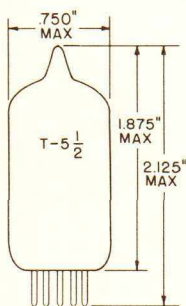


## TUNG-SOL



GLASS BULB  
MINIATURE BUTTON  
7 PIN BASE E7-1  
OUTLINE DRAWING  
JEDEC 5-2

PENTODE  
MINIATURE TYPE

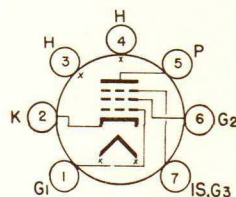
COATED UNIPOTENTIAL CATHODE

HEATER

6.3±0.6 VOLTS 300 MA.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 7CM

THE 6CB6 AND 6CB6A ARE SHARP CUTOFF PENTODES USING THE MINIATURE BUTTON 7 PIN BASE. THEY ARE ESPECIALLY DESIGNED FOR USE AS IF AMPLIFIERS OPERATING AT FREQUENCIES ABOVE 20MC, BUT THEY ARE ALSO WELL SUITED FOR USE AS RF AMPLIFIERS IN VHF TELEVISION TUNERS. IN ADDITION, THERMAL CHARACTERISTICS OF THE 6CB6A ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. EXCEPT FOR THE CONTROLLED HEATER WARM-UP TIME THE TWO TUBES ARE IDENTICAL.

## DIRECT INTERELECTRODE CAPACITANCES

|                                                                   | WITHOUT<br>SHIELD | WITH <sup>A</sup><br>SHIELD |    |
|-------------------------------------------------------------------|-------------------|-----------------------------|----|
| GRID TO PLATE: (G <sub>1</sub> TO P) MAX.                         | 0.025             | .015                        | pf |
| INPUT: G <sub>1</sub> TO (H+K+G <sub>2</sub> +G <sub>3</sub> +IS) | 6.5               | 6.5                         | pf |
| OUTPUT: P TO (H+K+G <sub>2</sub> +G <sub>3</sub> +IS)             | 2.0               | 3.0                         | pf |

<sup>A</sup>EXTERNAL SHIELD #316 CONNECTED TO PIN #2.

## RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM<sup>B</sup>

|                                              |             |         |
|----------------------------------------------|-------------|---------|
| MAXIMUM PLATE VOLTAGE                        | 330         | VOLTS   |
| MAXIMUM GRID #2 VOLTAGE                      | SEE J5-C4-2 |         |
| MAXIMUM GRID #2 SUPPLY VOLTAGE               | 330         | VOLTS   |
| MAXIMUM PLATE DISSIPATION                    | 2.3         | WATTS   |
| MAXIMUM GRID #2 DISSIPATION                  | 0.55        | WATT    |
| MAXIMUM POSITIVE DC GRID #1 VOLTAGE          | 0           | VOLTS   |
| MAXIMUM HEATER-CATHODE VOLTAGE:              |             |         |
| HEATER NEGATIVE WITH RESPECT TO CATHODE      |             |         |
| TOTAL DC AND PEAK                            | 200         | VOLTS   |
| HEATER POSITIVE WITH RESPECT TO CATHODE      |             |         |
| DC                                           | 100         | VOLTS   |
| TOTAL DC AND PEAK                            | 200         | VOLTS   |
| HEATER WARM-UP TIME (APPROX.)* (6CB6A -ONLY) | 11.0        | SECONDS |

→ INDICATES A CHANGE.

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

|                                                  |       |            |
|--------------------------------------------------|-------|------------|
| PLATE VOLTAGE                                    | 125   | VOLTS      |
| GRID #2 VOLTAGE                                  | 125   | VOLTS      |
| GRID #3 VOLTAGE                                  |       |            |
| CATHODE BIAS RESISTOR                            | 56    | OHMS       |
| PLATE RESISTANCE (APPROX.)                       | 0.28  | MEGOHM     |
| TRANSCONDUCTANCE                                 | 8 000 | $\mu$ MHOS |
| PLATE CURRENT                                    | 13.0  | MA.        |
| GRID #2 CURRENT                                  | 3.7   | MA.        |
| GRID #4 VOLTAGE (APPROX.) FOR $I_b = 20 \mu A$ . | -6.5  | VOLTS      |
| PLATE CURRENT AT $E_{c1} = -3V$ , $R_k = 0$      | 2.8   | MA.        |

<sup>B</sup> DESIGN MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO BOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR IN THE TYPES OF SERVICE FOR WHICH THE TUBE IS RATED. THEREFORE, THE EQUIPMENT DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT INITIALLY AND THROUGHOUT EQUIPMENT LIFE NO DESIGN MAXIMUM VALUE IS EXCEEDED WITH A BOGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.

\*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.

