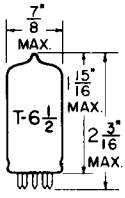
# TUNG-SOL

## DIODE-PENTODE

MINIATURE TYPE

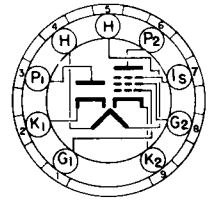



GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
12.6 VOLTS 0.200 AMP.
AC OR DC

ANY MOUNTING POSITION




**BOTTOM VIEW**
MINIATURE BUTTON
9 PIN BASE

THE 12DE8 IS A COMBINED REMOTE CUT-OFF PENTODE AND DIODE WITH INDEPENDENT UNIPOTENTIAL CATHODES IN THE 9-PIN MINIATURE CONSTRUCTION. THE PENTODE SECTION IS INTENDED FOR USE AS AN RF OR IF AMPLIFIER WHERE THE HEATER, PLATE AND SCREEN GRID POTENTIALS ARE OBTAINED DIRECTLY FROM AN AUTOMOTIVE BATTERY.

### DIRECT INTERELECTRODE CAPACITANCES

| | WITHOUT SHIELD | |
|---|---|---|
| PENTODE GRID #1 TO PLATE: ( MAX.) | .006 | μμf |
| PENTODE INPUT: | 5.5 | μμf |
| PENTODE OUTPUT: | 5.7 | μμf |
| DIODE INPUT: | 3.7 | μμf |
| DIODE OUTPUT: | 5.7 | μμf |
| COUPLING (DIODE PLATE TO PENTODE GRID (MAX.) | .018 | μμf |
| COUPLING (DIODE PLATE TO PENTODE PLATE (MAX.) | .012 | μμf |
| COUPLING (DIODE CATHODE TO PENTODE GRID (MAX.) | .13 | μμf |
| COUPLING (DIODE CATHODE TO PENTODE PLATE (MAX.) | .0016 | μμf |

### RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

| | | |
|---|---|---|
| HEATER VOLTAGE[A] | 12.6 | VOLTS |
| MAXIMUM HEATER-CATHODE VOLTAGE | ±30 | VOLTS |
| MAXIMUM PLATE VOLTAGE | 30 | VOLTS |
| MAXIMUM GRID #2 VOLTAGE | 30 | VOLTS |
| MAXIMUM CATHODE CURRENT | 20 | MA. |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE | 10 | MEGOHMS |
| MAXIMUM AVERAGE DIODE CURRENT | 5 | MA. |

[A] THIS TUBE IS INTENDED TO BE USED IN AUTOMOTIVE SERVICE FROM A NOMINAL 12 VOLT BATTERY SOURCE. THE HEATER IS THEREFORE DESIGNED TO OPERATE OVER THE 10.0 TO 15.9 VOLTAGE RANGE ENCOUNTERED IN THIS SERVICE. THE MAXIMUM RATINGS OF THE TUBE PROVIDE FOR AN ADEQUATE SAFETY FACTOR SUCH THAT THE TUBE WILL WITHSTAND THE WIDE VARIATION IN SUPPLY VOLTAGES.

CONTINUED ON FOLLOWING PAGE

**TUNG-SOL**

CONTINUED FROM PRECEDING PAGE

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

| | | |
|---|---|---|
| HEATER VOLTAGE | 12.6 | VOLTS |
| HEATER CURRENT | 0.200 | AMP. |
| PLATE VOLTAGE | 12.6 | VOLTS |
| GRID #3 VOLTAGE[B] | 0 | VOLTS |
| GRID #2 VOLTAGE | 12.6 | VOLTS |
| GRID #1 VOLTAGE | -.80[C] | VOLTS |
| PLATE CURRENT | 1 300 | μAMPS |
| GRID #2 CURRENT | 500 | μAMPS |
| PLATE RESISTANCE (APPROX.) | .3 | MEGOHM |
| TRANSCONDUCTANCE[D] | 1 500 | μMHOS |
| GRID #1 VOLTAGE (APPROX.) FOR $G_{mD}$ = 10 μMHOS | -6.0 | VOLTS |
| DIODE CURRENT WITH 5 VOLTS APPLIED | 20 | MA. |

[C] AVERAGE BIAS DEVELOPED ACROSS A 2.2 MEGOHM GRID RESISTOR.

[D] FROM GRID #1 TO PLATE.

[B] CONNECTED TO CATHODE AT SOCKET.