

ELECTRONIC TUBE REFERENCE

21BSP4

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 21BSP4.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	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

SECTION1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	22 V
MAXIMUM SCREEN VOLTAGE	550 V
Published CRT ratings, operating conditions, capacitances, optical and deflection data are retained in parameter rows.	

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
Heater voltage	6.3 V	Nominal
Heater current	600 mA	Nominal
Maximum anode voltage	22000 V	—
Maximum grid 2 voltage	550 V	—
Typical anode voltage	22000 V	Typical operating conditions
Typical grid 2 voltage	550 V	Typical operating conditions

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater warm-up time	11 s	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to all other electrodes	5 pF	Approximate
Grid 1 to all other electrodes	6 pF	Approximate

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 CHER 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 CHER 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.
HEATER	6.3 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER CURRENT – value 1	0	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER CURRENT – value 2	6	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER POSITIVE WI TN RESPECT TO CATHODE	20 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC ANODE VOLTAGE	16 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #2 VOLTAGE	2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #i VOLTAGE A	-2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC FOCUSING COIL CURRENT (APPROX.)B – value 1	116 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC FOCUSING COIL CURRENT (APPROX.)B – value 2	15 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC ION TRAP MAGNET STANDARD COIL #117 (APPROX.) – value 1	117 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
OC ION TRAP MAGNET STANDARD COIL #117 (APPROX.) – value 2	3 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC ION TRAP MAGNET RATED STRENGTH	33 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
Bf OR ST ANDA0.D FOCUS LOII 1109, OR EQUIYALE MT, wITN TnE COYBI NED GRID R1 BIAS VOLTAGE ARD ViDEO	1109 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHT NE 55 Of 2D f00T CAMBER TS ON A ly 1/16• BT – value 1	2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHT NE 55 Of 2D f00T CAMBER TS ON A ly 1/16• BT – value 2	1 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHT NE 55 Of 2D f00T CAMBER TS ON A ly 1/16• BT – value 3	16 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM E%TER NAL CONDUCTIVE COATING TO ANODE	2500 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC ANODE	22 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	550 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 CIRCUIT RESISTANCE – value 1	1 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 CIRCUIT RESISTANCE – value 2	1.5 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.