

# —PRODUCT INFORMATION—

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## Compactron Beam Pentode

6JB5

FOR TV VERTICAL-DEFLECTION  
AMPLIFIER APPLICATIONS

- COLOR TV TYPE
- 15 WATTS PLATE DISSIPATION
- VERTICAL OUTPUT TYPE
- HIGH VOLTAGE SCREEN GRID
- HIGH PERVEANCE

The 6JB5 is a compactron beam pentode designed for use as the vertical-deflection amplifier in color television receivers.

Features of the 6JB5 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.

### 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: g1 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

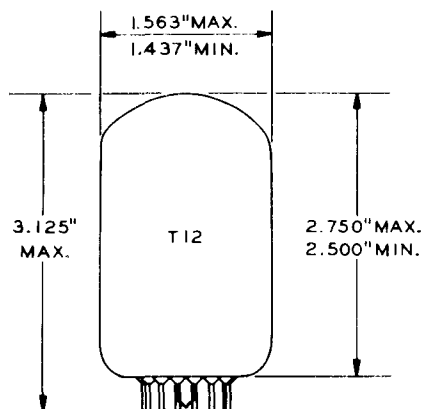
Minimum Diameter. . . . . 1.437 Inches

Maximum Over-all Length . . . . 3.125 Inches

Maximum Seated Height . . . . . 2.750 Inches

Minimum Seated Height . . . . . 2.500 Inches

#### PHYSICAL DIMENSIONS

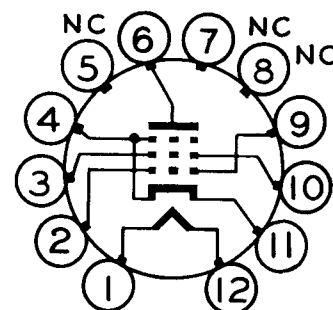


EIA 12-57

#### 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

#### BASING DIAGRAM



EIA 12EY

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<sup>¶</sup>—****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 . . . . .                | . 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 bogey 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 bogey 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  | 250   | Volts        |
| Grid-Number 1 Voltage . . . . .        | . 0Δ | -20   | 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 bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ Heater current of a bogey tube at Ef = 6.3 volts

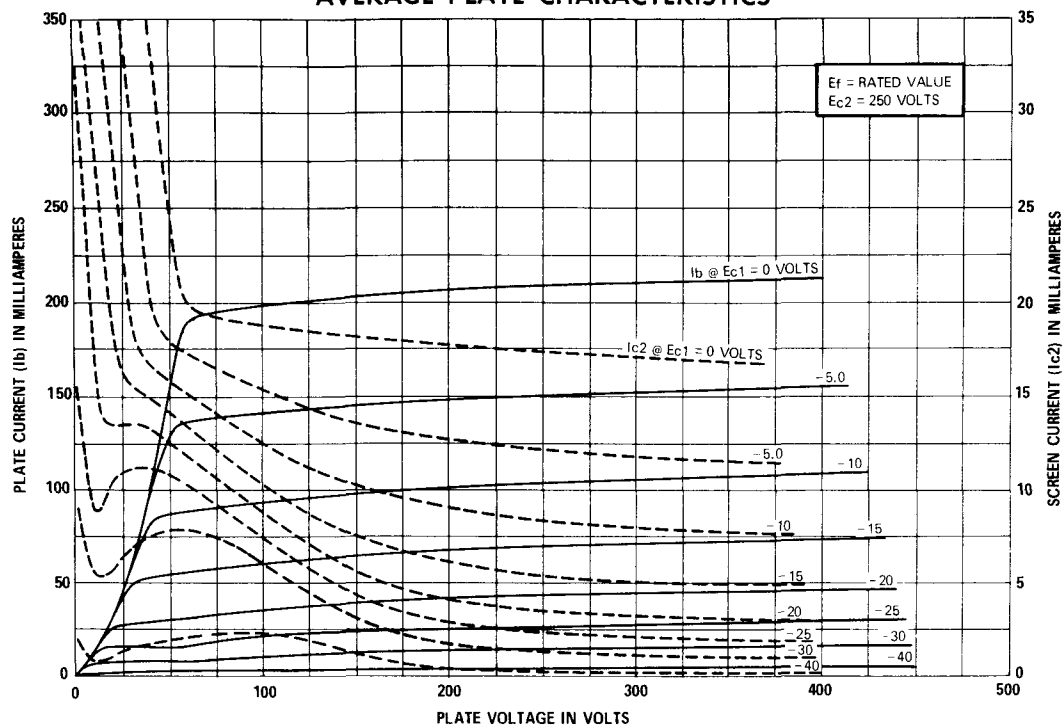
§ Without external shield.

¶ 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.

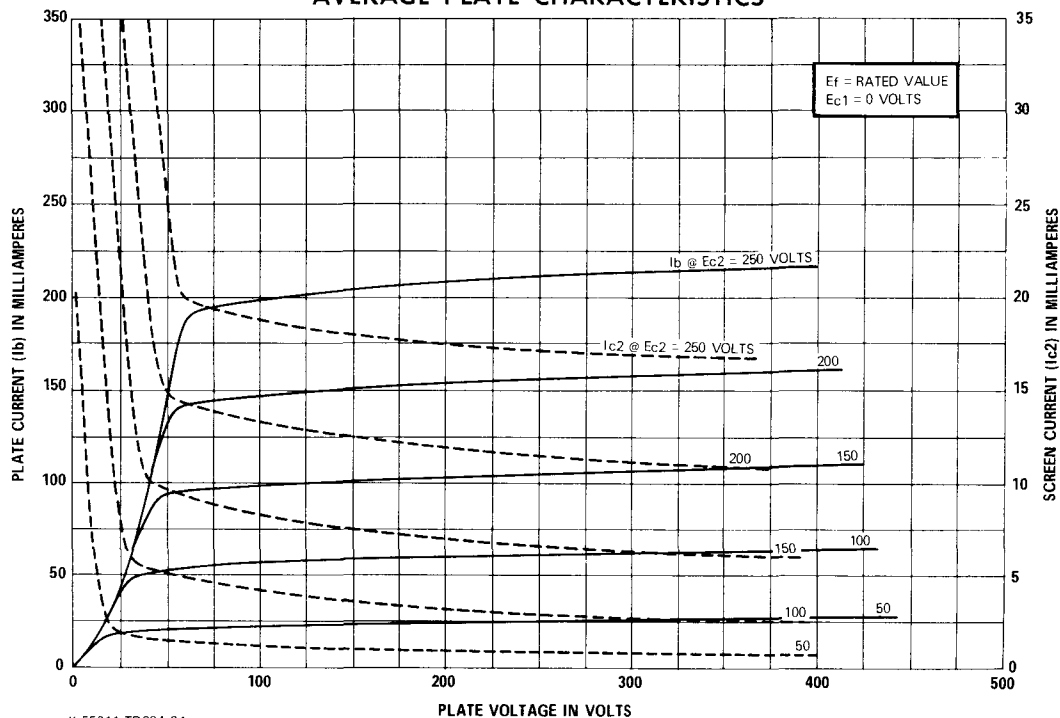
### AVERAGE PLATE CHARACTERISTICS



K-55611-TD204-1A

SEPTEMBER 24, 1969

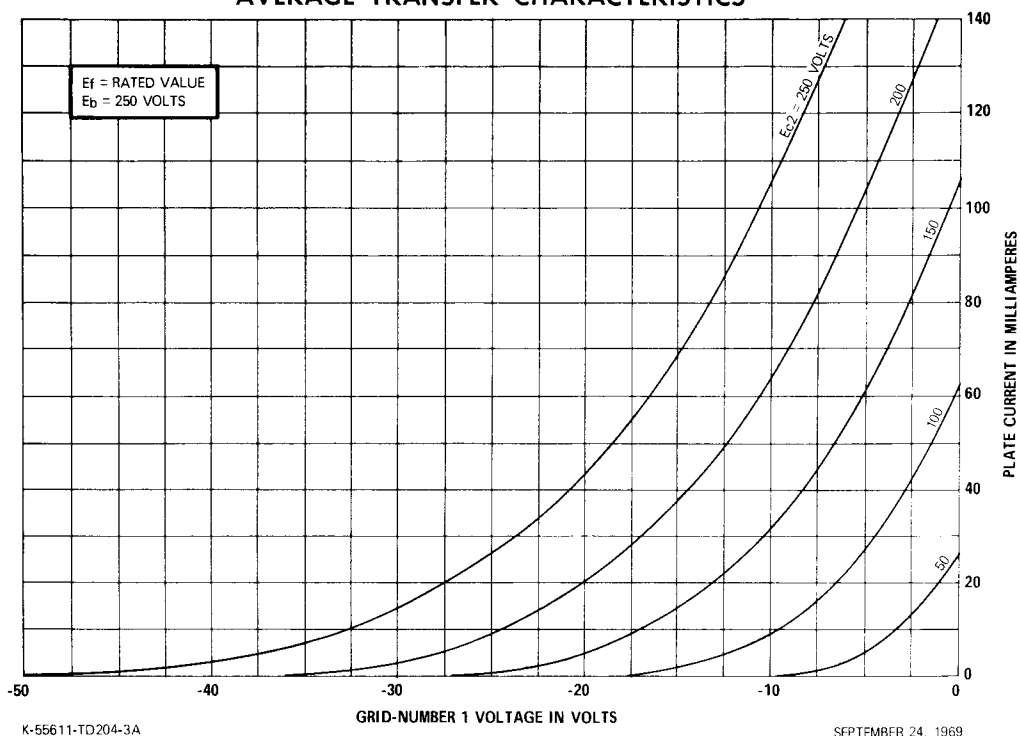
### AVERAGE PLATE CHARACTERISTICS



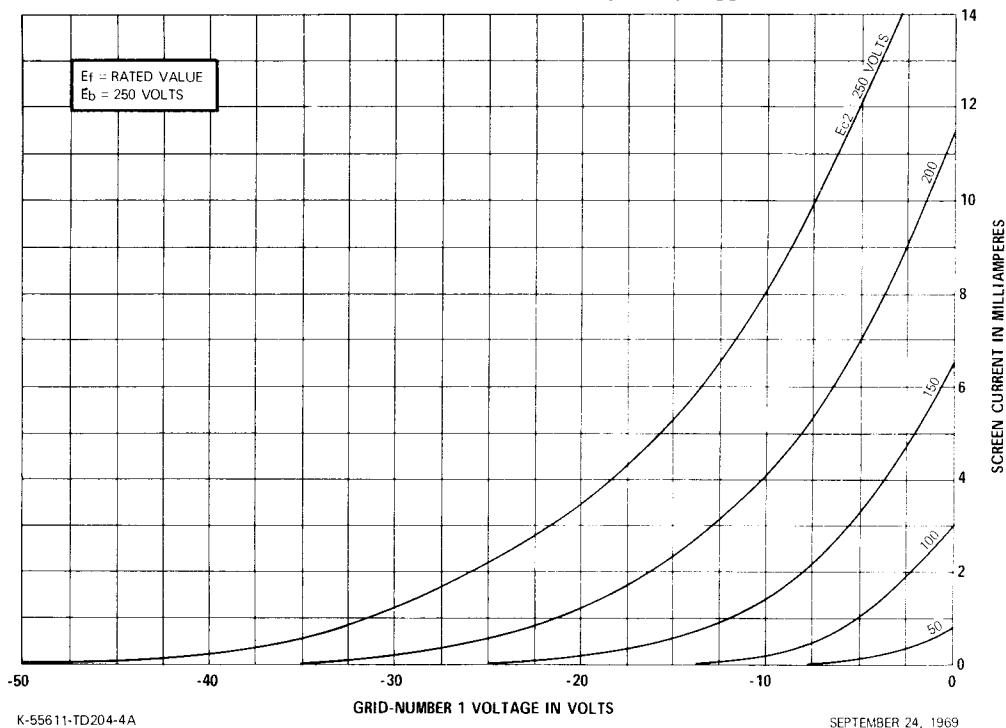
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SEPTEMBER 24, 1969

# AVERAGE TRANSFER CHARACTERISTICS



# AVERAGE TRANSFER CHARACTERISTICS



TUBE DEPARTMENT

GENERAL  ELECTRIC

Owensboro, Kentucky 42301