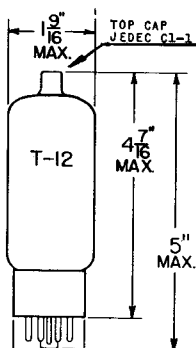


## TUNG-SOL

## BEAM POWER PENTODE



## GLASS BULB

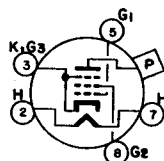
OUTLINE DRAWING

JEDEC 12-21

BASE JEDEC B5-123

COATED UNIPOTENTIAL CATHODE

HEATER

 $6.3 \pm 0.6$  VOLTS 2.5 AMP.

## BOTTOM VIEW

BASING DIAGRAM  
JEDEC 58T

THE 7867 IS A BEAM POWER PENTODE DESIGNED WITH HIGH POWER SENSITIVITY AND HIGH EFFICIENCY FOR SERVICE IN AUDIO OUTPUT STAGES. IT IS CAPABLE OF HANDLING HIGH POWER AT A VERY LOW HARMONIC DISTORTION LEVEL.

DIRECT INTERELECTRODE CAPACITANCES  
WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE (APPROX.)

1.1 pf

INPUT

22 pf

OUTPUT

8.5 pf

## RATINGS

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

|                                          |               |        |
|------------------------------------------|---------------|--------|
| HEATER VOLTAGE <sup>A</sup>              | $6.3 \pm 0.6$ | VOLTS  |
| MAXIMUM PLATE VOLTAGE                    | 700           | VOLTS  |
| MAXIMUM GRID #2 VOLTAGE                  | 175           | VOLTS  |
| MAXIMUM PLATE DISSIPATION                | 24            | WATTS  |
| MAXIMUM GRID #2 DISSIPATION              | 3.6           | WATTS  |
| MAXIMUM CATHODE CURRENT-AVERAGE          | 220           | MA.    |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE       | 0.5           | MEGOHM |
| MAXIMUM BULB TEMPERATURE (HOTTEST POINT) | 225           | °C     |
| 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  |

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

AUDIO SERVICE

CLASS A<sub>1</sub> AMPLIFIER - SINGLE TUBE

|                              |        |         |
|------------------------------|--------|---------|
| PLATE VOLTAGE <sup>C</sup>   | 250    | VOLTS   |
| GRID #2 CURRENT <sup>C</sup> | 90     | VOLTS   |
| CATHODE RESISTOR             | 120    | OHMS    |
| PEAK GRID #1 SIGNAL          | 10     | VOLTS   |
| ZERO SIGNAL PLATE CURRENT    | 80     | MA.     |
| MAX. SIGNAL PLATE CURRENT    | 81     | MA.     |
| ZERO SIGNAL GRID #2 CURRENT  | 1      | MA.     |
| MAX. SIGNAL GRID #2 CURRENT  | 6      | MA.     |
| PLATE RESISTANCE             | 12,000 | OHMS    |
| TRANSCONDUCTANCE             | 10,000 | μMHOS   |
| LOAD RESISTANCE              | 3,000  | OHMS    |
| TOTAL HARMONIC DISTORTION    | 10     | PERCENT |
| MAX. SIGNAL POWER OUTPUT     | 7.5    | WATTS   |

PUSH-PULL AMPLIFIER  
VALUES FOR TWO TUBES

| CLASS OF OPERATION               | A <sub>1</sub> | AB <sub>1</sub> | AB <sub>1</sub> |         |
|----------------------------------|----------------|-----------------|-----------------|---------|
| PLATE VOLTAGE <sup>C</sup>       | 250            | 250             | 450             | VOLTS   |
| GRID #2 VOLTAGE <sup>C</sup>     | 90             | 150             | 150             | VOLTS   |
| CATHODE RESISTOR                 | 60             | 200             | ---             | OHMS    |
| GRID #1 VOLTAGE                  | ---            | ---             | -35             | VOLTS   |
| PEAK GRID #1 TO GRID #1 SIGNAL   | 19.5           | 47              | 69              | VOLTS   |
| ZERO SIGNAL PLATE CURRENT        | 160            | 114             | 58              | MA.     |
| MAX. SIGNAL PLATE CURRENT        | 166            | 128             | 210             | MA.     |
| ZERO SIGNAL GRID #2 CURRENT      | 2              | 2               | 1.4             | MA.     |
| MAX. SIGNAL GRID #2 CURRENT      | 10.5           | 17              | 36              | MA.     |
| LOAD RESISTANCE (PLATE TO PLATE) | 5000           | 6000            | 5000            | OHMS    |
| TOTAL HARMONIC DISTORTION        | 1.4            | 3.0             | 5.5             | PERCENT |
| MAX. SIGNAL POWER OUTPUT         | 16             | 28              | 65              | WATTS   |

<sup>A</sup> THE EQUIPMENT DESIGNER SHALL SO DESIGN THE EQUIPMENT THAT THE HEATER VOLTAGE IS CENTERED AT THE SPECIFIED BOGEY VALUE. HEATER SUPPLY VARIATIONS SHALL BE RESTRICTED TO MAINTAIN HEATER VOLTAGE WITHIN THE SPECIFIED TOLERANCE.

<sup>B</sup> 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.

<sup>C</sup> SPECIFIED VOLTAGE IS WITH RESPECT TO GROUND.