ELECTRONIC TUBE REFERENCE

5AUP24

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

Five-inch high-voltage cathode-ray display tube with electrostatic focusing, magnetic deflection, and P24 phosphor. Its high accelerating voltage and magnetically scanned display construction are suited to specialized radar/display service.

General characteristics

BASE DESIGNATION	87-51	**BASE PINS**	7
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

MAXIMUM PLATE VOLTAGE	27000 V

CRT maximum accelerating/anode/ultor voltage is promoted to MaxPlateVoltage; additional electrode ratings, capacitances, operating conditions, deflection/focus and optical data are preserved as parameters.

Sylvania 5-inch cathode-ray tube with electrostatic focus, magnetic deflection, and P24 display phosphor. Published electrical ratings, capacitances, and operating conditions were extracted from the supplied datasheet.

SOURCE OPERATING CONDITIONS

1950 Sylvania

SOURCE PDF

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

1950 SYLVANIA

Section 1 · Cathode Ray

CHARACTERISTIC		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Grid No. 3 Voltage (Fo 20,000 Volts	**20 V**	Grid No. 3 Voltage (Fo 20,000 Volts
Grid No. 2 Voltage . . . 6600 Volts	**6600 V**	Grid No. 2 Voltage . . . 6600 Volts
Grid No. 1 Voltage dc	**1 V**	Grid No. 1 Voltage dc
Grid No. 3 Voltage for	**3 V**	Grid No. 3 Voltage for
Focus (Ib = 200 ya) < . 27000 Volts W YORK	**27000 V**	Focus (Ib = 200 ya) < . 27000 Volts W YORK
Grid No. 2 Voltage . . dc	**2 V**	Grid No. 2 Voltage . . dc
Grid No. 1 Voltage for e L dc TECHNICAL PUBLIC ed By The	**1 V**	Grid No. 1 Voltage for e L dc TECHNICAL PUBLIC ed By The

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
at close range if this tube is operated ar higher than the manufacturer’s Maximum Rated Anode Voltag	**16 V**	at close range if this tube is operated ar higher than the manufacturer’s Maximum Rated Anode Voltage or 16,000 volts,

SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

SOURCE PDF

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Cathode Ray

CHARACTERISTIC		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Heater Voltage	**6.3 V**	—
Heater Current	**600 mA**	—
FocusingMethod	**Electrostatic**	—
DeflectionMethod	**Magnetic**	—
Phosphor	**P24 display phosphor**	—
MinimumUsefulScreen	**4.25 in**	—
ExternalConductiveCoatingCapacitanceMinimum	**100 pF**	—
ExternalConductiveCoatingCapacitanceMaximum	**500 pF**	—

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
FinalAnodeVoltageMaximum	**30000 V**	—
FinalAnodeVoltageMinimum	**20000 V**	—
FocusElectrodeVoltageMaximum	**6600 V**	—
FinalAnodeVoltage	**27000 V**	—
FocusElectrodeVoltageForFocus	**4600 to 5800 V**	—
GridVoltageForCutoff	**-40 to -100 V**	—
GridCircuitResistanceMaximum	**1.5 Mohm**	—
Grid3 Voltage Maximum	**6600 V**	—
Grid2VoltageMaximum	**385 V**	—
GridNegativeBiasMagnitudeMaximum	**155 V**	—
PeakGridNegativeVoltageMaximum	**220 V**	—

SOURCE OPERATING CONDITIONS

SOURCE PDF

1971 RCA HB3 Binder 1 of 7

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

1971 RCA HB3 BINDER 1 OF 7

Section 1 · Cathode Ray

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Maximum grid 3 voltage	**6000 V**	—
Maximum grid 2 voltage	**350 V**	—
Maximum grid 1 negative-bias voltage	**150 V**	NegativeBias
Maximum grid 1 positive-bias voltage	**0 V**	PositiveBias
Maximum grid 1 positive-peak voltage	**2 V**	PositivePeak
Peak heater-cathode voltage	**410 V**	HeaterNegativeWarmup
Peak heater-cathode voltage	**150 V**	HeaterNegativeAfterWarmup
Peak heater-cathode voltage	**150 V**	HeaterPositive
Maximum accelerating/anode voltage	**27000 V**	—
ULTOR VOLTAGE	**27000 V**	Maximum
GRID-No.3 VOLTAGE	**6000 V**	Maximum
GRID-No.2 VOLTAGE	**350 V**	Maximum
Grid—No.2 Current —15 to	**15 uA**	—
with ultor current of 200 la	**4600—5800 V**	—
ted focused spot	**140—350 V**	—
Grid—No.l—Circuit Resistance	**1.5 MΩ**	Maximum

CAPACITANCE		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Grid 1 to all other electrodes capacitance	**8 pF**	Approximate
Cathode to all other electrodes capacitance	**5 pF**	Approximate
External conductive neck coating to ultor capacitance maximum	**500 pF**	Maximum
External conductive neck coating to ultor capacitance minimum	**100 pF**	Minimum

CHARACTERISTIC		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Deflection angle	**40 degrees**	Approximate
Grid No.1 to all other electrodes	**8 pF**	—
Cathode to all other electrodes	**5 pF**	—
Deflection Angle (Approx.)	**40 degrees**	—
Deflection angle	**40 degrees**	Approximate

Tube Tinker

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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