



ELECTRONIC TUBE REFERENCE

21CHP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CATHODERAY

Large P4 monochrome television picture tube documented for high-voltage direct-view service, using magnetic deflection and manufacturer-specified focusing and beam-control arrangements for type 21CHP4.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	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	200 V
<i>Published promoted fields populated by printed ratings/characteristics headings.</i>	

Direct-view cathode-ray picture tube for television display service. Electrical ratings, operating conditions, capacitances, optical data, and construction details were extracted from the supplied datasheet.



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HighVoltageAnodeMaximum	20000 V	CRT

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
CathodeToOtherElectrodesCapacitance	5 pF	Approximate



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
GRID #1 TO ALL OTHER ELECTRODES – value 1	1	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
GRID #1 TO ALL OTHER ELECTRODES – value 2	6	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	2000	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER VOLTAGE – value 1	6 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER VOLTAGE – value 2	3 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER CURRENT	7	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER POSITIVE WITH RESPECT TO CATHODE	1 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC ANODE VOLTAGE	18000 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #4 VOLTAGE – value 1	4 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #4 VOLTAGE – value 2	50 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #4 VOLTAGE – value 3	350 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #2 VOLTAGE – value 1	2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #2 VOLTAGE – value 2	11 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #1 VOLTAGE D – value 1	1 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #1 VOLTAGE D – value 2	37 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #1 VOLTAGE D – value 3	5 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
RASTER CUTOFF, USING DRIVER MAY BE CALCULATED: $E_{91co} = .502 E_{g2+5.8}$ – value 1	2 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
RASTER CUTOFF, USING DRI VE T MAY BE CALCULATED: $E_{91co} = .502 E_g 2 + 5.8 - \text{value } 2$	5.8 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
FIN 10 – GRID – value 1	10	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
FIN 10 – GRID – value 2	2	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	25 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #4 VOLTAGE – value 1	4 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #4 VOLTAGE – value 2	500 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #2 VOLTAGE – value 1	2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #2 VOLTAGE – value 2	200 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 VOLTAGE	1 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 CIRCUIT RESISTANCE	1 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.