

**CHARACTERISTICS**

**GENERAL DATA**

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	101 Degrees
Diagonal	114 Degrees
Vertical	86 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Medium Short
Faceplate	Gray Filter Glass
Light Transmittance (Approx.)	49 Percent

**ELECTRICAL DATA**

Heater Voltage	6.3 Volts
Heater Current	0.45 ± 5 % Ampere
Heater Warm-up Time <sup>1</sup>	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 and Rimbands to Anode <sup>2</sup>	1500 pf      Max. 1000 pf      Min.
Resistance Between External Conductive Coating and Metal Bands	50 Megohms Min.

**MECHANICAL DATA**

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	12 Inches
Width	15 <sup>3</sup> / <sub>16</sub> Inches
Diagonal	17 <sup>9</sup> / <sub>16</sub> Inches
Minimum Useful Screen Area	172 Sq. Inches
Neck Length	4 <sup>1</sup> / <sub>8</sub> ± 1/8 Inches
Overall Length	11 <sup>3</sup> / <sub>8</sub> ± 1/4 Inches
Bulb	J149F
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B7-208
Basing	8HR
Weight (Approx.)	15 Pounds

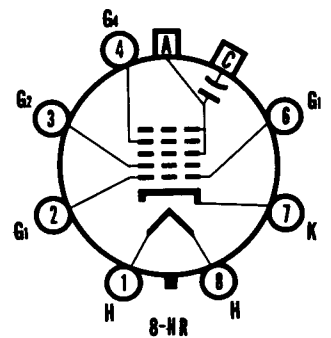
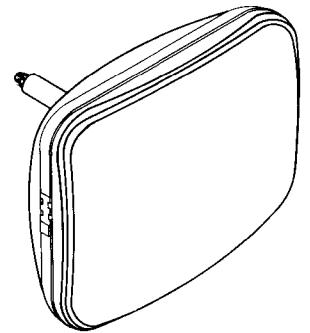
**RATINGS**

**MAXIMUM RATINGS (Design Maximum Values)**

<b>Grid Drive Service<sup>3</sup></b>		
Maximum Anode Voltage	23,000 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	154 Volts	dc
Negative Peak Value	220 Volts	dc
Positive Bias Value	0 Volt	dc
Positive Peak Value	2 Volts	dc
<b>Peak Heater-Cathode Voltage</b>		
Heater Negative with Respect to Cathode		
During Warm-up Period not to Exceed		
15 Seconds	450 Volts	
After Equipment Warm-up Period	300 Volts	
Heater Positive with Respect to Cathode	200 Volts	
DC Component	100 Volts	

**QUICK REFERENCE DATA**

Television Picture Tube  
 19" 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  
 Banded Tube Integral  
 Implosion Protection



**SYLVANIA ELECTRIC PRODUCTS INC.**

Electronic Components Group  
 ELECTRONIC TUBE DIVISION  
 SENECA FALLS, NEW YORK

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File Under

TELEVISION PICTURE TUBES

**MAXIMUM RATINGS (Design Maximum Values) (Continued)**

**Cathode Drive Service<sup>1</sup>**

Maximum Anode Voltage . . . . .	23,000 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 . . . . .	350 Volts	dc
<b>Cathode Voltage</b>		
Positive Bias Value . . . . .	154 Volts	dc
Positive Peak Value . . . . .	220 Volts	
Negative Bias Value . . . . .	0 Volt	dc
Negative Peak Value . . . . .	2 Volts	
<b>Peak Heater-Cathode Voltage</b>		
Heater Negative with Respect to Cathode		
During Warm-up Period Not to Exceed 15 Seconds . . . . .	450 Volts	
After Equipment Warm-up Period . . . . .	300 Volts	
Heater Positive with Respect to Cathode		
DC Component . . . . .	200 Volts	
	100 Volts	

**TYPICAL OPERATING CONDITIONS**

**Grid Drive Service<sup>3</sup>**

Anode Voltage . . . . .	20,000 Volts	dc
Grid No. 4 Voltage for Focus . . . . .	-200 to +200 Volts	dc
Grid No. 2 Voltage . . . . .	400 Volts	dc
Grid No. 1 Voltage Required for Cutoff <sup>5</sup> . . . . .	-50 to -98 Volts	dc

**Cathode Drive Service<sup>4</sup>**

Anode Voltage . . . . .	20,000 Volts	dc
Grid No. 4 Voltage for Focus . . . . .	-200 to +200 Volts	dc
Grid No. 2 Voltage . . . . .	400 Volts	dc
Cathode Voltage Required for Cutoff <sup>5</sup> . . . . .	48 to 82 Volts	dc

**CIRCUIT VALUES**

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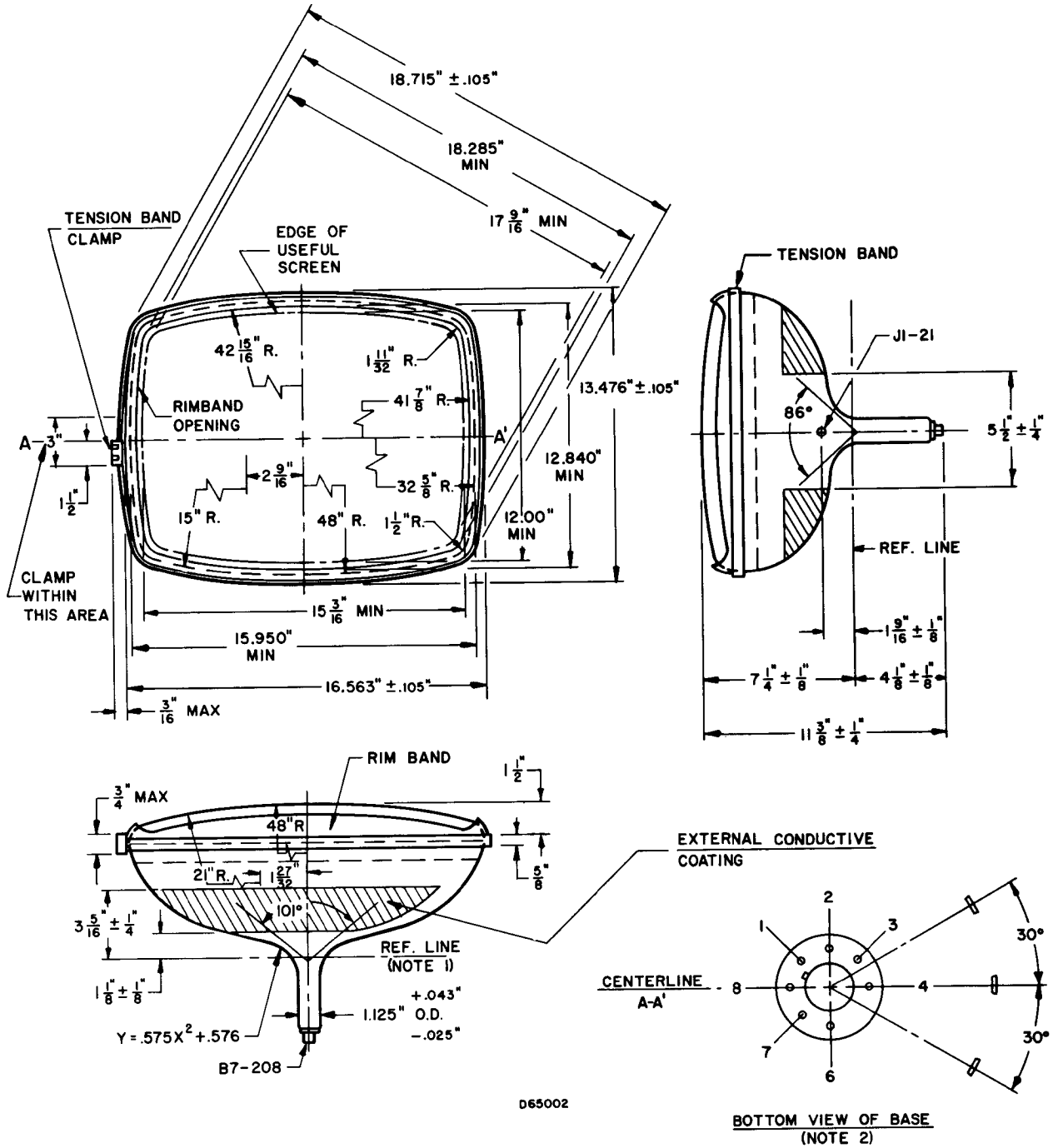
**NOTES:**

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 and rimbands must be grounded.
3. Voltages are positive with respect to cathode unless indicated otherwise.
4. Voltages are positive with respect to Grid No. 1 unless indicated otherwise.
5. Visual extinction of focused raster. For cutoff of the undeflected focused 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



D65002

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  $30^\circ$  and is on the same side as anode contact (J1-21).