The 6J85 is a compactron beam pentode designed for use as the vertical-deflection amplifier in color television receivers.

Features of the 6J85 include high perveance, high plate dissipation, a high voltage screen grid, and the utilization of a T-12 bulb to improve life and reliability by lowering operating temperature.

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**GENERAL**

**ELECTRICAL**
- Cathode - Coated Unipotential
- Heater Characteristics and Ratings
  - Heater Voltage, AC or DC*: 6.3±0.6 Volts
  - Heater Current+: 0.8 Amperes
- Direct Interelectrode Capacitances, approximate:
  - Grid-Number 1 to Plate: (g1 to p) 0.49 pf
  - Input: gl to (h + k + g2 + b.p.) 9.5 pf
  - Output: p to (h + k + g2 + b.p.) 6.5 pf

**MECHANICAL**
- Operating Position - Any
- Envelope - T-12 Glass
- Base - E12-74, Button 12-Pin
- Outline Drawing - EIA 12-57
  - Maximum Diameter: 1.563 Inches
  - Minimum Diameter: 1.437 Inches
  - Maximum Over-all Length: 3.125 Inches
  - Maximum Seated Height: 2.750 Inches
  - Minimum Seated Height: 2.500 Inches

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**PHYSICAL DIMENSIONS**

- 1.563" MAX.
- 1.437" MIN.
- 3.125" MAX.
- 2.750" MAX.
- 2.500" MIN.

**TERMINAL CONNECTIONS**
- Pin 1 - Heater
- Pin 2 - Grid Number 1
- Pin 3 - Grid Number 2 (Screen)
- Pin 4 - Cathode and Beam Plates
- Pin 5 - No Connection
- Pin 6 - Plate
- Pin 7 - No Connection
- Pin 8 - No Connection
- Pin 9 - Grid Number 1
- Pin 10 - Grid Number 2 (Screen)
- Pin 11 - Cathode and Beam Plates
- Pin 12 - Heater

**BASED DIAGRAM**

- EIA 12-57

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The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.
MAXIMUM RATINGS

VERTICAL-DEFLECTION AMPLIFIER SERVICE—
DESIGN-MAXIMUM VALUES UNLESS OTHERWISE INDICATED

DC Plate Voltage ........................................ 350 Volts
Peak Pulse Plate Voltage ............................ 2500 Volts
Screen Voltage .......................................... 300 Volts
Plate Dissipation# .................................... 15 Watts
Screen Dissipation# ................................... 2.75 Watts
DC Cathode Current .................................. 0.75 Milliamperes
Peak Cathode Current ................................ 260 Milliamperes
Heater-Cathode Voltage
  Heater Positive with Respect to Cathode
    DC Component ..................................... 100 Volts
    Total DC and Peak ................................ 200 Volts
Heater Negative with Respect to Cathode
    Total DC and Peak ................................ 200 Volts
Grid-Number 1 Circuit Resistance
  With Fixed Bias ..................................... 1.0 Megohms
  With Cathode Bias .................................. 2.2 Megohms
  Bulb Temperature at Hottest Point ................. 200°C

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogy electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogy tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage ........................................... 60 250 Volts
Screen Voltage ......................................... 250 Volts
Grid-Number 1 Voltage ................................ 0Ω 250 Volts
Plate Resistance, approximate ..................... 50000 Ohms
Transconductance ..................................... 4100 Micromhos
Plate Current .......................................... 180 43 Milliamperes
Screen Current ......................................... 20 3.5 Milliamperes
Grid-Number 1 Voltage, approximate
  Ib = 100 Microamperes .............................. -50 Volts

NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogy value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† Heater current of a bogy tube at Ef = 6.3 volts

§ Without external shield.

¶ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

# In 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.

Δ Applied for short interval (two seconds maximum) so as not to damage tube.