



ELECTRONIC TUBE REFERENCE

27EP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Twenty-seven-inch direct-view monochrome television picture tube with magnetic deflection and high-voltage operation. Manufacturer documentation provides focusing, optical, and electrical characteristics for large-screen receiver display service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12D	BASE PINS	5
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	20000 V
MAXIMUM SCREEN VOLTAGE	500 V
<i>Promoted values are taken from clearly identified printed ratings/characteristics.</i>	

Direct-view cathode-ray picture tube intended for television display service. The supplied Tung-Sol datasheet provides electrical ratings, operating conditions, capacitances, optical characteristics, focusing and deflection information. Features an aluminized screen where specified by this designation.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Cathode Ray

CAPACITANCE

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

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HighVoltageElectrodeMaximum	20000 V	CRT



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

Section 1 · Cathode Ray

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAGNETIC FOCUS A DEFLECTION – value 1	24	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAGNETIC FOCUS A DEFLECTION – value 2	181	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAGNETIC FOCUS A DEFLECTION – value 3	2	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DIRECT INTERELECTR ODE CAPACITANCES (A PPROX.) – value 1	1	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DIRECT INTERELECTR ODE CAPACITANCES (A PPROX.) – value 2	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
GRID #1 TO ALL OTHER ELECTRODES – value 1	1	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
GRID #1 TO ALL OTHER ELECTRODES – value 2	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
GRID #1 TO ALL OTHER ELECTRODES – value 3	6	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
PHOSPHOR NUMBER	4	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.) – value 1	11 percent	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.) – value 2	70 percent	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
HEATER	3 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
HEATER CURRENT	0 mA	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
HEATER POSITIVE WITH RESPECT TO CATHODE	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
LINE VOLTAGE WNICM DO XOT CAUSE iNE NA%IMUM RATINGS TO BE EXCEEDED BY MORE TX AN 105. – value 1	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
LINE VOLTAGE WNICM DO XOT CAUSE iNE NA%IMUM RATINGS TO BE EXCEEDED BY MORE TX AN 105. – value 2	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
LINE VOLTAGE WHICH DO NOT CAUSE INE NAIMUM RATINGS TO BE EXCEEDED BY MORE THAN 105. – value 3	105 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
BIF TXE TUBE IS OPERATED AT VOLTAGE IN EXCESS OF 16,000 VOLTS, %-RAY RADIATION SHIELDING MAY BE – value 1	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
BIF TXE TUBE IS OPERATED AT VOLTAGE IN EXCESS OF 16,000 VOLTS, %-RAY RADIATION SHIELDING MAY BE – value 2	16 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
BIF TXE TUBE IS OPERATED AT VOLTAGE IN EXCESS OF 16,000 VOLTS, %-RAY RADIATION SHIELDING MAY BE – value 3	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ANODE IGRID #3 VOLTAGE – value 1	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ANODE IGRID #3 VOLTAGE – value 2	3 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ANODE IGRID #3 VOLTAGE – value 3	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC GRID #2 VOLTAGE	2 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC GRID #1 VOLTAGE – value 1	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC GRID #1 VOLTAGE – value 2	-33 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC FOCUSING COIL CURRENT (APPROX.)	20 mA	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 1	111 mA	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 2	5 mA	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 3	5 mA	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
ION TRAP MAGNET (RATED STRENGTH) APPROX. – value 1	10	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
ION TRAP MAGNET (RATED STRENGTH) APPROX. – value 2	38	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
D VI SU AL E%TINCTION OF UNDEFL ELTED FOCUSED SPOT.	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
EFOR STANDARD FOCUS COIL 11109, OR EQVI VAL EM T, WI TX TXE COMBINED GRID N1 BIAS VOI TALE AND VIDEO – value 1	11109	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
EFOR STANDARD FOCUS COIL 11109, OR EQVI VAL EM T, WI TX TXE COMBINED GRID N1 BIAS VOI TALE AND VIDEO – value 2	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
SIGNAL VOLTAGE AOJU STED TO PRODUCE A MI GXL IGXT BRI GXTNESS OF 20 f00T LAMBERTS ON A 24" BY – value 1	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
SIGNAL VOLTAGE AOJU STED TO PRODUCE A MI GXL IGXT BRI GXTNESS OF 20 f00T LAMBERTS ON A 24" BY – value 2	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
SIGNAL VOLTAGE AOJU STED TO PRODUCE A MI GXL IGXT BRI GXTNESS OF 20 f00T LAMBERTS ON A 24" BY – value 3	24 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
1R 1/2" PICTURE SIZE. DI ST AXCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE – value 1	11	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
1R 1/2" PICTURE SIZE. DI ST AXCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE – value 2	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
1R 1/2" PICTURE SIZE. DI ST AXCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE – value 3	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ANODE 15 16	1516	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM DC ANODE I GRID #J~VOL TA GE B – value 1	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM DC ANODE I GRID #J~VOL TA GE B – value 2	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM DC GRID #2 VOLTAGE – value 1	2 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM DC GRID #2 VOLTAGE – value 2	500 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM GRID #1 VOLTAGE	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM GRID #i CIRCUIT RESISTANCE – value 1	1 Mohm	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM GRID #i CIRCUIT RESISTANCE – value 2	1.5 Mohm	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	6.3 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentCurrentNominal	600 mA	—
MaxPlateVoltage	20000 V	—
MaxScreenVoltage	500 V	—
Typical Anode Voltage	16000 V	—
Typical Grid2 Voltage	300 V	—
MaximumHeaterCathodeVoltageWarmup	410 V	HeaterNegative

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode To All Other Electrodes Capacitance	5 pF	—
Grid1 To All Other Electrodes Capacitance	6 pF	—

TUBE TINKER

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