

TUNG-SOL

DOUBLE DIODE TRIODE

MINIATURE TYPE

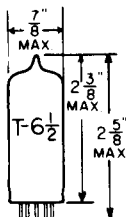
COATED UNIPOTENTIAL CATHODE

HEATER

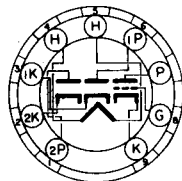
6.3 VOLTS $0.6 \pm 6\%$ AMP.

AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW

MINIATURE BUTTON
9 PIN BASE

9ER

THE 6BJ8 IS A MEDIUM- μ TRIODE AND A DOUBLE DIODE IN ONE ENVELOPE USING THE 9 PIN MINIATURE CONSTRUCTION. EACH SECTION HAS ITS OWN CATHODE. IT IS DESIGNED FOR USE AS A PHASE SPLITTER, PHASE COMPARATOR AND HORIZONTAL DEFLECTION OSCILLATOR IN 600 MA. SERIES HEATER OPERATED RECEIVERS. THERMAL CHARACTERISTICS OF THE HEATER 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.

DIRECT INTERELECTRODE CAPACITANCES

WITH NO EXTERNAL SHIELD

TRIODE SECTION

| | | |
|-----------------------|------|-----------------|
| GRID TO PLATE: G TO P | 2.6 | $\mu\text{u f}$ |
| INPUT: G TO (H+TK) | 2.8 | $\mu\text{u f}$ |
| OUTPUT: P TO (H+TK) | 0.31 | $\mu\text{u f}$ |

DIODE SECTION

| | | |
|--|------|-----------------|
| #1 PLATE TO TRIODE GRID (MAX.) | .070 | $\mu\text{u f}$ |
| #2 PLATE TO TRIODE GRID (MAX.) | .11 | $\mu\text{u f}$ |
| #1 CATHODE TO ALL: 1DK TO (H+TK+2DK+TP+1DP+TG+2DP) | 4.8 | $\mu\text{u f}$ |
| #2 CATHODE TO ALL: 2DK TO (H+TK+1DK+TP+1DP+2DP+TG) | 4.8 | $\mu\text{u f}$ |
| #1 PLATE TO #2 PLATE (MAX.) | .060 | $\mu\text{u f}$ |
| #1 PLATE TO #1 CATHODE + HEATER: 1DP TO (1DK+H) | 1.9 | $\mu\text{u f}$ |
| #2 PLATE TO #2 CATHODE + HEATER: 2DP TO (2DK+H) | 1.9 | $\mu\text{u f}$ |
| #1 CATHODE TO #1 PLATE+HEATER: 1DK TO (1DP+H) | 4.6 | $\mu\text{u f}$ |
| #2 CATHODE TO #2 PLATE+HEATER: 2DK TO (2DP+H) | 4.6 | $\mu\text{u f}$ |
| #1 PLATE TO ALL: 1DP TO (H+TK+1DK+2DK+TP+2DP+TG) | 3.0 | $\mu\text{u f}$ |
| #2 PLATE TO ALL: 2DP TO (H+TK+1DK+2DK+TP+1DP+TG) | 3.0 | $\mu\text{u f}$ |

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS
 INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

EACH SECTION

| | CLASS A ₁ AMPLIFIER | VERTICAL ^B DEFLECTION AMPLIFIER | |
|--|-----------------------------------|--|----------|
| HEATER VOLTAGE | | 6.3 | 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.) ^C | 11.0 | | SECONDS |
| TRIODE SECTION | | | |
| MAXIMUM PLATE VOLTAGE | 330 | 330 | VOLTS |
| MAXIMUM POSITIVE DC GRID VOLTAGE | 0 | --- | VOLTS |
| MAXIMUM POSITIVE PULSE PLATE VOLTAGE (ABSOLUTE MAXIMUM) | --- | 1 200 | VOLTS, |
| MAXIMUM PLATE DISSIPATION ^D | 4.0 | 4.0 | WATTS |
| MAXIMUM PEAK NEGATIVE PULSE GRID VOLTAGE | --- | 275 | VOLTS |
| MAXIMUM AVERAGE CATHODE CURRENT | 22 | 22 | MA. |
| MAXIMUM PEAK CATHODE CURRENT | --- | 77 | MA. |
| MAXIMUM GRID CIRCUIT RESISTANCE: SELF BIAS | --- | 2.2 | MEG OHMS |
| DIODE SECTION | | | |
| MAXIMUM PEAK PLATE CURRENT (EACH PLATE) | 54 | | MA. |
| MAXIMUM DC CURRENT (EACH PLATE) | 9 | | MA. |

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS
CLASS A₁ AMPLIFIER

| | | | |
|--|-------|----------|-------|
| HEATER VOLTAGE | | 6.3 ← | VOLTS |
| HEATER CURRENT | | 0.6±6% ← | AMP. |
| TRIODE SECTION | | | |
| PLATE VOLTAGE | 90 | 250 | VOLTS |
| GRID VOLTAGE | 0 | -9 | VOLTS |
| PLATE RESISTANCE (APPROX.) | 4 700 | 7 150 | OHMS |
| TRANSCONDUCTANCE | 4 700 | 2 800 | μMHOS |
| AMPLIFICATION FACTOR | 22 | 20 | |
| PLATE CURRENT | 13.5 | 8.0 | MA. |
| PLATE CURRENT AT E _c = -12.5 VOLTS (DC) | --- | 1.7 | MA. |
| GRID VOLTAGE (APPROX.) FOR I _b = 10 μAMP. | -7 | -18 | VOLTS |
| DIODE SECTION | | | |
| AVERAGE CURRENT (EACH PLATE) AT 10 VOLTS (DC) | | 50 | MA. |
| VOLTAGE DROP (EACH SECTION) AT I _b = 9 MA. (DC) | | 2.6 | VOLTS |

^BFOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCASTING STATIONS; FEDERAL COMMUNICATIONS COMMISSION". THE DUTY CYCLE OF THE VOLTAGE PULSE NOT TO EXCEED 15 PERCENT OF A SCANNING CYCLE.

^CHEATER 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.

^DIN STAGES OPERATING WITH GRID-LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

→ INDICATES A CHANGE.