

ELECTRONIC TUBE REFERENCE

27SP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Twenty-seven-inch direct-view television picture tube with aluminized gray-filter screen, low-voltage electrostatic focusing, magnetic deflection, and an external ion trap. Its anode is rated around 20 kV.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12L	BASE PINS	12
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	20000 V
MAXIMUM SCREEN VOLTAGE	500 V
MAXIMUM HEATER-CATHODE VOLTAGE	410 V
Direct-view television CRT; high-voltage electrode rating mapped to MaxPlateVoltage as the section high-voltage limit.	

The 27SP4 is a direct-view television picture tube with an aluminized grey-filter screen, low-voltage electrostatic focusing, magnetic deflection and an external ion trap.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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
Heater Voltage. . 63 Volts	63 V	Heater Voltage. . 63 Volts
Heater Current (approx.) . 06 Ampere	6 A	Heater Current (approx.) . 06 Ampere
Anode Voltage . 20,000 Volts dꝓ	20 V	Anode Voltage . 20,000 Volts dꝓ
Grid No. 4 Voltage;z(Focusmg Electrode) 2500 to +1000 Volts dꝓ	1000 V	Grid No. 4 Voltage;z(Focusmg Electrode) 2500 to +1000 Volts dꝓ
Anode Voltage? . . . 18,000 Volts dꝓ	18 V	Anode Voltage? . . . 18,000 Volts dꝓ
Grid No. 4 Voltage . =72 to +396 Volts dꝓ	396 V	Grid No. 4 Voltage . =72 to +396 Volts dꝓ
Grid No..2 Voltage 300 Volts dꝓ	300 V	Grid No..2 Voltage 300 Volts dꝓ
Grid No. 1 Voltage Reqmd for Cutoff* -28 to -72 Volts dꝓ	-72 V	Grid No. 1 Voltage Reqmd for Cutoff* -28 to -72 Volts dꝓ
Anode Voltage or 16,000 volts, whichever is less.	16 V	Anode Voltage or 16,000 volts, whichever is less.



SOURCE OPERATING CONDITIONS

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1961 Tung Sol

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1961 TUNG SOL

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Cathode Capacitance	5 pF	Approximate

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HighVoltageElectrodeMaximum	20000 V	CRT



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 4 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to all other electrodes capacitance	5 pF	WholeTube
Grid 1 to all other electrodes capacitance	6 pF	WholeTube
External conductive coating to anode capacitance maximum	750 pF	WholeTube
External conductive coating to anode capacitance minimum	500 pF	WholeTube
Focusing method	Low-voltage electrostatic	WholeTube
Deflecting method	Magnetic	WholeTube
Horizontal deflection angle	85 degree	WholeTube
Diagonal deflection angle	90 degree	WholeTube
Phosphor color	White	Screen
Persistence	Medium	Screen

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC anode/accelerator voltage	20000 V	WholeTube
Maximum DC grid 2 voltage	500 V	WholeTube
Maximum negative grid 1 bias magnitude	125 V	WholeTube
Maximum positive peak grid 1 voltage	2 V	WholeTube
Maximum heater-cathode voltage during warm-up	410 V	Warmup15Seconds
DC anode/accelerator voltage	18000 V	TypicalOperation
DC grid 2 voltage	300 V	TypicalOperation

TUBE TINKER

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

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