

ELECTRONIC TUBE REFERENCE

24AP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CATHODERAY

Large P4 monochrome television picture tube in the 24-inch class, designed for high-voltage direct-view service with manufacturer-specified focusing, magnetic deflection, and beam-control characteristics for type 24AP4.

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

SECTION0 Cathode Ray	
MAXIMUM PLATE VOLTAGE	16000 V
MAXIMUM SCREEN VOLTAGE	410 V
Picture-tube anode maximum 16 kV.	

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 0 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Anode Voltage	16000 V	—
Typical Anode Voltage	15000 V	—
Maximum Grid2 Voltage	410 V	—
Typical Grid2 Voltage	300 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
FocusingMethod	Magnetic	—
DeflectingMethod	Magnetic	—
DiagonalDeflectionAngleApproximate	70 degree	—
PhosphorNumber	4	—
FluorescentColor	White	—



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 0 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAGNETIC FOCUS d DEFLECTION – value 1	169116	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAGNETIC FOCUS d DEFLECTION – value 2	221	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAGNETIC FOCUS d DEFLECTION – value 3	8	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DEFLECTION ANGLE (APPROX.)	70 degrees	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DIRECT INTERELECTRODE CAPACITANCES (APPROX.)	1	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
GRID #1 TO ALE 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 ALE 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 ALE OTHER ELECTRODES – value 3	6	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
FACEPLATE LIGHT TRANSMISSION – value 1	11 percent	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
FACEPLATE LIGHT TRANSMISSION – value 2	62 percent	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
HEATER	6 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	150 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
q IF THIS TUBE IS OP E0. ATED AT VOLTAGES IN EXCESS OF 1E,000 VOL TS r X-PAY RADIATION SHIELDING MAY – value 1	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
q IF THIS TUBE IS OP E0. ATED AT VOLTAGES IN EXCESS OF 1E,000 VOL TS r X-PAY RADIATION SHIELDING MAY – value 2	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
q IF THIS TUBE IS OP E0. ATED AT VOLTAGES IN EXCESS OF 1E,000 VOL TS r X-PAY RADIATION SHIELDING MAY – value 3	0 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
BCATH ODE SHOULD BE RETURN EO TO OXE SIDE OR TO THE MID-TAP OF THE HEATER TRANSFORMER WINDING. – value 1	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
BCATH ODE SHOULD BE RETURN EO TO OXE SIDE OR TO THE MID-TAP OF THE HEATER TRANSFORMER WINDING. – value 2	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
BCATH ODE SHOULD BE RETURN EO TO OXE SIDE OR TO THE MID-TAP OF THE HEATER TRANSFORMER WINDING. – value 3	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ANODE r GRID #3 VOLTAGE – value 1	3 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC ANODE r GRID #3 VOLTAGE – value 2	15000 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
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.
DC GRID #2 VOLTAGE – value 2	300 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
DC GRID #1 VOLTA GE C – value 1	1 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC GRID #1 VOLTA GE C – 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.)	114 mA	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
ION TRAP (RATED STRENGTH) APPROX.	10	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
CV ISUAI EXTiNLTI ON OF UNOEFL ECTED FOCUSED SPOT. – value 1	1	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
CV ISUAI EXTiNLTI ON OF UNOEFL ECTED FOCUSED SPOT. – value 2	0	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
CV ISUAI EXTiNLTI ON OF UNOEFL ECTED FOCUSED SPOT. – value 3	0	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 fGRID #.3 VOL TAGE A – value 1	3 V	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM DC ANODE fGRID #.3 VOL TAGE A – value 2	16000 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	410 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.
MA%IMUM DC PEAK HEATER-CATHODE VOL TAGE:S	1	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MA%IMUM GRID #1 CIRCUIT RESISTANCE – value 1	1 Mohm	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM GRID #1 CIRCUIT RESISTANCE – value 2	1 Mohm	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.
MAXIMUM GRID #1 CIRCUIT RESISTANCE – value 3	1.5 Mohm	Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values.



SOURCE OPERATING CONDITIONS

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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 0 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Number 2 Voltage Maximum	410 V	—
Typical Anode Voltage	14000 V	Typical Operation

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Deflection Angle	70 deg	Approximate