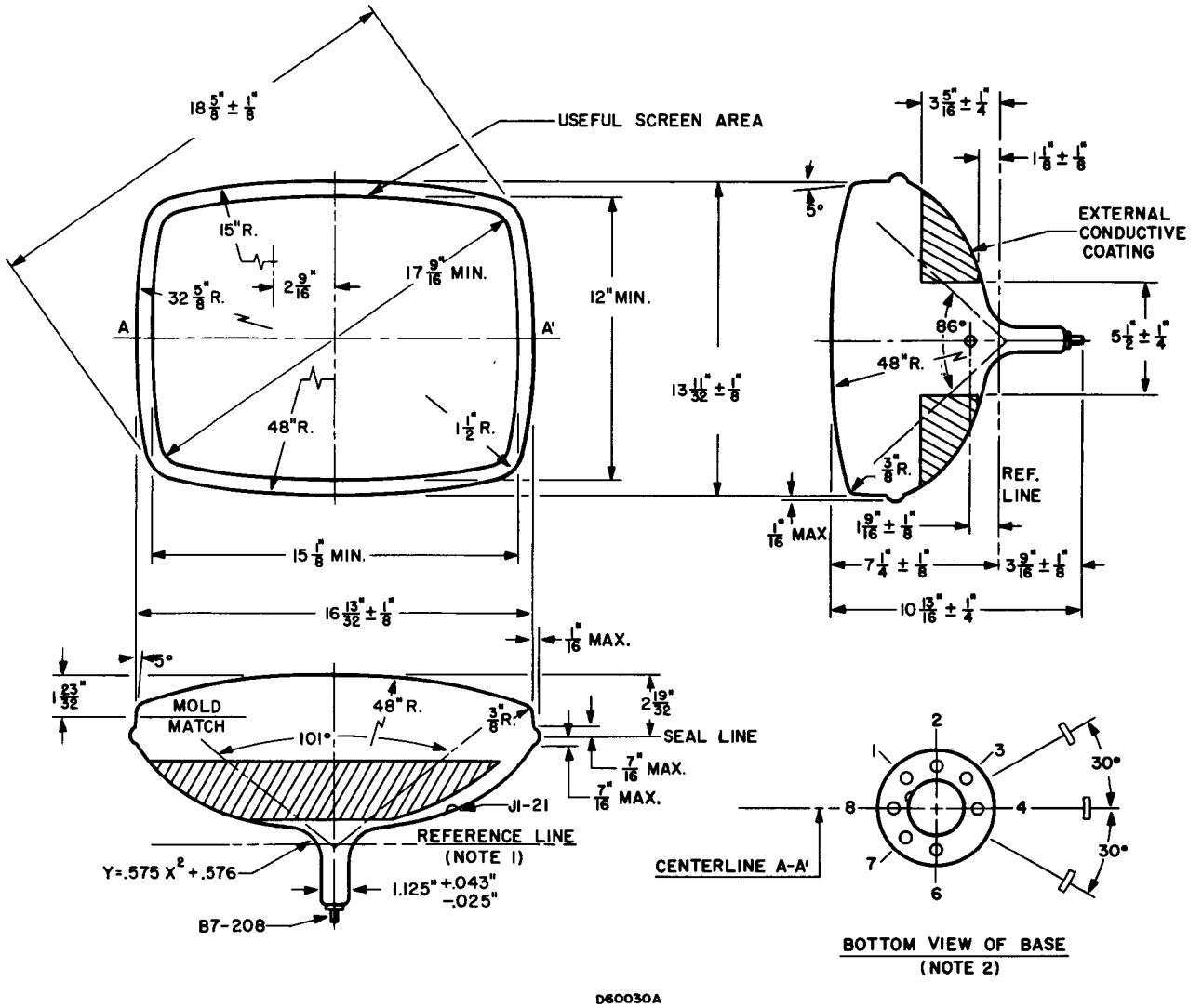

DIAGRAM NOTES:

1. *Reference line is determined by plane C-C' of JEDEC No. 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.*