

ELECTRONIC TUBE REFERENCE

6JH8

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

BEAMSWITCHINGCOMMUTATOR

Double-plate sheet-beam tube for color-television synchronous detection, burst gating, and switching. Its balanced beam structure supports signal comparison and controlled output selection.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | E9-1              | BASE PINS            | 9             |
| NOMINAL HEATER      | 6.3 V / 300 mA    | PARALLEL HEATER      | – / –         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

SECTION RATINGS

|                                                        |          |
|--------------------------------------------------------|----------|
| SECTION1 BeamSwitchingCommutator                       |          |
| TRANSCONDUCTANCE                                       | 0.0044 S |
| MAXIMUM PLATE VOLTAGE                                  | 330 V    |
| MAXIMUM PLATE DISSIPATION                              | 3 W      |
| MAXIMUM CATHODE CURRENT                                | 33 mA    |
| Representative row for the two balanced plate outputs. |          |

The 6JH8 is a double-plate sheet-beam tube using balanced deflectors to steer an electron beam between two plates, making it suited to color-TV synchronous detection, burst gating and other switching functions.



## SOURCE OPERATING CONDITIONS

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# 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 · BeamSwitchingCommutator

| CHARACTERISTIC        |                 |                                  |
|-----------------------|-----------------|----------------------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE                 |
| Grid1Transconductance | 440 $\mu$ S     | Published average characteristic |



## SOURCE OPERATING CONDITIONS

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# 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 · BeamSwitchingCommutator

| OTHER                       |                 |                    |
|-----------------------------|-----------------|--------------------|
| PARAMETER                   | PUBLISHED VALUE | CONDITION / NOTE   |
| Accelerator voltage maximum | 330 V           | SheetBeam          |
| Accelerator dissipation     | 1 W             | SheetBeam          |
| Plate voltage, each plate   | 250 V           | DeflectorsGrounded |
| Accelerator voltage         | 250 V           | DeflectorsGrounded |
| Cathode bias resistor       | 220 ohm         | DeflectorsGrounded |
| Total plate current         | 14 mA           | DeflectorsGrounded |
| Accelerator current         | 1.5 mA          | DeflectorsGrounded |

| CHARACTERISTIC                      |                 |                    |
|-------------------------------------|-----------------|--------------------|
| PARAMETER                           | PUBLISHED VALUE | CONDITION / NOTE   |
| Deflector switching voltage maximum | 20 V            | BalancedDeflectors |



## SOURCE OPERATING CONDITIONS

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# 1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

## Section 1 · BeamSwitchingCommutator

| OTHER                  |                 |                  |
|------------------------|-----------------|------------------|
| PARAMETER              | PUBLISHED VALUE | CONDITION / NOTE |
| AcceleratorDissipation | 1 W             | —                |
| Plate Current          | 14 mA           | —                |



## SOURCE OPERATING CONDITIONS

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# 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 · BeamSwitchingCommutator

| OTHER                              |                 |                                |
|------------------------------------|-----------------|--------------------------------|
| PARAMETER                          | PUBLISHED VALUE | CONDITION / NOTE               |
| Voltage (AC or DC)                 | 6.3 V           | Published table value column 1 |
| Voltage (AC or DC)                 | 0.6 V           | Published table value column 2 |
| Current at heater volts =          | 6.3 V           | Published table value column 1 |
| Current at heater volts =          | 0.3 V           | Published table value column 2 |
| except both plates                 | 7.5 pF          | Published table value          |
| Plate No.1 to all other electrodes | 5 pF            | Published table value          |
| Plate No                           | 2 pF            | Published table value column 1 |
| Plate No                           | 5 pF            | Published table value column 2 |
| Plate No                           | 1 pF            | Published table value column 1 |
|                                    |                 |                                |

| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE               |
|---------------------------|-----------------|--------------------------------|
| Plate No                  | 2 pF            | Published table value column 2 |
| Plate No                  | 0.4 pF          | Published table value column 3 |
| Plate-No.1 Supply Voltage | 250 V           | Published table value          |
| Plate-No                  | 2 V             | Published table value column 1 |
| Plate-No                  | 250 V           | Published table value column 2 |
| Grid-No                   | 3 V             | Published table value column 1 |
| Grid-No                   | 250 V           | Published table value column 2 |
| Cathode Resistor          | 220 $\Omega$    | Published table value          |
| Total Plate Current       | 14 mA           | Published table value          |
| Grid-No                   | 3 mA            | Published table value column 1 |
| Grid-No                   | 1.5 mA          | Published table value column 2 |
| for total plate $\mu a =$ | 10 V            | Published table value column 1 |
| for total plate $\mu a =$ | -13 V           | Published table value column 2 |
| GRID -No                  | 3 VOLTS         | Published table value column 1 |
| GRID -No                  | 250 VOLTS       | Published table value column 2 |
| PLATE-No.1 VOLTS =        | 250 VOLTS       | Published table value          |
| PLATE-No                  | 2 VOLTS         | Published table value column 1 |
| PLATE-No                  | 250 VOLTS       | Published table value column 2 |
| PLATE-No                  | 1 VOLTS         | Published table value column 3 |
| PLATE-No                  | 1 VOLTS         | Published table value column 4 |
| GRID-Na                   | 3 VOLTS         | Published table value column 1 |
| GRID-Na                   | 250 VOLTS       | Published table value column 2 |
| GRID No                   | 2 W             | Published table value          |
| PLATE-No. 1 VOLTS =       | 250 VOLTS       | Published table value          |
| PLATE-No. 1 VOLTS=        | 250 VOLTS       | Published table value          |
| PLATE -No                 | 2 VOLTS         | Published table value column 1 |
| PLATE -No                 | 250 VOLTS       | Published table value column 2 |

| CHARACTERISTICS  |                 |                       |
|------------------|-----------------|-----------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE      |
| Transconductance | 4400 $\mu S$    | Published table value |

## SOURCE OPERATING CONDITIONS

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# 1975 RCA RC30

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

1975 RCA RC30

## Section 1 · BeamSwitchingCommutator

| CAPACITANCE                                             |                 |                  |
|---------------------------------------------------------|-----------------|------------------|
| PARAMETER                                               | PUBLISHED VALUE | CONDITION / NOTE |
| Grid No.1 to All Other Electrodes, Except Both Plates   | 7.5 pF          | Capacitance      |
| Grid No.1 to Deflecting Electrode No.1                  | 0.04 pF         | Capacitance      |
| Grid No.1 to Deflecting Electrode No.2                  | 0.07 pF         | Capacitance      |
| Plate No.1 to All Other Electrodes                      | 5 pF            | Capacitance      |
| Plate No.2 to All Other Electrodes                      | 5 pF            | Capacitance      |
| Plate No.1 to Plate No.2                                | 0.4 pF          | Capacitance      |
| Deflecting Electrode No.1 to All Other Electrodes       | 4.8 pF          | Capacitance      |
| Deflecting Electrode No.2 to All Other Elecetodes       | 4.8 pF          | Capacitance      |
| Deflecting Electrode No. 1 to Deflecting Electrode No.2 | 0.38 pF         | Capacitance      |
| Grid No.1 to Plate                                      | 0.6 pF          | Capacitance      |
| Grid No.1 to Cathode. Heater, Grid No.2, and Grid No.3  | 16 pF           | Capacitance      |

| OTHER                     |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| PlateVoltage (Each Plate) | 330 V           | MaximumRating    |
| Negative value            | 165 V           | MaximumRating    |
| Positive value            | 165 V           | MaximumRating    |

| PARAMETER                                             | PUBLISHED VALUE    | CONDITION / NOTE    |
|-------------------------------------------------------|--------------------|---------------------|
| Grid-No.3 ( Accelerating-Grid) Voltage                | <b>330 V</b>       | MaximumRating       |
| Grid-No.1 (Control-Grid) Voltage, Positive-bias value | <b>0 V</b>         | MaximumRating       |
| Cathode Current                                       | <b>33 mA</b>       | MaximumRating       |
| For fixed-bias operation                              | <b>0.1 megohm</b>  | MaximumCircuitValue |
| For cathode-bias operation                            | <b>0.25 megohm</b> | MaximumCircuitValue |
| Grid-No.1-Circuit                                     | <b>1 megohm</b>    | MaximumCircuitValue |
| DC Plate Supply Voltage                               | <b>770 V</b>       | MaximumRating       |
| Peak Positive-Pulse Plate Voltage*                    | <b>6500 V</b>      | MaximumRating       |

| CHARACTERISTIC                  |                 |                                |
|---------------------------------|-----------------|--------------------------------|
| PARAMETER                       | PUBLISHED VALUE | CONDITION / NOTE               |
| Plate-No. 1 Supply Voltage      | <b>250 V</b>    | Characteristic                 |
| Plate-No. 2 Supply Voltage      | <b>250 V</b>    | Characteristic                 |
| Grid-No.3 Voltage               | <b>250 V</b>    | Characteristic                 |
| Cathode-Bias Resistor           | <b>220 ohm</b>  | Characteristic                 |
| Total Plate Current             | <b>14 mA</b>    | Characteristic                 |
| Peak value                      | <b>200 V</b>    | Characteristic;PublishedValue1 |
| Peak value                      | <b>200 V</b>    | Characteristic;PublishedValue2 |
| Average value                   | <b>100 V</b>    | Characteristic;PublishedValue1 |
| Average value                   | <b>100 V</b>    | Characteristic;PublishedValue2 |
| Plate Voltage                   | <b>5000 V</b>   | Characteristic;PublishedValue1 |
| Plate Voltage                   | <b>55 V</b>     | Characteristic;PublishedValue2 |
| Plate Voltage                   | <b>250 V</b>    | Characteristic;PublishedValue3 |
| Plate Voltage                   | <b>150 V</b>    | Characteristic;PublishedValue4 |
| Grid-No.2 (Screen-Grid) Voltage | <b>150 V</b>    | Characteristic;PublishedValue1 |
| Grid-No.2 (Screen-Grid) Voltage | <b>150 V</b>    | Characteristic;PublishedValue2 |
| Grid-No.2 (Screen-Grid) Voltage | <b>150 V</b>    | Characteristic;PublishedValue3 |
| Grid-No.2 (Screen-Grid) Voltage | <b>150 V</b>    | Characteristic;PublishedValue4 |
|                                 |                 |                                |

| PARAMETER                        | PUBLISHED VALUE  | CONDITION / NOTE               |
|----------------------------------|------------------|--------------------------------|
| Grid-No.1 (Control-Grid) Voltage | <b>0 V</b>       | Characteristic;PublishedValue1 |
| Grid-No.1 (Control-Grid) Voltage | <b>-22.5 V</b>   | Characteristic;PublishedValue2 |
| Grid-No.1 (Control-Grid) Voltage | <b>-22.5 V</b>   | Characteristic;PublishedValue3 |
| Plate Resistance (Approx.)       | <b>15000 ohm</b> | Characteristic                 |
| Transconductance                 | <b>7300 uS</b>   | Characteristic                 |
| Plate Current                    | <b>345 mA</b>    | Characteristic;PublishedValue1 |
| Plate Current                    | <b>65 mA</b>     | Characteristic;PublishedValue2 |
| Grid-No.2 Current                | <b>30 mA</b>     | Characteristic;PublishedValue1 |
| Grid-No.2 Current                | <b>1.8 mA</b>    | Characteristic;PublishedValue2 |
| current of 1 #A                  | <b>100 V</b>     | Characteristic;PublishedValue1 |
| current of 1 #A                  | <b>-42 V</b>     | Characteristic;PublishedValue2 |

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