

ELECTRONIC TUBE REFERENCE

# 24DP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION  
CONSTRUCTION  
CATHODERAY

Twenty-four-inch direct-view monochrome television picture tube with a P4 screen and magnetic deflection. Manufacturer documentation provides the high-voltage operating, focusing, optical, and capacitance characteristics required for receiver display service.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | 12L               | BASE PINS            | 6             |
| 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   |
| CRT electrode, focus, deflection and optical data preserved in parameter rows. |         |

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](#)

# 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

## CHARACTERISTICS

| PARAMETER         | PUBLISHED VALUE | CONDITION / NOTE |
|-------------------|-----------------|------------------|
| Phosphor          | P4              | —                |
| Deflection method | Magnetic        | —                |
| Focusing method   | Electrostatic   | —                |



## 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 |
|-----------------------|-----------------|------------------|
| Maximum Anode Voltage | 20000 V         | —                |
| Typical Anode Voltage | 18000 V         | —                |
| Maximum Grid2 Voltage | 500 V           | —                |
| Typical Grid2 Voltage | 200 V           | —                |

## CHARACTERISTIC

| PARAMETER                          | PUBLISHED VALUE | CONDITION / NOTE |
|------------------------------------|-----------------|------------------|
| FocusingMethod                     | Electrostatic   | —                |
| DeflectingMethod                   | Magnetic        | —                |
| DiagonalDeflectionAngleApproximate | 90 degree       | —                |

| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
|------------------|-----------------|------------------|
| PhosphorNumber   | 4               | —                |
| FluorescentColor | White           | —                |



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

# 1965 Sylvania Electronic Tubes Vol3

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

## Section 1 · Cathode Ray

| OTHER                                   |                 |                                                         |
|-----------------------------------------|-----------------|---------------------------------------------------------|
| PARAMETER                               | PUBLISHED VALUE | CONDITION / NOTE                                        |
| Maximum anode voltage                   | 20000 V         | Published maximum anode voltage                         |
| Af ter Equipment Warm-Up Period         | 180 V           | Af ter Equipment Warm-Up Period ..... 180 Volts         |
| Heater Positive with Respect to Cathode | 180 V           | Heater Positive with Respect to Cathode . . . 180 Volts |
| Ion Trap Magnet strength (approx.)      | 40 G            | Ion Trap Magnet strength (approx.) . 40 Gauss           |

| CIRCUITVALUE                  |                 |                                                                                   |
|-------------------------------|-----------------|-----------------------------------------------------------------------------------|
| PARAMETER                     | PUBLISHED VALUE | CONDITION / NOTE                                                                  |
| Grid No. 1 Circuit Resistance | 1.5 Mohm        | Grid No. 1 Circuit Resistance ..... .1.5 Megohms<br>Max. TELEVlsloN plc'nTRE TUBE |



SOURCE DATA APPENDIX

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                                                                                                           |
| DIRECT INTERELECTRODE CAPACITANCES (APPROX.) | <b>1</b>          | 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    | <b>1</b>          | 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    | <b>0</b>          | 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    | <b>6</b>          | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE | <b>500</b>        | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| PHOSPHOR NUMBER                              | <b>4</b>          | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| FACEPLATE LIGHT TRANSMISSION – value 1       | <b>11 percent</b> | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| FACEPLATE LIGHT TRANSMISSION – value 2       | <b>3 percent</b>  | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| HEATER VOLTAGE                               | <b>6.3 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| HEATER CURRENT                               | <b>0 mA</b>       | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| HEATER POSITIVE WITH RESPECT TO CATHODE      | <b>180 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| DC ANODE S GRID #} VOLTAGE                   | <b>18000 V</b>    | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| DC GRID #2 VOLTAGE – value 1                 | <b>2 V</b>        | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
|                                              |                   |                                                                                                                            |

| PARAMETER                                                  | PUBLISHED VALUE | CONDITION / NOTE                                                                                                           |
|------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| DC GRID #2 VOLTAGE – value 2                               | <b>300 V</b>    | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| OC GRID #i VOLTAGE S – value 1                             | <b>1 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| OC GRID #i VOLTAGE S – value 2                             | <b>33 V</b>     | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| OC GRID #i VOLTAGE S – value 3                             | <b>77 V</b>     | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| DC GRID #4 VOLTAGE – value 1                               | <b>4 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| DC GRID #4 VOLTAGE – value 2                               | <b>72 V</b>     | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| DC GRID #4 VOLTAGE – value 3                               | <b>400 V</b>    | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| OC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 1 | <b>111 mA</b>   | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| OC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 2 | <b>100 mA</b>   | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| OC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 3 | <b>50 mA</b>    | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| BVIGU AL E%TINCTIDM OF UNDEFL ELTEO FOCUSED SPOT.          | <b>0</b>        | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| ANODE – value 1                                            | <b>1</b>        | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| ANODE – value 2                                            | <b>1</b>        | 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 S GRID #} VOLTAGE   | <b>20000 V</b>  | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM DC GRID #2 VOLTAGE – value 1 | <b>2 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM DC GRID #2 VOLTAGE – value 2 | <b>500 V</b>    | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM GRID #1 VOLTAGE              | <b>1 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM DC GRID #4 VOLTAGE – value 1 | <b>4 V</b>      | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM DC GRID #4 VOLTAGE – value 2 | <b>500 V</b>    | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM DC GRID #4 VOLTAGE – value 3 | <b>1000 V</b>   | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |
| MAXIMUM                              | <b>1</b>        | Published CRT datasheet value; multiple values on one source row represent separate conditions, limits, or nominal values. |

## TUBE TINKER

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