

ELECTRONIC TUBE REFERENCE

# 6SJ7GT

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION  
CONSTRUCTION  
PENTODE

GT-envelope sharp-cutoff pentode for high-gain RF amplification and anode-bend detector service. High plate resistance provides substantial voltage gain in receiver and general signal-amplifier circuits.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | 8N                | BASE PINS            | 8             |
| NOMINAL HEATER      | 6.3 V / 300 mA    | PARALLEL HEATER      | – / –         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## 8N - TERMINAL PINOUT

| TERMINAL  | SECTION | ELEMENT              | STATUS    |
|-----------|---------|----------------------|-----------|
| PIN1 – SH | A       | SH – Internal Shield | CONNECTED |
| PIN2 – H  | –       | H – Heater           | CONNECTED |
| PIN3 – G3 | A       | G3 – Suppressor Grid | CONNECTED |
| PIN4 – G1 | A       | G1 – Control Grid    | CONNECTED |
| PIN5 – K  | A       | K – Cathode          | CONNECTED |
| PIN6 – G2 | A       | G2 – Screen Grid     | CONNECTED |
| PIN7 – H  | –       | H – Heater           | CONNECTED |
| PIN8 – P  | A       | P – Plate (Anode)    | CONNECTED |

## SECTION RATINGS

|                                                                                                                                            |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>SECTION1</b> Pentode                                                                                                                    |                  |
| <b>PLATE RESISTANCE</b>                                                                                                                    | 1000000 $\Omega$ |
| <b>TRANSCONDUCTANCE</b>                                                                                                                    | 0.00165 S        |
| <b>MAXIMUM PLATE VOLTAGE</b>                                                                                                               | 300 V            |
| <b>MAXIMUM SCREEN VOLTAGE</b>                                                                                                              | 125 V            |
| <b>MAXIMUM PLATE DISSIPATION</b>                                                                                                           | 2.5 W            |
| <b>MAXIMUM SCREEN DISSIPATION</b>                                                                                                          | 0.75 W           |
| <i>Published promoted values applied where applicable; additional ratings, characteristics, and operating data retained as parameters.</i> |                  |

The Ferranti 6SJ7GT is a rF pentode for high-gain amplifiers and anode-bend detector service.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 195X General Electric Essential Characteristics

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

## 195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

## Section 1 · Pentode

| OTHER                              |                 |                           |
|------------------------------------|-----------------|---------------------------|
| PARAMETER                          | PUBLISHED VALUE | CONDITION / NOTE          |
| Maximum plate voltage              | 300 V           | Published handbook rating |
| Maximum screen voltage             | 150 V           | Published handbook rating |
| Plate voltage                      | 250 V           | ClassA OperatingPoint1    |
| Screen voltage                     | 100 V           | ClassA OperatingPoint1    |
| Control-grid bias                  | 3 V             | ClassA OperatingPoint1    |
| Plate current                      | 3 mA            | ClassA OperatingPoint1    |
| Screen current                     | 0.8 mA          | ClassA OperatingPoint1    |
| Plate voltage                      | 100 V           | ClassA OperatingPoint2    |
| Screen voltage                     | 100 V           | ClassA OperatingPoint2    |
| Control-grid bias                  | 3 V             | ClassA OperatingPoint2    |
| Plate current                      | 2.9 mA          | ClassA OperatingPoint2    |
| Screen current                     | 0.9 mA          | ClassA OperatingPoint2    |
| Triode-connected plate voltage     | 250 V           | TriodeConnection ClassA   |
| Triode-connected control-grid bias | 8.5 V           | TriodeConnection ClassA   |
| Triode-connected plate current     | 9.2 mA          | TriodeConnection ClassA   |
| Triode-connected plate voltage     | 180 V           | TriodeConnection ClassA   |
| Triode-connected control-grid bias | 6 V             | TriodeConnection ClassA   |
| Triode-connected plate current     | 6 mA            | TriodeConnection ClassA   |

| CHARACTERISTIC                        |                 |                         |
|---------------------------------------|-----------------|-------------------------|
| PARAMETER                             | PUBLISHED VALUE | CONDITION / NOTE        |
| Plate resistance                      | 1000000 ohm     | ClassA OperatingPoint1  |
| Transconductance                      | 1650 μS         | ClassA OperatingPoint1  |
| Plate resistance                      | 700000 ohm      | ClassA OperatingPoint2  |
| Transconductance                      | 1575 μS         | ClassA OperatingPoint2  |
| Heater voltage                        | 6.3 V           | Published heater rating |
| Heater current                        | 300 mA          | Published heater rating |
| Triode-connected plate resistance     | 7600 ohm        | TriodeConnection        |
| Triode-connected transconductance     | 2500 μS         | TriodeConnection        |
| Triode-connected amplification factor | 19              | TriodeConnection        |
| Triode-connected plate resistance     | 8200 ohm        | TriodeConnection        |
| Triode-connected transconductance     | 2300 μS         | TriodeConnection        |
| Triode-connected amplification factor | 19              | TriodeConnection        |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1961 Ferranti Technical Handbook

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

## 1961 FERRANTI TECHNICAL HANDBOOK

### Section 1 · Pentode

| CHARACTERISTICS  |                 |                  |
|------------------|-----------------|------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
| Plate Voltage    | 250 V           | —                |
| Screen Voltage   | 100 V           | —                |
| Plate Current    | 3 mA            | —                |
| Screen Current   | 0.8 mA          | —                |
| Transconductance | 1650 uS         | —                |

| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
|------------------|-----------------|------------------|
| Plate Resistance | 1000000 ohm     | —                |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

SOURCE PDF

# 1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

## Section 1 · Pentode

| CHARACTERISTICS                          |                 |                                                                                                  |
|------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| PARAMETER                                | PUBLISHED VALUE | CONDITION / NOTE                                                                                 |
| Voltage                                  | 6.3 V           | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Current                                  | 300 mA          | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid No.1 to Plate – published value 1   | 2.8             | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid No.1 to Plate – published value 2   | 2.8             | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid No.1 to Cathode – published value 1 | 3               | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid No.1 to Cathode – published value 2 | 3.4             | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate to Cathode – published value 1     | 11              | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate to Cathode – published value 2     | 11              | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| (6SJ7, Shell – published value 1         | 6               | Published datasheet value; multiple values represent separate source-table limits or conditions. |

| PARAMETER                             | PUBLISHED VALUE | CONDITION / NOTE                                                                                 |
|---------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| (6SJ7, Shell – published value 2      | <b>4</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Pin 1 6SJ7-GT, – published value 1    | <b>1</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Pin 1 6SJ7-GT, – published value 2    | <b>6</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Pin 1 6SJ7-GT, – published value 3    | <b>5</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Base Sleeve                           | <b>6</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| ~"1 Pin 2 -Heater – published value 1 | <b>1</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| ~"1 Pin 2 -Heater – published value 2 | <b>2</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| ~"1 Pin 2 -Heater – published value 3 | <b>7</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Pin3-Grid No.3                        | <b>8</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate voltage – published value 1     | <b>100 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate voltage – published value 2     | <b>250 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.2 Voltage – published value 1 | <b>100 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.2 Voltage – published value 2 | <b>100 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.1 Voltage – published value 1 | <b>-3 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
|                                       |                 |                                                                                                  |

| PARAMETER                                         | PUBLISHED VALUE | CONDITION / NOTE                                                                                 |
|---------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| Grid-No.1 Voltage – published value 2             | <b>-3 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Resistance (Approx.)                        | <b>0.7 Mohm</b> | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Transconductance – published value 1              | <b>1575</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Transconductance – published value 2              | <b>1650</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| plate current of 10 $\mu$ amp – published value 1 | <b>-8 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| plate current of 10 $\mu$ amp – published value 2 | <b>-8 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Current – published value 1                 | <b>2.9 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Current – published value 2                 | <b>3 mA</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.2 Current – published value 1             | <b>0.9 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.2 Current – published value 2             | <b>0.8 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Voltage – published value 1                 | <b>180 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Voltage – published value 2                 | <b>250 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.1 Voltage – published value 1             | <b>-6 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.1 Voltage – published value 2             | <b>-8.5 V</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
|                                                   |                 |                                                                                                  |

| PARAMETER                                          | PUBLISHED VALUE | CONDITION / NOTE                                                                                 |
|----------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| Plate Resistance (Approx. ~<br>– published value 1 | <b>8250 ohm</b> | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Resistance (Approx. ~<br>– published value 2 | <b>7600 ohm</b> | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Transconductance – published<br>value 1            | <b>2300</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Transconductance – published<br>value 2            | <b>2500</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Current – published<br>value 1               | <b>6 mA</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Plate Current – published<br>value 2               | <b>9.2 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| GRID-NII2 VOLTS - 100                              | <b>100 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| E f =6.3 VOLTS – published<br>value 1              | <b>6.3 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| E f =6.3 VOLTS – published<br>value 2              | <b>300 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| E f =6.3 VOLTS – published<br>value 3              | <b>3 V</b>      | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| CURVE                                              | <b>2</b>        | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| =Eq=6.3 VOLTS – published<br>value 1               | <b>6.3 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |

| OTHER                                     |                 |                                                                                                  |
|-------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| PARAMETER                                 | PUBLISHED VALUE | CONDITION / NOTE                                                                                 |
| Grid No.1 to Plate –<br>published value 1 | <b>0.005 mA</b> | Published datasheet value; multiple values represent separate source-table limits or conditions. |
|                                           |                 |                                                                                                  |

| PARAMETER                               | PUBLISHED VALUE | CONDITION / NOTE                                                                                 |
|-----------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| Grid No.1 to Plate – published value 2  | <b>0.005 mA</b> | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| 'PLATE VOLTAGE                          | <b>300 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| GRID-No.2 (SCREEN) VOLTAGE              | <b>125 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| GRIC-No.2 SUPPLY VOLTAGE                | <b>300 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| PLATE DISSIPATION                       | <b>2.5 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| GRID-No.2 DISSIPATION                   | <b>0.1 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Positive bias value                     | <b>0 V</b>      | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| negative with respect to cathode        | <b>90 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Heater positive with respect to cathode | <b>90 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Grid-No.1-Circuit Resistance            | <b>1 mA</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| PLATE VOLTAGE                           | <b>250 V</b>    | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| PLATE DISSIPATION (Total)               | <b>2.5 mA</b>   | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Heater negative with                    | <b>90 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |
| Heater positive with respect to cathode | <b>90 V</b>     | Published datasheet value; multiple values represent separate source-table limits or conditions. |



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