

SYLVANIA TECHNICAL DATA

Rel. 619

General Data for Cathode Ray Tubes
 JEDEC Standard Form
 Type 10HP4

DESCRIPTIVE PARAGRAPH

Type 10HP4 is a cathode ray picture tube for use in direct view television receivers. It uses electrostatic focusing and deflection and produces a 6 by 8 inch picture.

GENERAL CHARACTERISTICS

Electrical

Heater Voltage 6.3 $\pm 10\%$ Volts
 Heater Current .6 $\pm 10\%$ Amperes

Focusing Method Electrostatic
 Deflecting Method Electrostatic

Phosphor P4
 Fluorescence White
 Persistence Medium

Direct Interelectrode Capacitances, Nominal

Cathode to all other electrodes 9.5 uuf.
 Grid #1 to all other electrodes 8.5 uuf.
 D1 to D2 3.5 uuf.
 D3 to D4 2.0 uuf.
 D1 to all other electrodes except D2 7.5 uuf.
 D2 to all other electrodes except D1 7.5 uuf.
 D3 to all other electrodes except D4 6.0 uuf.
 D4 to all other electrodes except D3 6.0 uuf.

Mechanical

Overall Length 19 $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{8}$ Inches
 Greatest Diameter of Bulb 10 $\frac{1}{2}$ $\frac{1}{8}$ Inches
 Minimum Useful Screen Diameter 8 $\frac{3}{4}$ Inches
 Base JEDEC Designation B12-37
 Basing JEDEC Designation 146
 Base Alignment ID2 trace Aligns
 with Pin # 5 and tube axis $\frac{1}{2}$ 10 Degrees
 Positive voltage on D1 deflects beam approx. toward Pin # 5
 Positive voltage on D3 deflects beam approx. toward Pin # 2

MAXIMUM RATINGS Design Center Values

Anode No. 2 Voltage 5000 Max. Volts DC
 Anode No. 1 Voltage 2000 Max. Volts DC
 Grid No. 1 Voltage
 Negative Bias Value -200 Max. Volts DC
 Positive Bias Value 0 Max. Volts DC
 Positive Peak Value 2 Max. Volts

Peak Heater-Cathode Voltage¹

Heater Negative with respect to cathode 125 Max. Volts DC
 Heater Positive with respect to cathode 125 Max. Volts DC
 Heater Negative with respect to cathode during equipment
 warm up period not exceeding 15 seconds 410 Max. Volts DC
 Peak Voltage between Anode No. 2 and any Deflection Electrode 600 Max. Volts

NOV 10 1947

TYPICAL OPERATING CONDITIONS

For Anode No. 2 Voltage of <u>4000</u>	5000 Volts
Anode No. 1 Voltage <u>560 to 1440</u>	1200 to 1800 Volts
Grid No. 1 Voltage ² <u>-48 to -112</u>	-60 to -140 Volts
Deflection Factors:	
D1 and D2 <u>88 to 120</u>	110 to 150 Volts DC per Inch
D3 and D4 <u>68 to 92</u>	85 to 115 Volts DC per Inch
Anode No. 1 Voltage <u>24 % to 36 %</u> of Eb2	Volts
Grid No. 1 Voltage ² <u>-1.2 % to -2.8 %</u> of Eb2	Volts
Anode No. 1 Current for any operating condition <u>.15 to .20</u> Microamperes	
Deflection Factors	
D1 and D2 <u>22 to 30</u>	Volts DC per Inch per Killovolt of Eb2
D3 and D4 <u>17 to 23</u>	Volts DC per Inch per Killovolt of Eb2
Spot Position (Undelected) ⁵	20 Max. Millimeters (Square)

MAXIMUM CIRCUIT VALUES.

Grid No. 1 Circuit Resistance	1.5 Max. Megohms
Resistance in any Deflecting - Electrode Circuit ⁴	5.0 Max. Megohms

CATHODE RAY TUBE CHARACTERISTICSNOTES

1. Cathode should be returned to one side or to the mid-tap of the heater transformer winding.
2. Visual extinction of undeflected focused spot.
4. It is recommended that the deflecting-electrode-circuit resistances be approximately equal.
5. Connect free deflecting electrodes to second anode.

ESSENTIAL BULB DIMENSIONS

