SYLVANIA

engineering data service

SYLVANIA
20HP4C
20HP4D

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflecting Method	Magnetic
Deflecting Angle (approx.)	
Horizontal	66 Degrees
Diagonal	70 Degrees
Phosphor	Aluminized, P4
Fluorescence	White
Persistence	Medium
Faceplate	Gray Filter Glass
Light Transmittance (approx.)	73 Percent

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current (±10%)	0.6 Ampere
Direct Interelectrode Capacitances (approx.)	
Cathode to All Other Electrodes	5 $\mu\mu f$
Grid No. 1 to All Other Electrodes	6 $\mu\mu f$
Ion Trap Magnet	External, Single Field Type

MECHANICAL DATA

Minimum Useful Screen Dimensions	12¾ x 17 Inches
Bulb Contact, (Recessed Small Cavity Cap)	J1-21
Base (Small Shell Duodecal 6-Pin)	B6-63
Basing	12M

RATINGS

MAXIMUM RATINGS (Design Center Values)

Final Anode Voltage	16,000 Volts dc
Grid No. 4 (Focusing Electrode) Voltage	−500 to +1000 Volts dc
Grid No. 2 Voltage	500 Volts dc
Grid No. 1 Voltage	
Negative Bias Value	125 Volts dc
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	410 Volts
After Equipment Warm-up Period	180 Volts
Heater Positive with Respect to Cathode	180 Volts

RECOMMENDED OPERATING CONDITIONS

Final Anode Voltage[1]	14,000 Volts dc
Grid No. 4 Voltage[2]	−56 to +310 Volts dc
Grid No. 2 Voltage	300 Volts dc
Grid No. 1 Voltage Required for Cutoff[3]	−28 to −72 Volts dc
Ion Trap Magnet Field Strength (approx.)	30 Gausses

CIRCUIT VALUES

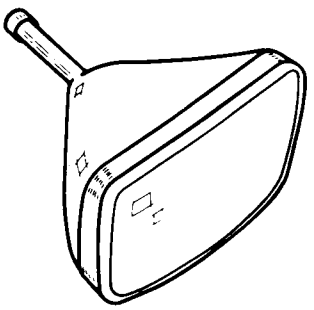
Grid No. 1 Circuit Resistance	1.5 Megohms Max.

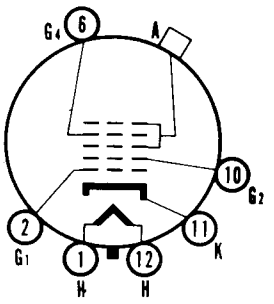
NOTES:

1. *Brilliance and definition decrease with decreasing anode voltage. In general, the anode voltage should not be less than this value.*
2. *For best center focus, with grid No. 1 bias voltage and video signal voltage adjusted for 100 μa anode current on a 10¾" x 14¼" picture.*
3. *Visual extinction of focused raster.*

QUICK REFERENCE DATA

Television Picture Tube
20" Direct Viewed
Rectangular Glass Type
Gray Filter Glass
Magnetic Deflection
Low Voltage Electrostatic Focus
Single Field Ion Trap
Aluminized Screen
Spherical Face Plate
(20HP4D Has External Conductive Coating)





12-M

SYLVANIA ELECTRIC PRODUCTS INC.
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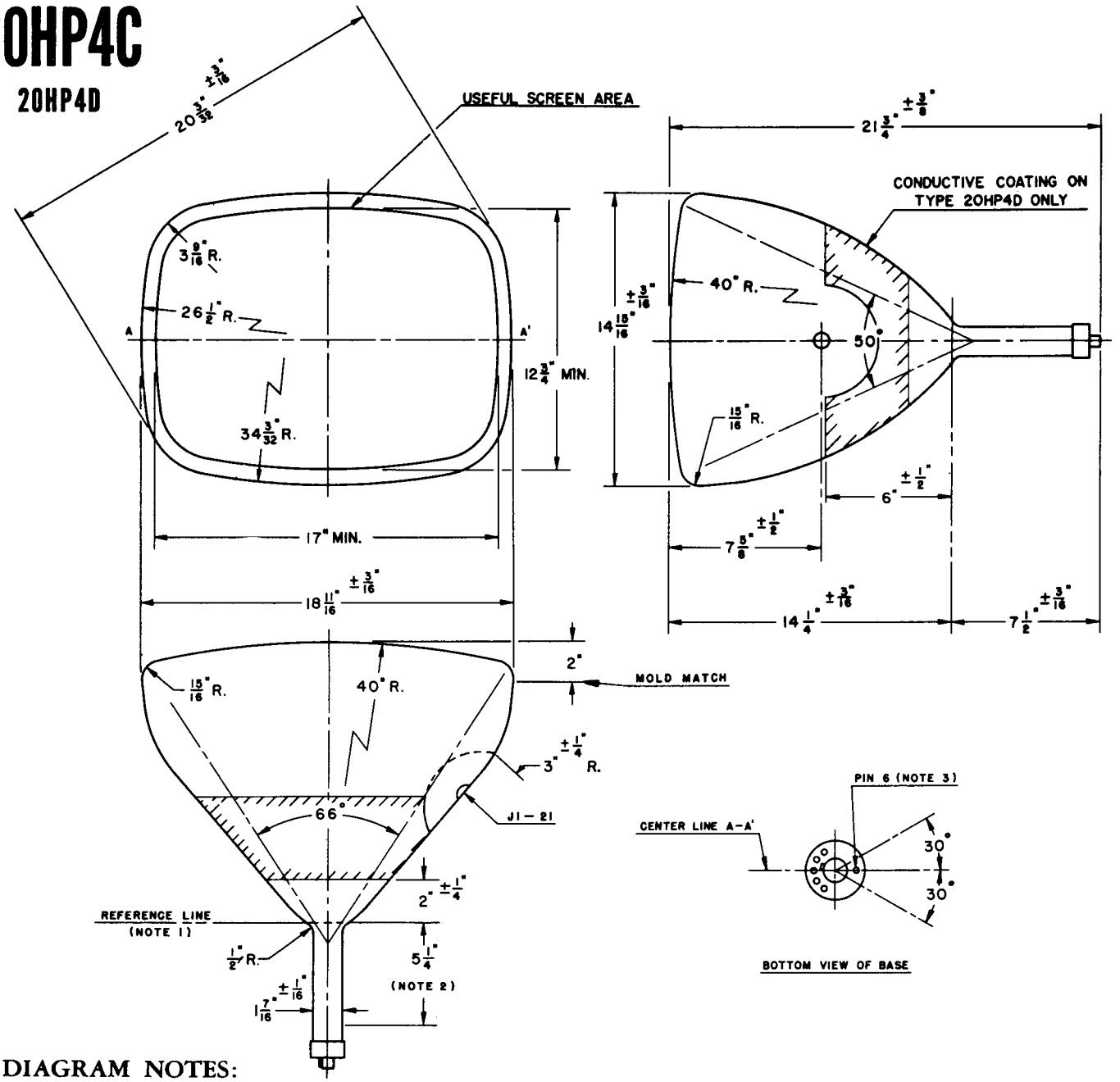


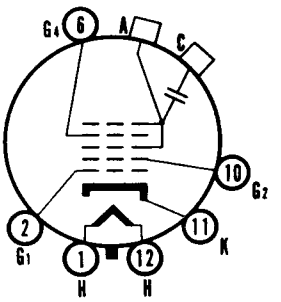
DIAGRAM NOTES:

1. *Reference line is determined by the plane of the upper edge of the reference line gauge (JETEC No. 110) when the gauge is resting on the glass cone.*
2. *Nominal position of ion trap magnet.*
3. *Anode contact aligns with pin position No. 6 ±30 degrees.*

20HP4D

The Sylvania Type 20HP4D is equivalent to the Type 20HP4C except for the addition of an external conductive coating.

External Conductive Coating to Anode Capacitance[1]	
Maximum	1500 μμf
Minimum	750 μμf
Basing	12L



12-L

NOTES:

1. *External conductive coating must be grounded.*

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.