

**6JS6**

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**6JS6****COMPACTRON BEAM PENTODE****FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS****DESCRIPTION AND RATING**

The 6JS6 is a compactron beam-power pentode primarily designed for use as the horizontal-deflection amplifier in television receivers. A separate connection is provided for the beam plates to minimize "snivets".

**GENERAL****ELECTRICAL**

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC\* . . . 6.3±0.6 Volts

Heater Current† . . . . . 2.25 Amperes

Direct Interelectrode Capacitances, approximate§

Grid-Number 1 to Plate: (g1 to p) 0.7 pf

Input: g1 to (h + k + g2 + b.p.) . 24 pf

Output: p to (h + k + g2 + b.p.) . 10 pf

**MECHANICAL**

Operating Position - Any

Envelope - T-12, Glass

Base - E12-74, Button 12-Pin

Top Cap - C1-1, Small

Outline Drawing - EIA 12-89

Maximum Diameter . . . . . 1.563 Inches

Maximum Over-all Length . . . 4.125 Inches

Maximum Seated Height . . . . 3.750 Inches

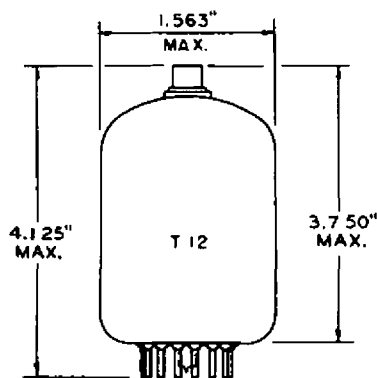
Minimum Seated Height . . . . 3.500 Inches

**MAXIMUM RATINGS**

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.

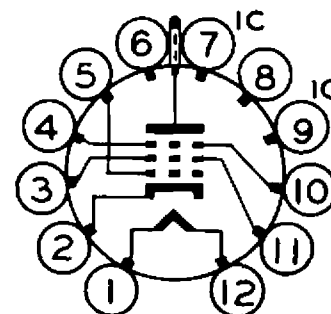
The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment,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

**PHYSICAL DIMENSIONS**

EIA 12-89

**TERMINAL CONNECTIONS**

- Pin 1 - Heater
- Pin 2 - Cathode
- Pin 3 - Grid Number 2 (Screen)
- Pin 4 - Beam Plates
- Pin 5 - Grid Number 1
- Pin 6 - No Connection
- Pin 7 - Internal Connection - Do Not Use
- Pin 8 - No Connection
- Pin 9 - Internal Connection - Do Not Use
- Pin 10 - Beam Plates
- Pin 11 - Grid Number 2 (Screen)
- Pin 12 - Heater
- Cap - Plate

**BASING DIAGRAM**

EIA 12FY

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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 (Cont'd)

## HORIZONTAL-DEFLECTION AMPLIFIER SERVICE†—

## DESIGN-MAXIMUM VALUES UNLESS OTHERWISE INDICATED

|                                                            |      |              |
|------------------------------------------------------------|------|--------------|
| DC Plate-Supply Voltage (Boost + DC Power Supply)          | 990  | Volts        |
| Peak Positive Pulse Plate Voltage (Absolute Maximum Value) | 7500 | Volts        |
| Peak Negative Pulse Plate Voltage                          | 1100 | Volts        |
| Positive DC Beam Plate Voltage                             | 70   | Volts        |
| Screen Voltage                                             | 190  | Volts        |
| Peak Negative Grid-Number 1 Voltage                        | 250  | Volts        |
| Plate Dissipation#                                         | 28   | Watts        |
| Screen Dissipation                                         | 5.5  | Watts        |
| DC Cathode Current                                         | 315  | Milliamperes |
| Peak Cathode Current                                       | 1100 | 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                           | 1.0  | Megohms      |
| Bulb TemperatureΔ                                          | 225  | C            |

## CHARACTERISTICS AND TYPICAL OPERATION

## AVERAGE CHARACTERISTICS

|                                             |      |       |       |              |
|---------------------------------------------|------|-------|-------|--------------|
| Plate Voltage                               | 5000 | 70    | 175   | Volts        |
| Beam Plates, Connected to Cathode at Socket |      |       |       |              |
| Screen Voltage                              | 125  | 125   | 125   | Volts        |
| Grid-Number 1 Voltage                       | ---  | 0     | -25   | Volts        |
| Plate Resistance, approximate               | ---  | ---   | 5600  | Ohms         |
| Transconductance                            | ---  | ---   | 11300 | Micromhos    |
| Plate Current                               | ---  | 570** | 125   | Milliamperes |
| Screen Current                              | ---  | 34**  | 4.5   | Milliamperes |
| Grid-Number 1 Voltage, approximate          |      |       |       |              |
| Ib = 1.0 Milliamperes                       | -140 | ---   | -54   | Volts        |
| Triode Amplification Factor††               | ---  | ---   | 3     |              |

## 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.

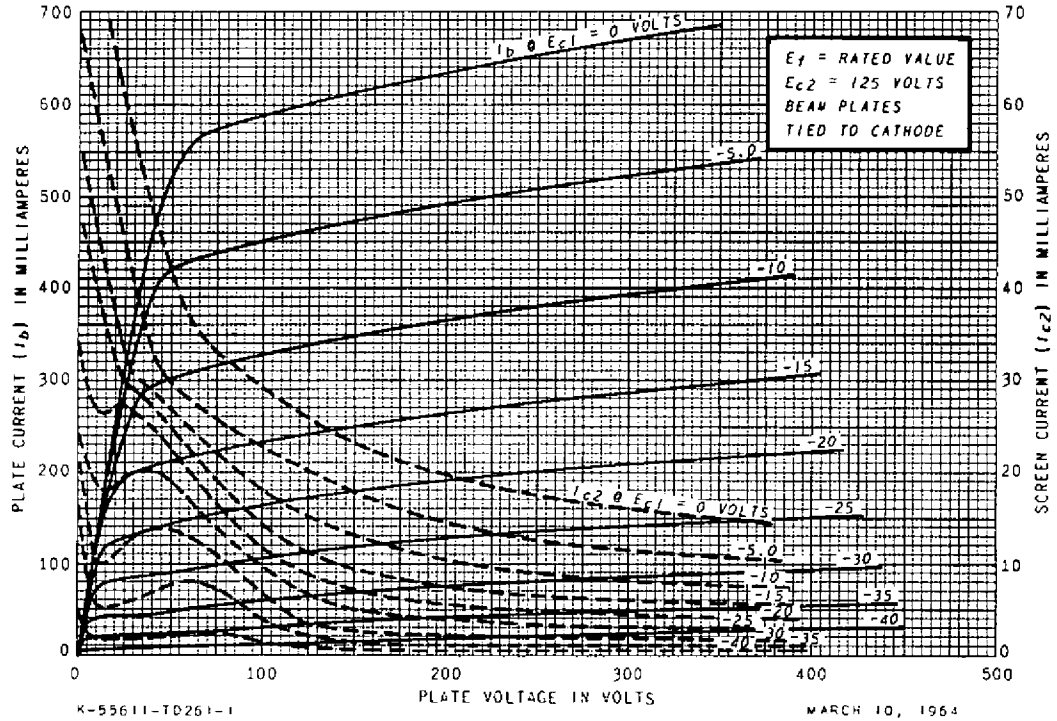
# In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

Δ Measured using a thermocouple attached to a 0.1-inch wide phosphor-bronze ring placed at the hottest location on the bulb.

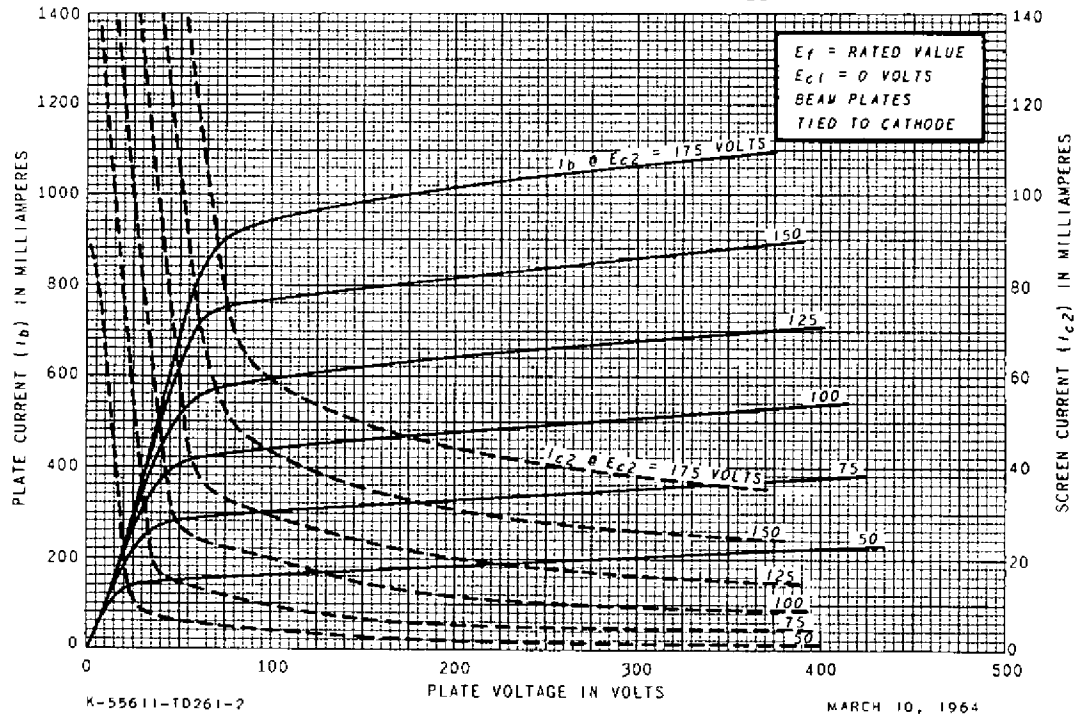
\*\* Values measured by a method involving a recurrent waveform such that the plate and screen dissipations will be kept within ratings in order to prevent damage to the tube.

†† Triode connection (screen tied to plate) with Eb = Ec2 = 125 volts, and Ec1 = -25 volts.

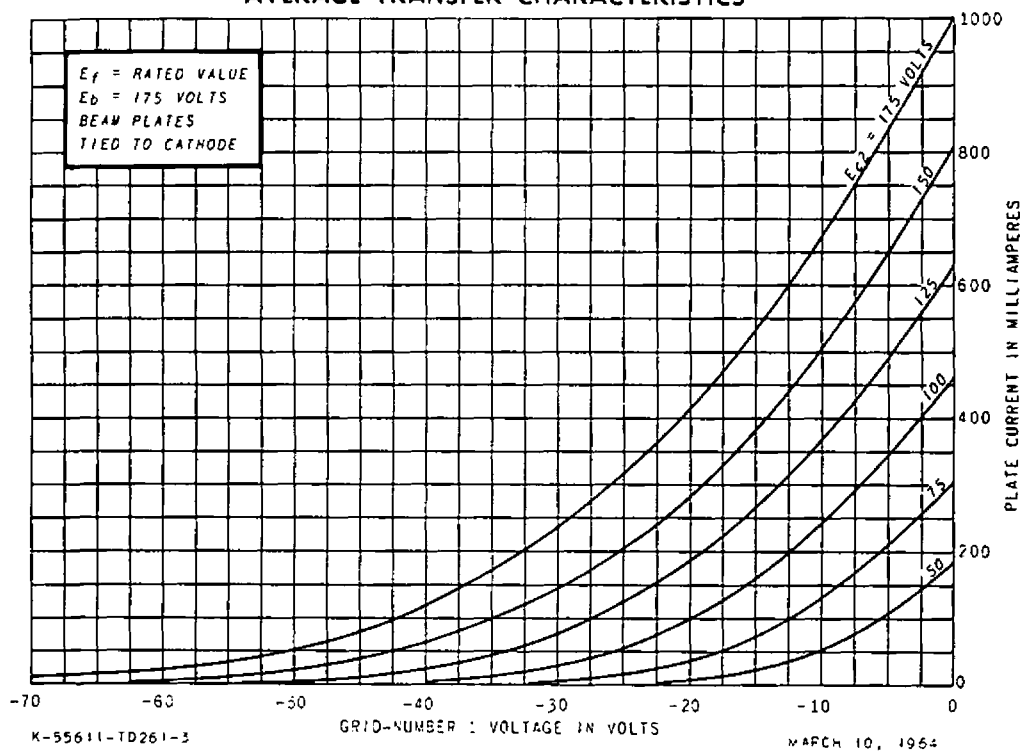
# AVERAGE PLATE CHARACTERISTICS



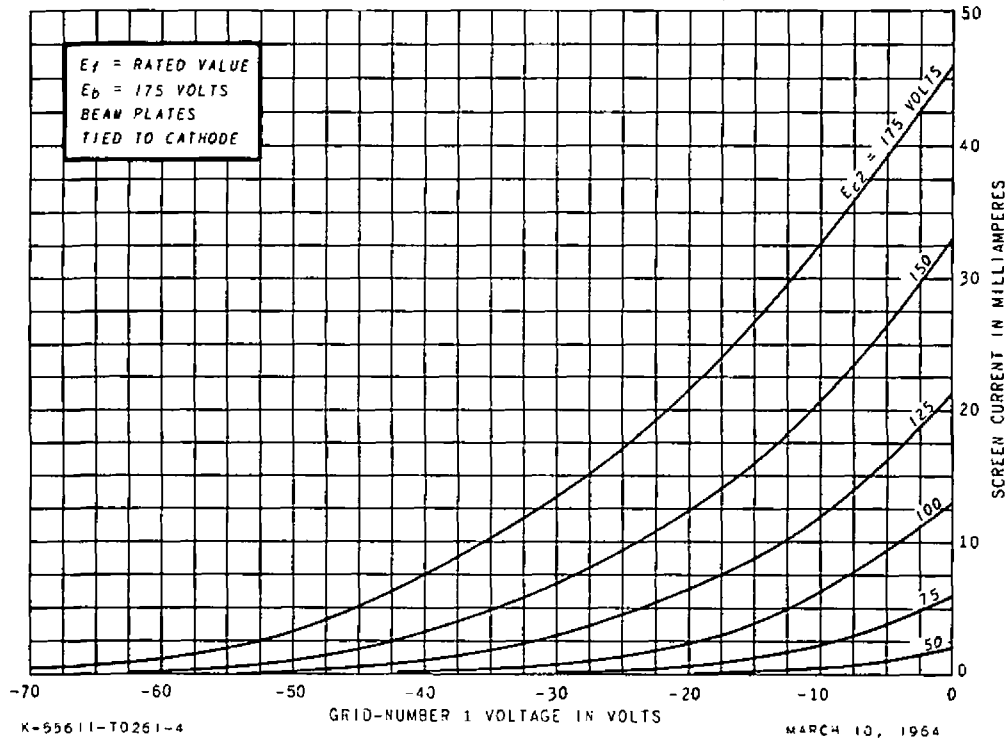
# AVERAGE PLATE CHARACTERISTICS



### AVERAGE TRANSFER CHARACTERISTICS



### AVERAGE TRANSFER CHARACTERISTICS



TUBE DEPARTMENT

**GENERAL  ELECTRIC**

Owensboro, Kentucky