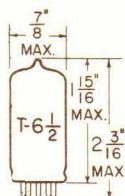


## TUNG-SOL

## TRIODE-PENTODE

MINIATURE TYPE



GLASS BULB

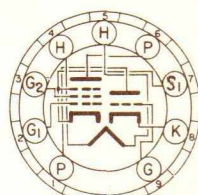
COATED UNIPOTENTIAL CATHODE

HEATER

4.7 VOLTS 0.6 AMP.

AC OR DC

ANY MOUNTING POSITION

BOTTOM VIEW  
SMALL BUTTON  
9 PIN BASE

9AE

THE 5GH8 IS A SHARP-CUTOFF PENTODE AND A MEDIUM-MU TRIODE CONTAINED IN A 9 PIN MINIATURE ENVELOPE. EACH SECTION HAS A SEPARATE CATHODE AND IS ELECTRICALLY INDEPENDENT. THE PENTODE SECTION IS INTENDED PRIMARILY FOR SERVICE AS AN OSCILLATOR IN THE HORIZONTAL DEFLECTION SYSTEM OF TELEVISION RECEIVERS. EXCEPT FOR HEATER CHARACTERISTICS, THE 5GH8 IS IDENTICAL TO THE 6GH8.

## DIRECT INTERELECTRODE CAPACITANCES ←

|                                      | WITH SHIELD <sup>A</sup> | WITHOUT SHIELD |     |
|--------------------------------------|--------------------------|----------------|-----|
| <b>PENTODE SECTION:</b>              |                          |                |     |
| GRID #1 TO PLATE: (Pg1 TO Pp) (MAX.) | 0.015                    | 0.02           | μμf |
| INPUT: Pg1 TO (H+Pk+Pg2+Pg3+I.S.)    | 5.5                      | 5.5            | μμf |
| OUTPUT: Pp TO (H+Pk+Pg2+Pg3+I.S.)    | 3.4                      | 2.6            | μμf |
| HEATER TO CATHODE (Pk TO H)          | 3.0 <sup>B</sup>         | 3.0            | μμf |
| <b>TRIODE SECTION:</b>               |                          |                |     |
| GRID TO PLATE: (Tg TO Tp)            | 1.6                      | 1.6            | μμf |
| INPUT: Tg TO (Tk+H+Pk+Pg3+I.S.)      | 3.6                      | 3.4            | μμf |
| OUTPUT: Tp TO (Tk+H+Pk+Pg3+I.S.)     | 2.2                      | 1.7            | μμf |
| HEATER TO CATHODE: (Tk TO H)         | 3.0 <sup>B</sup>         | 3.0            | μμf |

## RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

|                                          | PENTODE <sup>C</sup><br>SECTION<br>(HORIZONTAL<br>OSCILLATOR<br>SERVICE) | TRIODE<br>SECTION |       |
|------------------------------------------|--------------------------------------------------------------------------|-------------------|-------|
| HEATER VOLTAGE                           | 4.7                                                                      | 4.7               | VOLTS |
| MAXIMUM ALLOWABLE HEATER CURRENT         | 0.56 to 0.64                                                             |                   | AMP.  |
| MAXIMUM DC PLATE VOLTAGE                 | 350                                                                      | 330               | VOLTS |
| MAXIMUM SCREEN SUPPLY VOLTAGE            | 330                                                                      | ---               | VOLTS |
| MAXIMUM SCREEN VOLTAGE                   | SEE SCREEN RATING CHART                                                  |                   |       |
| MAXIMUM POSITIVE DC GRID #1 VOLTAGE      | 0                                                                        | 0.                | VOLTS |
| MAXIMUM PEAK NEGATIVE DC GRID #1 VOLTAGE | 175                                                                      | ---               | VOLTS |
| MAXIMUM PLATE DISSIPATION                | 2.5                                                                      | 2.5               | WATTS |
| MAXIMUM SCREEN DISSIPATION               | 0.55                                                                     | ---               | WATTS |
| MAXIMUM DC CATHODE CURRENT               | 20                                                                       | ---               | MA.   |
| MAXIMUM PEAK CATHODE CURRENT             | 300                                                                      | ---               | MA.   |

→ INDICATES A CHANGE.

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## RATINGS — CONT'D.

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

|                                         | PENTODE <sup>C</sup><br>SECTION<br>(HORIZONTAL<br>OSCILLATOR<br>SERVICE) | TRIODE<br>SECTION |         |
|-----------------------------------------|--------------------------------------------------------------------------|-------------------|---------|
| HEATER VOLTAGE                          |                                                                          |                   | VOELTS  |
| MAXIMUM HEATER-CATHODE VOLTAGE:         | 4.7                                                                      | 4.7               |         |
| HEATER POSITIVE WITH RESPECT TO CATHODE |                                                                          |                   |         |
| DC COMPONENT                            | 100                                                                      | 100               | VOLTS   |
| TOTAL DC AND PEAK                       | 200                                                                      | 200               | VOLTS   |
| HEATER NEGATIVE WITH RESPECT TO CATHODE |                                                                          |                   |         |
| TOTAL DC AND PEAK                       | 200                                                                      | 200               | VOLTS   |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE      |                                                                          |                   |         |
| WITH FIXED BIAS                         | 2.2                                                                      | 2.2               | MEGOHMS |
| WITH CATHODE BIAS                       | 2.2                                                                      | 2.2               | MEGOHMS |
| HEATER WARM-UP TIME (APPROX.)*          |                                                                          | 11.0              | SECONDS |

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

## AVERAGE CHARACTERISTICS

|                            | PENTODE<br>SECTION | TRIODE<br>SECTION |       |
|----------------------------|--------------------|-------------------|-------|
| HEATER VOLTAGE             | 4.7                | 4.7               | VOLTS |
| HEATER CURRENT             | 0.6                | 0.6               | AMP.  |
| PLATE VOLTAGE              | 125                | 125               | VOLTS |
| SCREEN VOLTAGE             | 125                | —                 | VOLTS |
| GRID #1 VOLTAGE            | -1.0               | -1.0              | VOLTS |
| AMPLIFICATION FACTOR       | —                  | 46                |       |
| PLATE RESISTANCE (APPROX.) | 200 000            | 5400              | OHMS  |
| TRANSCONDUCTANCE           | 7500               | 8500              | μMHOS |
| PLATE CURRENT              | 12                 | 13.5              | MA.   |
| SCREEN CURRENT             | 4.0                | —                 | MA.   |
| GRID #1 VOLTAGE (APPROX.)  |                    |                   |       |
| $I_b = 10 \mu\text{AMPS.}$ | -8                 | -8                | VOLTS |

\* HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

<sup>A</sup> WITH EXTERNAL SHIELD 315 CONNECTED TO CATHODE OF SECTION UNDER TEST UNLESS OTHERWISE INDICATED.

<sup>B</sup> WITH EXTERNAL SHIELD 315 CONNECTED TO GROUND.

<sup>C</sup> FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.