ELECTRONIC TUBE REFERENCE

3XP11

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

Electrostatically focused and deflected P11 cathode-ray instrument tube for waveform display, with a 6.3 V heater, adjustable focusing, and manufacturer-specified deflection sensitivity.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	—
NOMINAL HEATER	6.3 V / 600 mA	**PARALLEL HEATER**	— / —
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Cathode Ray

No fixed ratings recorded.

CRT section; maximum anode voltage 2750 V and capacitances retained in parameter table.

Focusing Method Electrostatic DEFLECTION SENSITIVITY—HIGH Deflecting Method Electrostatic LENGTH—SHORT Phosphor Number . Pi MONOACCELERATOR Fluorescent Color ... Green FACE PLATE —CLEAR, CYLINDRICAL Phosphorescent Color None DEFLECTION—ELECTROSTATIC

SOURCE OPERATING CONDITIONS

1960 Waterman Products

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1960 WATERMAN PRODUCTS

Section 1 · Cathode Ray

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
RAYONIC®	**3**	RAYONIC® 3XP1 CATHODE RAY TUBE QUICK REFERENCE DATA
Heater Voitage	**6.3 V**	Heater Voitage ..... 6.3 Volts
Heater Current ... ettt e e e [1]	**600 mA**	Heater Current ... ettt e e e 0.6 =10% Amperes
Heater Current ... ettt e e e [2]	**10 A**	Heater Current ... ettt e e e 0.6 =10% Amperes
Cathode to all other electrodes	**5.2**	Cathode to all other electrodes 5.2 puf
Grid # [1]	**1**	Grid # 1 to all other electrodes 5.7 ppuf
Grid # [2]	**5.7**	Grid # 1 to all other electrodes 5.7 ppuf
Positive voliage on D1 deflects beam approximately toward pin	**3**	Positive voliage on D1 deflects beam approximately toward pin 3
Positive voltage on D3 deflects beam approximately toward pin	**35**	Positive voltage on D3 deflects beam approximately toward pin 35
DI1-D2 are nearest to the screen (	**37**	DI1-D2 are nearest to the screen (37 Dimension)
Anode Voltage (A2)	**2750 V**	Anode Voltage (A2) 2750 Volts DC
Anode (A2) Input	**6**	Anode (A2) Input .. 6 Watts
Anode # [1]	**1 V**	Anode # 1 (Focusing Electrode) Voltage . 1100 Volts
Anode # [2]	**1100 V**	Anode # 1 (Focusing Electrode) Voltage . 1100 Volts
Grid #	**1**	Grid #1 (G1) Voltage

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak voltage between Anode # [1]	**2 V**	Peak voltage between Anode #2 and any deflecting plate ... . 550 Volts
Peak voltage between Anode # [2]	**550 V**	Peak voltage between Anode #2 and any deflecting plate ... . 550 Volts
Focusing Electrode (A1) current for any operating condition ..... ~ [1]	**-15 A**	Focusing Electrode (A1) current for any operating condition ..... ~-15to +10 pAmps
Focusing Electrode (A1) current for any operating condition ..... ~ [2]	**10 A**	Focusing Electrode (A1) current for any operating condition ..... ~-15to +10 pAmps
Spot Position, Undeflected (Note [1]	**1 mm**	Spot Position, Undeflected (Note 1) 7.0 Max. mm
Spot Position, Undeflected (Note [2]	**7 mm**	Spot Position, Undeflected (Note 1) 7.0 Max. mm
Al Voltage [1]	**20**	Al Voltage 20% to 35% of A2 Voltage
Al Voltage [2]	**35**	Al Voltage 20% to 35% of A2 Voltage
G1 Voltage [1]	**3.375**	G1 Voltage 3.375 max% of A2 Voltage (Note 2)
G1 Voltage [2]	**2**	G1 Voltage 3.375 max% of A2 Voltage (Note 2)
Anode Voltage (A2) [1]	**1000 V**	Anode Voltage (A2) 1000 1500 2000 Volts
Anode Voltage (A2) [2]	**1500 V**	Anode Voltage (A2) 1000 1500 2000 Volts
Anode Voltage (A2) [3]	**2000 V**	Anode Voltage (A2) 1000 1500 2000 Volts
Focusing Electrode Voltage (Al) [1]	**200 V**	Focusing Electrode Voltage (Al) 200 to 350 300 to 525 400 to 700 | Volts
Focusing Electrode Voltage (Al) [2]	**350 V**	Focusing Electrode Voltage (Al) 200 to 350 300 to 525 400 to 700 | Volts
Focusing Electrode Voltage (Al) [3]	**300 V**	Focusing Electrode Voltage (Al) 200 to 350 300 to 525 400 to 700 | Volts
Focusing Electrode Voltage (Al) [4]	**525 V**	Focusing Electrode Voltage (Al) 200 to 350 300 to 525 400 to 700 | Volts
Focusing Electrode Voltage (Al) [5]	**400 V**	Focusing Electrode Voltage (Al) 200 to 350 300 to 525 400 to 700 | Volts
Focusing Electrode Voltage (Al) [6]	**700 V**	Focusing Electrode Voltage (Al) 200 to 350 300 to 525 400 to 700 | Volts
Grid # [1]	**1**	Grid # 1 Voltage (Note 2) —34 max. —51 max. —67.5 max. | Volis

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid # [2]	**2**	Grid # 1 Voltage (Note 2) —34 max. —51 max. —67.5 max. | Volis
Grid # [3]	**-34**	Grid # 1 Voltage (Note 2) —34 max. —51 max. —67.5 max. | Volis
Grid # [4]	**-51**	Grid # 1 Voltage (Note 2) —34 max. —51 max. —67.5 max. | Volis
Grid # [5]	**-67.5**	Grid # 1 Voltage (Note 2) —34 max. —51 max. —67.5 max. | Volis
Deflection Factor D1-D2 [1]	**3410 V**	Deflection Factor D1-D2 3410 46 51 to 69 68 to 92 Volts DC/Inch
Deflection Factor D1-D2 [2]	**46 V**	Deflection Factor D1-D2 3410 46 51 to 69 68 to 92 Volts DC/Inch
Deflection Factor D1-D2 [3]	**51 V**	Deflection Factor D1-D2 3410 46 51 to 69 68 to 92 Volts DC/Inch
Deflection Factor D1-D2 [4]	**69 V**	Deflection Factor D1-D2 3410 46 51 to 69 68 to 92 Volts DC/Inch
Deflection Factor D1-D2 [5]	**68 V**	Deflection Factor D1-D2 3410 46 51 to 69 68 to 92 Volts DC/Inch
Deflection Factor D1-D2 [6]	**92 V**	Deflection Factor D1-D2 3410 46 51 to 69 68 to 92 Volts DC/Inch
Deflection Factor D3-D4 [1]	**14 V**	Deflection Factor D3-D4 14 to 19 2110 28.5 2B to 38 Volts DC/Inch
Deflection Factor D3-D4 [2]	**19 V**	Deflection Factor D3-D4 14 to 19 2110 28.5 2B to 38 Volts DC/Inch
Deflection Factor D3-D4 [3]	**2110 V**	Deflection Factor D3-D4 14 to 19 2110 28.5 2B to 38 Volts DC/Inch
Deflection Factor D3-D4 [4]	**28.5 V**	Deflection Factor D3-D4 14 to 19 2110 28.5 2B to 38 Volts DC/Inch
Deflection Factor D3-D4 [5]	**2 V**	Deflection Factor D3-D4 14 to 19 2110 28.5 2B to 38 Volts DC/Inch
Deflection Factor D3-D4 [6]	**38 V**	Deflection Factor D3-D4 14 to 19 2110 28.5 2B to 38 Volts DC/Inch
Grid # [1]	**1**	Grid #1 Circuit Resistance 1.5 Megohms
Grid # [2]	**1.5**	Grid #1 Circuit Resistance 1.5 Megohms
Resistance in any Deflecting Electrode Circuit (Note [1]	**3**	Resistance in any Deflecting Electrode Circuit (Note 3) 1.0 Megohms
Resistance in any Deflecting Electrode Circuit (Note [2]	**1**	Resistance in any Deflecting Electrode Circuit (Note 3) 1.0 Megohms

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published value	**1**	1. With deflecting electrodes connected to Anode (A2).
Published value	**2**	2. For visual extinction of undeflected focused spot.
Published value	**3**	3. The resistance in each deflecting electrode circuit should be approximately equal.