MECHANICAL DATA

Bulb ........................................ T-12
Base ........................................ B8-71, Short Jumbo Shell Octal, 8-Pin
Top Cap ....................................... C1-1, Small
Outline ...................................... See Drawing
Basing ........................................ 8GC
Cathode ...................................... Coated Unipotential
Mounting Position ......................... Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage .............................. 6.3 Volts
Heater Current ................................ 200 Ma
Peak Heater-Cathode Voltage
  Heater Negative with respect to Cathode 225 Volts Max.
  Heater Positive with Respect to Cathode Not Recommended

DIRECT INTERELECTRODE CAPACITANCES

Grid to Plate ................................ .03 μF
Input ......................................... 2.6 μF
Output ....................................... 1.0 μF Max.

RATINGS (Design Center Values)

Voltage Control Service
DC Plate Voltage ............................ 25000 Volts Max.
Unregulated DC Supply Voltage .......... 55000 Volts Max.
Grid Voltage
DC ............................................. −125 Volts Max.
Peak .......................................... −400 Volts Max.
DC Plate Current ............................ 1.5 Ma Max.
Plate Dissipation ............................ 25 Watts Max.
Grid Circuit Resistance .................... 3 Megohms Max.

CHARACTERISTICS

Amplification Factor ........................ 2000

TYPICAL OPERATION

Shunt Voltage Regulator
Unregulated Supply
DC Voltage ................................... 36000 Volts
Equivalent Resistance ..................... 11 Megohms
Voltage Divider Values
R1 (5 watts) .................................. 220 Megohms
R2 (2 watts) .................................. 1 Megohm
R3 (1/2 watt) ................................. .82 Megohm
Reference Voltage Supply
DC Value ..................................... 200 Volts
Equivalent Resistance ..................... 1000 Ohms
Effective Grid-Plate Transconductance 200 μhos
DC Plate Current
For Load Current of 0 Ma .................. 1000 μa
For Load Current of 1 Ma .................. 43 μa
Regulated DC Output Voltage
For Load Current of 0 Ma .................. 25000 Volts
For Load Current of 1 Ma .................. 24500 Volts

The Sylvania Type 6BK4 is a low current, sharp cutoff, beam triode designed for use as a voltage regulator in high voltage, low current supplies. The 6BK4 has a maximum plate voltage rating of 25,000 volts, a maximum plate current rating of 1.5 Ma and a maximum plate dissipation of 25 watts.

Sylvania Electric Products Inc.
Radio Tube Division
Emporium, Pa.

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WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.

SHUNT REGULATOR CIRCUIT
AVERAGE TRANSFER CHARACTERISTICS

GRID VOLTAGE

CURRENT IN MILLIAMPERES

$E_g =$ RATED VALUE

$E_g =$ 25,000 VOLTS

5000

15,000

20,000

$E_g =$ 25,000 VOLTS

0