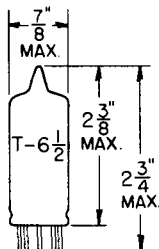


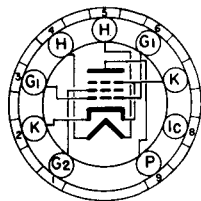
**TUNG-SOL****BEAM PENTODE****MINIATURE TYPE****GLASS BULB**

COATED UNIPOTENTIAL CATHODE

HEATER

6.3 VOLTS 1.2 AMP.  
AC OR DC

ANY MOUNTING POSITION

**BOTTOM VIEW**  
MINIATURE BUTTON  
9 PIN BASE

9CK

THE 6CS5 IS A MINIATURE BEAM PENTODE DESIGNED FOR USE IN AUDIO POWER OUTPUT STAGES WHERE THE SUPPLY VOLTAGE IS FURNISHED DIRECTLY FROM THE POWER LINES BY THE USE OF A SINGLE DIODE RECTIFIER. ELECTRICALLY THE 6CS5 IS SIMILAR TO THE 6W6GT AND IS CAPABLE OF DEVELOPING THE SAME POWER OUTPUT. EXCEPT FOR HEATER RATINGS, THE 6CS5 IS IDENTICAL TO THE 12CS5.

**DIRECT INTERELECTRODE CAPACITANCES -- APPROX.**

|                                    |     |                  |
|------------------------------------|-----|------------------|
| GRID TO PLATE: $G_1$ TO P          | 0.5 | $\mu\mu\text{f}$ |
| INPUT: $G_1$ TO (K+H+ $G_2$ +B.P.) | 15  | $\mu\mu\text{f}$ |
| OUTPUT: P TO (K+H+ $G_2$ +B.P.)    | 9   | $\mu\mu\text{f}$ |

**RATINGS**

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

|                                          |      |        |
|------------------------------------------|------|--------|
| HEATER VOLTAGE                           | 6.3  | VOLTS  |
| MAXIMUM PLATE VOLTAGE                    | 300  | VOLTS  |
| MAXIMUM GRID #2 VOLTAGE                  | 150  | VOLTS  |
| MAXIMUM PLATE DISSIPATION                | 10   | WATTS  |
| MAXIMUM GRID #2 DISSIPATION              | 1.25 | WATTS  |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE       |      |        |
| FIXED BIAS                               | 0.1  | MEGOHM |
| SELF BIAS                                | 0.5  | MEGOHM |
| MAXIMUM PEAK HEATER-CATHODE VOLTAGE      |      |        |
| HEATER NEGATIVE WITH RESPECT TO CATHODE  | 200  | VOLTS  |
| HEATER POSITIVE WITH RESPECT TO CATHODE* | 200  | VOLTS  |

\* DC COMPONENT MUST NOT EXCEED 100 VOLTS.

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A<sub>1</sub> AMPLIFIER

|                                     |        |        |         |
|-------------------------------------|--------|--------|---------|
| HEATER VOLTAGE                      | 6.3    | 6.3    | VOLTS   |
| HEATER CURRENT                      | 1.2    | 1.2    | AMP.    |
| PLATE VOLTAGE                       | 110    | 200    | VOLTS   |
| GRID #2 (SCREEN) VOLTAGE            | 110    | 125    | VOLTS   |
| GRID #1 (CONTROL-GRID) VOLTAGE      | -7.5   | ---    | VOLTS   |
| CATHODE BIAS RESISTOR               | ---    | 180    | OHMS    |
| PLATE RESISTANCE (APPROX.)          | 13 000 | 28 000 | OHMS    |
| TRANSCONDUCTANCE                    | 8 000  | 8 000  | μMHOS   |
| GRID #1 INPUT VOLTAGE, PEAK AF      | 7.5    | 8.5    | VOLTS   |
| PLATE CURRENT, ZERO SIGNAL          | 49     | 46     | MA.     |
| PLATE CURRENT, (MAX. SIGNAL)        | 50     | 47     | MA.     |
| GRID #2 CURRENT, ZERO SIGNAL        | 4      | 2.2    | MA.     |
| GRID #2 CURRENT, (MAX. SIGNAL)      | 10     | 8.5    | MA.     |
| LOAD RESISTANCE IMPEDANCE           | 2 000  | 4 000  | OHMS    |
| TOTAL HARMONIC DISTORTION (APPROX.) | 10     | 10     | PERCENT |
| POWER OUTPUT, (MAX. SIGNAL)         | 2.1    | 3.8    | WATTS   |

## TRIODE CONNECTION

|                                                          |       |       |
|----------------------------------------------------------|-------|-------|
| HEATER VOLTAGE                                           | 6.3   | VOLTS |
| HEATER CURRENT                                           | 1.2   | AMP.  |
| PLATE & GRID #2 VOLTAGE (P+G <sub>2</sub> TIED TOGETHER) | 225   | VOLTS |
| GRID #1 VOLTAGE                                          | -30   | VOLTS |
| PLATE RESISTANCE                                         | 1 500 | OHMS  |
| TRANSCONDUCTANCE                                         | 3 800 | μMHOS |
| PLATE CURRENT                                            | 22    | MA.   |
| AMPLIFICATION FACTOR                                     | 6.2   |       |
| GRID #1 VOLTAGE (APPROX.) FOR I <sub>b</sub> = 0.5 MA.   | -42   | VOLTS |

SIMILAR TYPE REFERENCE: Except for heater ratings and heater warm-up time the 6CS5 is identical to the 12CS5.

