

SYLVANIA TECHNICAL DATA

Rel. 619

General Data for Cathode Ray Tubes
JETEC 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 $\frac{1}{4}$ $\pm$ $\frac{3}{8}$ Inches
Greatest Diameter of Bulb	10 $\pm$ $\frac{1}{8}$ Inches
Minimum Useful Screen Diameter	8 $\frac{3}{4}$ Inches
Pace JETEC Designation	B12-37
Basing JETEC Designation	146
Base Alignment <u>D2</u> trace Aligns	
with Pin <u>5</u> and tube axis	$\pm$ 10 Degrees
Positive voltage on D1 deflects beam approx. toward Pin <u>5</u>	
Positive voltage on D3 deflects beam approx. toward Pin <u>2</u>	

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 Voltage ¹	
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

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TYPICAL OPERATING CONDITIONSFor Anode No. 2 Voltage of 4000

5000 Volts

Anode No. 1 Voltage 560 to 1440

1200 to 1800 Volts

Grid No. 1 Voltage² -48 to -112

-60 to -140 Volts

Deflection Factors:

D1 and D2 88 to 120

110 to 150 Volts DC per Inch

D3 and D4 68 to 92

85 to 115 Volts DC per Inch

Anode No. 1 Voltage 24 % to 36 % of Eb2 VoltsGrid No. 1 Voltage² -1.2 % to -2.8 % of Eb2 VoltsAnode No. 1 Current for any operating condition 15 to 40 Microamperes

Deflection Factors

D1 and D2 22 to 30 Volts DC per Inch per Kilovolt of Eb2D3 and D4 17 to 23 Volts DC per Inch per Kilovolt of Eb2Spot Position (Undelected)⁵20 Max. Millimeters
(Square)MAXIMUM CIRCUIT VALUES.

Grid No. 1 Circuit Resistance

1.5 Max. Megohms

Resistance in any Deflecting - Electrode Circuit⁴

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

