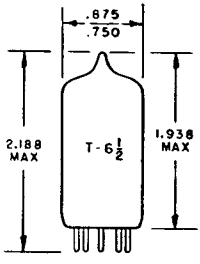
**TUNG-SOL**

# TRIODE-PENTODE

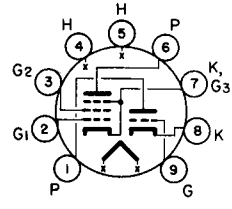
## MINIATURE TYPE




GLASS BULB
SMALL BUTTON
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-2

FOR
USE AS A COMBINED
VHF OSCILLATOR AND MIXER

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION




BOTTOM VIEW
BASING DIAGRAM
JEDEC 9 AE

THE 5KD8 IS A MEDIUM MU TRIODE AND SHARP CUTOFF PENTODE IN THE 9 PIN MINATURE CONSTRUCTION. IT IS INTENDED FOR USE AS A COMBINED VHF OSCILLATOR AND MIXER IN TELEVISION RECEIVERS.

GRID 1 (CONTROL GRID) TO CATHODE SPACING ON THE 6KD8 IS OF SUCH LOW ORDER OF MAGNITUDE AS TO PRECLUDE THE USE OF VOLTAGE BETWEEN THESE ELEMENTS OF MORE THAN 100 VOLTS DC OR PEAK AC IN COMMERCIAL TUBE CHECKERS AND SHORTS INDICATING DEVICES, PARTICULARY WHERE MECHANICAL EXCITATION OF THE TUBE IS EMPLOYED. THE 5KD8 IS SIMI- TO THE 6KD8.

## DIRECT INTERELECTRODE CAPACITANCES

| | SHIELD 315 CONNECTED TO PIN 4 | UNSHIELDED | |
|---|---|---|---|
| **PENTODE SECTION** | | | |
| GRID 1 TO PLATE | Max. .007 | Max. .015 | pf |
| INPUT: G1 TO ( H + K + G2 + G3 + I.S.) | 5.0 | 5.0 | pf |
| OUTPUT: P TO ( H + K + G2 + G3 + I.S. ) | 3.5 | 2.6 | pf |
| CATHODE TO HEATER | 3.0 [A] | 3.0 | pf |
| **TRIODE SECTION** | | | |
| GRID TO PLATE | 1.8 | 1.8 | pf |
| INPUT: G TO ( H + PK + TK + G3 + I.S. ) | 2.8 | 2.8 | pf |
| OUTPUT: P TO ( H + PK + TK + G3 + I.S. ) | 2.0 | 1.5 | pf |
| CATHODE TO HEATER | 3.0 [A] | 3.0 | pf |
| **COUPLING** | | | |
| PENTODE GRID 1 TO TRIODE PLATE | Max. 0.2 | Max. 0.2 | pf |
| PENTODE PLATE TO TRIODE PLATE | Max. .02 | Max. 0.1 | pf |

A- SHIELD 315 CONNECTED TO PIN 6.

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## HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

| | | | |
|---|---|---|---|
| AVERAGE CHARACTERISTICS | 5.6 VOLTS | 450 | MA. |
| LIMITS OF SUPPLIED CURRENT | | 450 ± 30 | MA. |
| HEATER WARM - UP | | 11 | SEC. |
| 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 |

## MAXIMUM RATINGS

DESIGN MAXIMUM RATINGS - SEE EIA STANDARD RS-239

| | TRIODE SECTION | PENTODE SECTION | |
|---|---|---|---|
| PLATE VOLTAGE | 330 | 330 | VOLTS |
| GRID 2 SUPPLY VOLTAGE | | 330 | VOLTS |
| GRID 2 VOLTAGE | | SEE RATING CHART | |
| POSITIVE DC GRID 1 VOLTAGE | 0 | 0 | VOLTS |
| PLATE DISSIPATION | 2.5 | 3.0 | WATTS |
| GRID 2 DISSIPATION | | 0.55 | WATTS |
| GRID 1 CIRCUIT RESISTANCE | | | |
| FIXED BIAS | | 0.5 | MEGOHM |
| SELF BIAS | | 1.0 | MEGOHM |

## CHARACTERISTICS AND TYPICAL OPERATION

| | TRIODE SECTION | PENTODE SECTION | |
|---|---|---|---|
| PLATE VOLTAGE | 125 | 125 | VOLTS |
| GRID 2 VOLTAGE | | 110 | VOLTS |
| GRID 1 VOLTAGE | -1.0 | -1.0 | VOLTS |
| PLATE CURRENT | 13.5 | 9.5 | MA. |
| GRID 2 CURRENT | | 3.5 | MA. |
| TRANSCONDUCTANCE | 7,500 | 5,000 | μMHOS |
| AMPLIFICATION FACTOR | 40 | | |
| PLATE RESISTANCE | | Approx. 0.2 | MEGOHM |
| $E_{c1}$ FOR $I_b$ = 20 μA | Approx. -9 | Approx. -8 | VOLTS |
| $G_m$ AT $E_{c1}$ = 0 V., $E_b$ = 100 V., $E_{c2}$ = 70 V. | | 5,500 | μMHOS |