The 6CQ4 is an indirectly-heated half-wave rectifier designed primarily for television damping diode service in horizontal deflection circuits. Tube voltage drop and DC plate current ratings have been established which permits single tube operation in low B+ as well as wide deflection angle TV systems.

**Direct Interelectrode Capacitances - Approx.**

**Without External Shield**

- Heater-to-cathode: 4.0 pf
- Plate-to-cathode and heater: 8.5 pf
- Cathode-to-plate and heater: 11.5 pf

**Ratings**

Interpreted according to design maximum system A. Damper service B.

- Heater voltage: 6.3±0.6 Volts
- Maximum peak inverse plate voltage: 5500 Volts
- Maximum peak plate current: 1200 MA.
- Maximum DC plate current: 190 MA.
- Maximum plate dissipation: 6.5 Watts

**Maximum heater-cathode voltage:**

- Heater negative with respect to cathode
  - DC component: 900 Volts
  - Total DC and peak: 5500 Volts
- Heater positive with respect to cathode
  - DC component: 100 Volts
  - Total DC and peak: 300 Volts

Continued on following page.
TUNG-SOL

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AVERAGE CHARACTERISTICS

TUBE VOLTAGE DROP
I_b = 250 MA. DC 25 VOLTS

A

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.

B

FOR OPERATION IN A 575-LINE, 3D-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

THE JEDEC B5-85 AND B5-247 BASES SPECIFIED FOR USE WITH THE 6CQ4. DO NOT HAVE PINS IN BASE POSITIONS #1, 4V & #6. HOWEVER POSITIONS 1 & 6 HAVE INTERNAL CONNECTIONS TERMINATING IN STEM LEADS. BASE TERMINAL POSITION 2 HAS A BASE PIN WHICH MAY BE CONNECTED TO A STEAM LEAD. BECAUSE OF THE CLOSE PROXIMITY OF STEM LEADS TO THE SOCKET PIN CLIPS WHEN THE TUBE IS SEATED IN THE SOCKET, CIRCUIT TIE POINTS SHOULD NOT BE MADE TO SOCKET TERMINALS 1, 2, 4 & 6 UNLESS ADEQUATE PRECAUTIONS ARE TAKEN AGAINST VOLTAGE BREAKDOWN IN BOTH THE TUBE BASE AND THE SOCKET. TO REDUCE THE POSSIBILITY OF ARCOVEMBER, IT IS RECOMMENDED SOCKET CLIPS FOR POSITIONS 1, 2, 4 & 6 BE REMOVED FROM THE DAMPER TUBE SOCKET.