



COMPACTRON BEAM PENTODE FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6GE5 is a compactron beam-power pentode primarily designed for use as the horizontal-deflection amplifier in television receivers.

GENERAL

ELECTRICAL

Cathode— Coated Unipotential
 Heater Characteristics and Ratings
 Heater Voltage, AC or DC† 6.3 ± 0.6 Volts
 Heater Current‡ 1.2 Amperes
 Direct Interelectrode Capacitances, approximate§
 Grid-Number 1 to Plate: (g1 to p) 0.34 pf
 Input: g1 to (h+k+g2+b.p.) 16 pf
 Output: p to (h+k+g2+b.p.) 7.0 pf

MECHANICAL

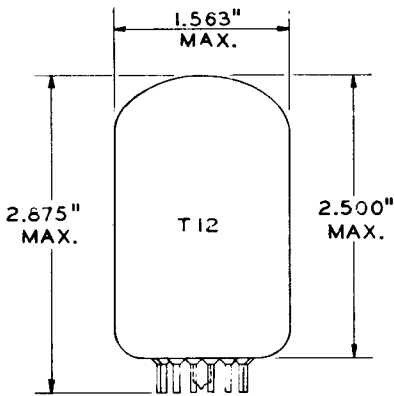
Mounting Position— Any
 Envelope—T-12, Glass
 Base—E12-74, Button 12-Pin
 Outline Drawing—EIA 12-56
 Maximum Diameter 1.563 Inches
 Maximum Over-all Length 2.875 Inches
 Maximum Seated Height 2.500 Inches

MAXIMUM RATINGS

HORIZONTAL-DEFLECTION AMPLIFIER SERVICE — DESIGN-MAXIMUM VALUES¶

DC Plate-Supply Voltage (Boost + DC Power Supply) 770 Volts	Peak Cathode Current 550 Milliamperes
Peak Positive Pulse Plate Voltage 6500 Volts	Heater-Cathode Voltage
Peak Negative Pulse Plate Voltage 1500 Volts	Heater Positive with Respect to Cathode
Screen Voltage 220 Volts	DC Component 100 Volts
Negative DC Grid-Number 1 Voltage 55 Volts	Total DC and Peak 200 Volts
Peak Negative Grid-Number 1 Voltage 330 Volts	Heater Negative with Respect to Cathode
Plate Dissipation = 17.5 Watts	Total DC and Peak 200 Volts
Screen Dissipation 3.5 Watts	Grid-Number 1 Circuit Resistance 1.0 Megohms
DC Cathode Current 175 Milliamperes	Bulb Temperature at Hottest Point 220 C

PHYSICAL DIMENSIONS

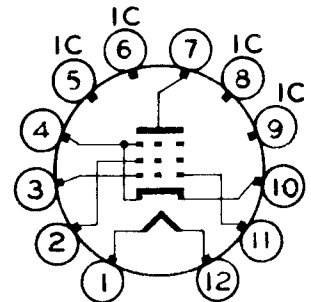


EIA 12-56

TERMINAL CONNECTIONS

- Pin 1—Heater
- Pin 2—Grid Number 2 (Screen)
- Pin 3—Grid Number 1
- Pin 4—Cathode and Beam Plates
- Pin 5—Internal Connection—Do Not Use
- Pin 6—Internal Connection—Do Not Use
- Pin 7—Plate
- Pin 8—Internal Connection—Do Not Use
- Pin 9—Internal Connection—Do Not Use
- Pin 10—Cathode and Beam Plates
- Pin 11—Grid Number 1
- Pin 12—Heater

BASING DIAGRAM



EIA 12BJ

MAXIMUM RATINGS (Cont'd)

<p>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.</p> <p>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.</p>	<p>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.</p>
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CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

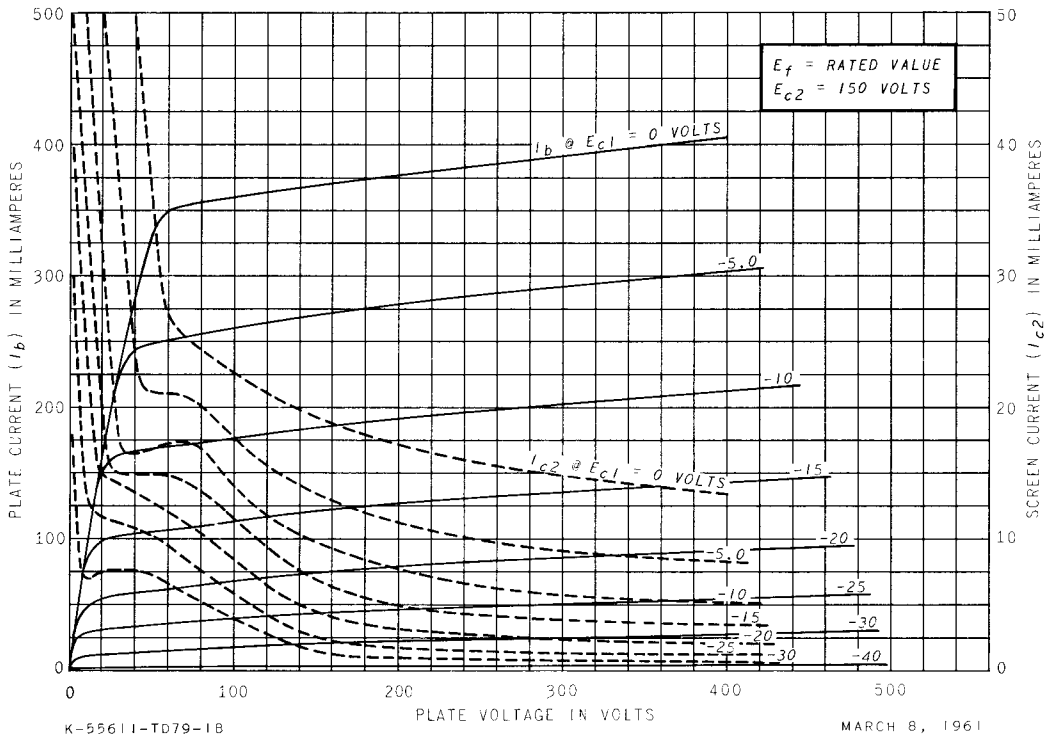
Plate Voltage.....	5000	60	250	Volts
Screen Voltage.....	150	150	150	Volts
Grid-Number 1 Voltage.....		0 Δ	-22.5	Volts
Plate Resistance, approximate.....			18000	Ohms
Transconductance.....			7300	Micromhos
Plate Current.....		345	65	Milliamperes
Screen Current.....		27	1.8	Milliamperes
Grid-Number 1 Voltage, approximate Ib = 1.0 Milliamperes.....	-100		-42	Volts
Triode Amplification Factor**.....			4.4	

- † 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.
- **Triode connection (screen tied to plate) with Eb = Ec2 = 150 volts and Ec1 = -22.5 volts.

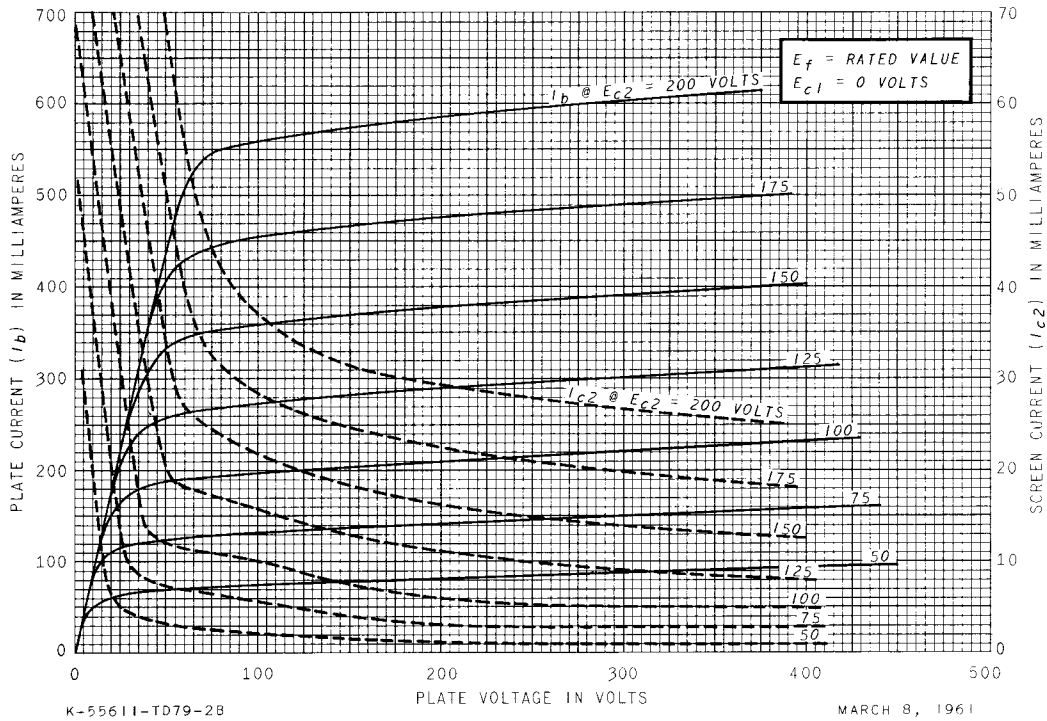
The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or

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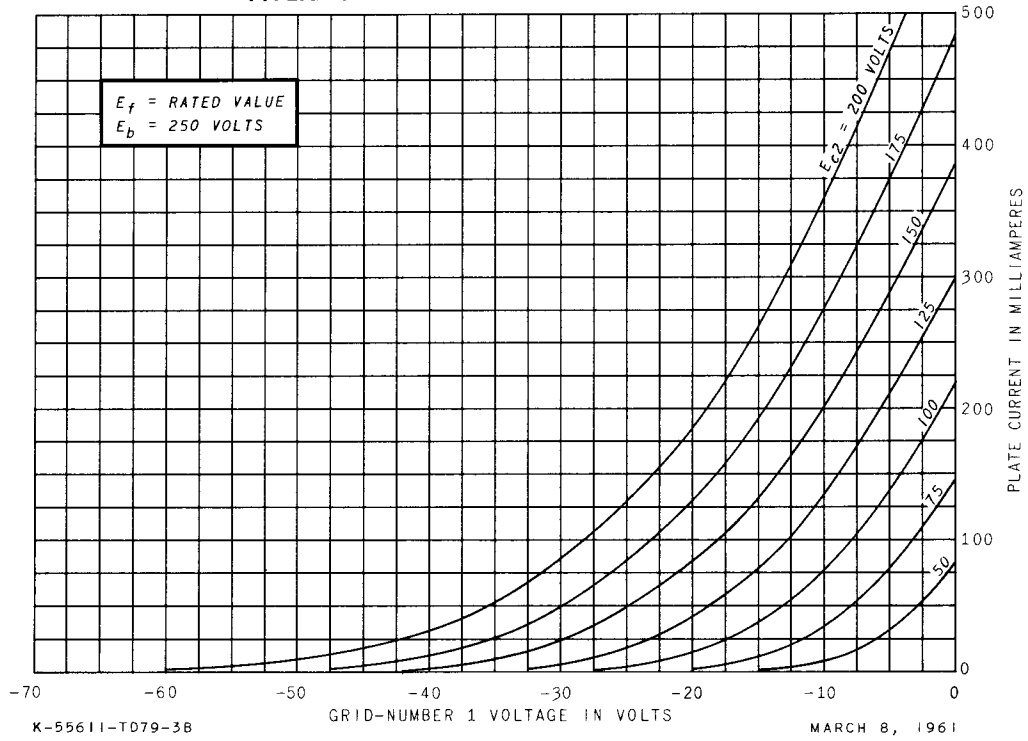
AVERAGE PLATE CHARACTERISTICS



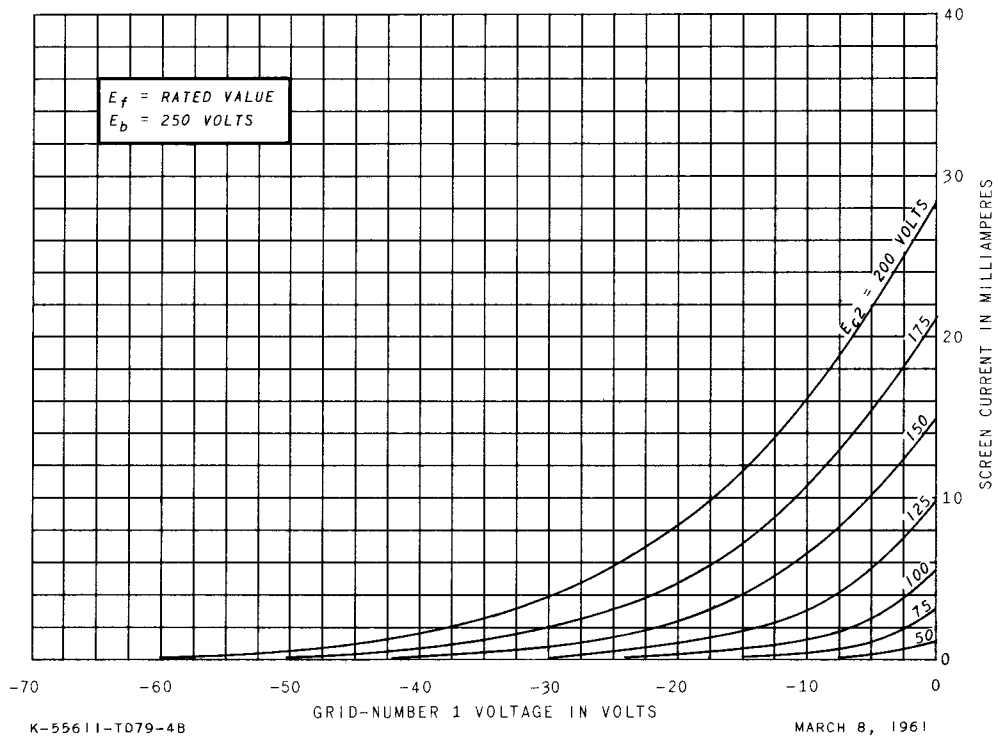
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



RECEIVING TUBE DEPARTMENT



Owensboro, Kentucky