

ELECTRONIC TUBE REFERENCE

6ES5

Voltage - Triode (single high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA  
1 SECTION  
CONSTRUCTION  
TRIODE

Seven-pin triode for grounded-cathode VHF RF-amplifier service.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | 7FP               | BASE PINS            | 7             |
| NOMINAL HEATER      | 6.3 V / 200 mA    | PARALLEL HEATER      | – / –         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

7FP - TERMINAL PINOUT

| TERMINAL  | SECTION | ELEMENT              | STATUS    |
|-----------|---------|----------------------|-----------|
| PIN1 – K  | A       | K – Cathode          | CONNECTED |
| PIN2 – G1 | A       | G1 – Control Grid    | CONNECTED |
| PIN3 – H  | –       | H – Heater           | CONNECTED |
| PIN4 – H  | –       | H – Heater           | CONNECTED |
| PIN5 – P  | A       | P – Plate (Anode)    | CONNECTED |
| PIN6 – IS | A       | IS – Internal Screen | CONNECTED |
| PIN7 – K  | A       | K – Cathode          | CONNECTED |

SECTION RATINGS

|                                                                                |               |
|--------------------------------------------------------------------------------|---------------|
| SECTION1 Triode                                                                |               |
| PLATE RESISTANCE                                                               | 8000 $\Omega$ |
| TRANSCONDUCTANCE                                                               | 0.009 S       |
| AMPLIFICATION FACTOR                                                           | 75            |
| MAXIMUM PLATE VOLTAGE                                                          | 250 V         |
| MAXIMUM PLATE DISSIPATION                                                      | 2.5 W         |
| MAXIMUM CATHODE CURRENT                                                        | 25 mA         |
| MAXIMUM HEATER-CATHODE VOLTAGE                                                 | 100 V         |
| <i>Published promoted fields populated from the printed semantic headings.</i> |               |

The 6ES5 is a seven-pin miniature tuner triode intended for grounded-cathode radio-frequency amplifier service.



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 · Triode

| CHARACTERISTIC                                              |                 |                                                          |
|-------------------------------------------------------------|-----------------|----------------------------------------------------------|
| PARAMETER                                                   | PUBLISHED VALUE | CONDITION / NOTE                                         |
| Heater Voltage.....<br>2.35 R 6.3 Volts                     | 6.3 V           | Heater Voltage..... 2.35 R 6.3 Volts                     |
| Heater Current.....<br>450 200 Ma                           | 200 mA          | Heater Current..... 600 450 200 Ma                       |
| Output: pto(h+k+18). ... . i<br>4.0 puf                     | 4 pF            | Output: pto(h+k+18). ... . i 4.0 puf                     |
| Plate Voltage. . . . .<br>...t 200 Volts                    | 200 V           | Plate Voltage. . . . .t 200 Volts                        |
| Grid Voltage. .... .<br>i e -1.0 Volts                      | 1 V             | Grid Voltage. .... . i e -1.0 Volts                      |
| Plate Current. . . . .<br>. . . . 15 Ma                     | 15 mA           | Plate Current. . . . . 15 Ma                             |
| Transconductance. ..<br>.....ccoiinninnenannn<br>9500 umhos | 9500 umhos      | Transconductance. .. .....ccoiinninnenannn<br>9500 umhos |
| Plate Resistance (approX.).<br>.. ..., 7400 Ohms            | 7400 Ohms       | Plate Resistance (approX.). .. ..., 7400 Ohms            |

| OTHER                             |                 |                                |
|-----------------------------------|-----------------|--------------------------------|
| PARAMETER                         | PUBLISHED VALUE | CONDITION / NOTE               |
| D C Cathode Current 25 Ma<br>Max. | 25 mA           | D C Cathode Current 25 Ma Max. |



# 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 · Triode

| CHARACTERISTIC   |                 |                  |
|------------------|-----------------|------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
| Plate Resistance | 8000 ohm        | Typical          |
| Transconductance | 9000 uS         | Typical          |



SOURCE DATA APPENDIX

# 1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

## Section 1 · Triode

| OTHER         |                 |                  |
|---------------|-----------------|------------------|
| PARAMETER     | PUBLISHED VALUE | CONDITION / NOTE |
| Plate_voltage | 200 V           | ClassA           |
| Grid_voltage  | -1 V            | ClassA           |

| CHARACTERISTIC |                 |                  |
|----------------|-----------------|------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE |
| Plate_current  | 10 mA           | ClassA           |

| CAPACITANCE                       |                 |                  |
|-----------------------------------|-----------------|------------------|
| PARAMETER                         | PUBLISHED VALUE | CONDITION / NOTE |
| Grid-to-plate capacitance maximum | 0.5 pF          | —                |
| Input capacitance                 | 3.2 pF          | —                |
| Output capacitance                | 4 pF            | —                |

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

## Section 1 · Triode

| OTHER                                   |                 |                                                                                                                  |
|-----------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------|
| PARAMETER                               | PUBLISHED VALUE | CONDITION / NOTE                                                                                                 |
| Plate voltage                           | 200 V           | ClassA                                                                                                           |
| Plate current                           | 10 mA           | ClassA                                                                                                           |
| Maximum plate voltage                   | 330 V           | —                                                                                                                |
| Grid to plate – published value 1       | 0.5 mA          | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Grid to plate – published value 2       | 0.5 mA          | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| PLATE VOLTAGE                           | 250 V           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Positive-bias value                     | 0 V             | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| CATHODE CURRENT                         | 22 mA           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Heater negative with respect to cathode | 100 V           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Heater positive with respect to cathode | 100 V           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Grid–Circuit Resistance                 | 1 mA            | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |

| CHARACTERISTICS                          |                 |                                                                                                                  |
|------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------|
| PARAMETER                                | PUBLISHED VALUE | CONDITION / NOTE                                                                                                 |
| Plate resistance                         | 8000 ohm        | ClassA                                                                                                           |
| Transconductance                         | 9000 uS         | ClassA                                                                                                           |
| Amplification factor                     | 75              | ClassA                                                                                                           |
| Voltage (AC or DC) – published value 1   | 6 V             | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Voltage (AC or DC) – published value 2   | 3 V             | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Voltage (AC or DC) – published value 3   | 10 V            | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Current at 6.3 volts – published value 1 | 6.3 V           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Current at 6.3 volts – published value 2 | 2 V             | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| shield, and heater – published value 1   | 3.2             | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| shield, and heater – published value 2   | 3.2             | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Plate Voltage                            | 200 V           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Grid Voltage                             | -1 V            | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Plate Resistance (Approx )               | 8000 ohm        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Transconductance                         | 9000            | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Plate Current                            | 10 mA           | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
|                                          |                 |                                                                                                                  |

| PARAMETER                                                          | PUBLISHED VALUE | CONDITION / NOTE                                                                                                 |
|--------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------|
| Grid Voltage (Approx.) for plate $\mu_a = 100$ – published value 1 | <b>100 V</b>    | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Grid Voltage (Approx.) for plate $\mu_a = 100$ – published value 2 | <b>-6 V</b>     | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 1 -Cathode – published value 1                                 | <b>1</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 1 -Cathode – published value 2                                 | <b>5</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 2 -Grid – published value 1                                    | <b>2</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 2 -Grid – published value 2                                    | <b>6</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 3 -Heater                                                      | <b>3</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 4 -Heater – published value 1                                  | <b>4</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |
| Pin 4 -Heater – published value 2                                  | <b>7</b>        | Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions. |