

COMPACTRON BEAM PENTODE

DESCRIPTION AND RATING

The 6JM6 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†. 1.2 Amperes

Direct Interelectrode Capacitances, approximate§

Grid-Number 1 to Plate:

(g1 to p). 0.6 pf

Input: g1 to (h + k + g2 + b.p.) . 16 pf

Output: p to (h + k + g2 + b.p.) . 7.0 pf

MECHANICAL

Operating Position - Any

Envelope - T-12, Glass

Base - E12-74, Button 12-Pin

Top Cap - C1-3, Skirted Miniature

Outline Drawing - EIA 12-79

Maximum Diameter. 1.563 Inches

Maximum Over-all Length . . . 3.625 Inches

Maximum Seated Height 3.250 Inches

Minimum Seated Height 3.000 Inches

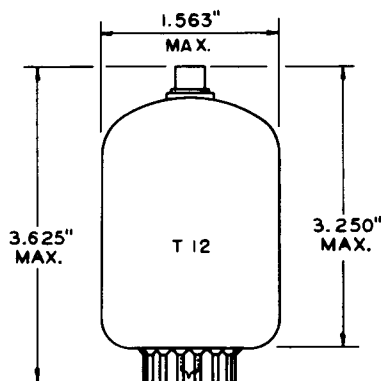
MAXIMUM RATINGS

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

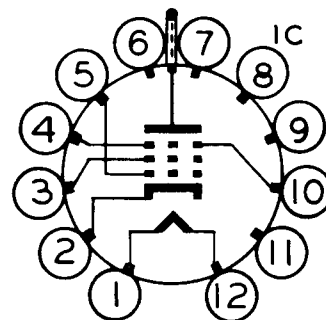


EIA 12-79

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 - No Connection
- Pin 8 - Internal Connection - Do Not Use
- Pin 9 - No Connection
- Pin 10 - Beam Plates
- Pin 11 - No Connection
- Pin 12 - Heater
- Cap - Plate

BASING DIAGRAM



EIA 12FJ

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MAXIMUM RATINGS (Cont'd)**HORIZONTAL-DEFLECTION AMPLIFIER SERVICE†—DESIGN-MAXIMUM VALUES**

DC Plate-Supply Voltage (Boost + DC Power Supply)		770	Volts
Peak Positive Pulse Plate Voltage		6500	Volts
Peak Negative Pulse Plate Voltage		1500	Volts
Positive DC Beam Plate Voltage		70	Volts
Screen Voltage		220	Volts
Negative DC Grid-Number 1 Voltage		55	Volts
Peak Negative Grid-Number 1 Voltage		330	Volts
Plate Dissipation#		17.5	Watts
Screen Dissipation		3.5	Watts
DC Cathode Current		175	Milliamperes
Peak Cathode Current		550	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 Temperature at Hottest Point		220	C

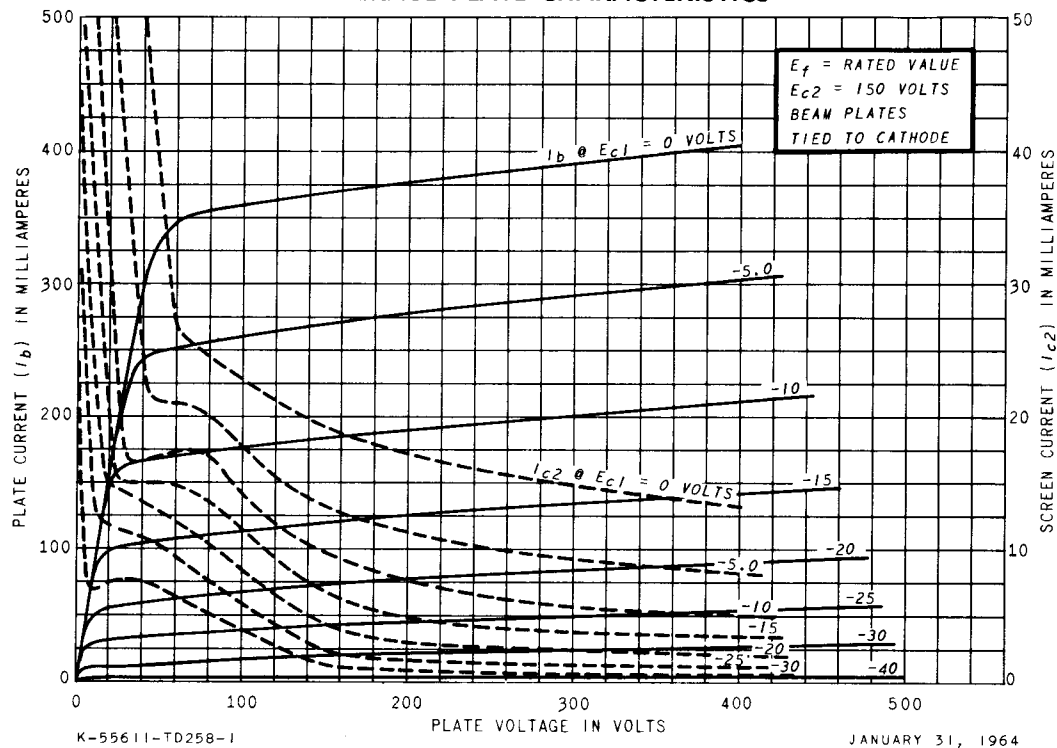
CHARACTERISTICS AND TYPICAL OPERATION**AVERAGE CHARACTERISTICS**

Plate Voltage		5000	60	250	Volts
Beam Plates, Connected to Cathode at Socket					
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					
I _b = 1.0 Milliamperes		-100	---	-42	Volts
Triode Amplification Factor**		---	---	4.4	

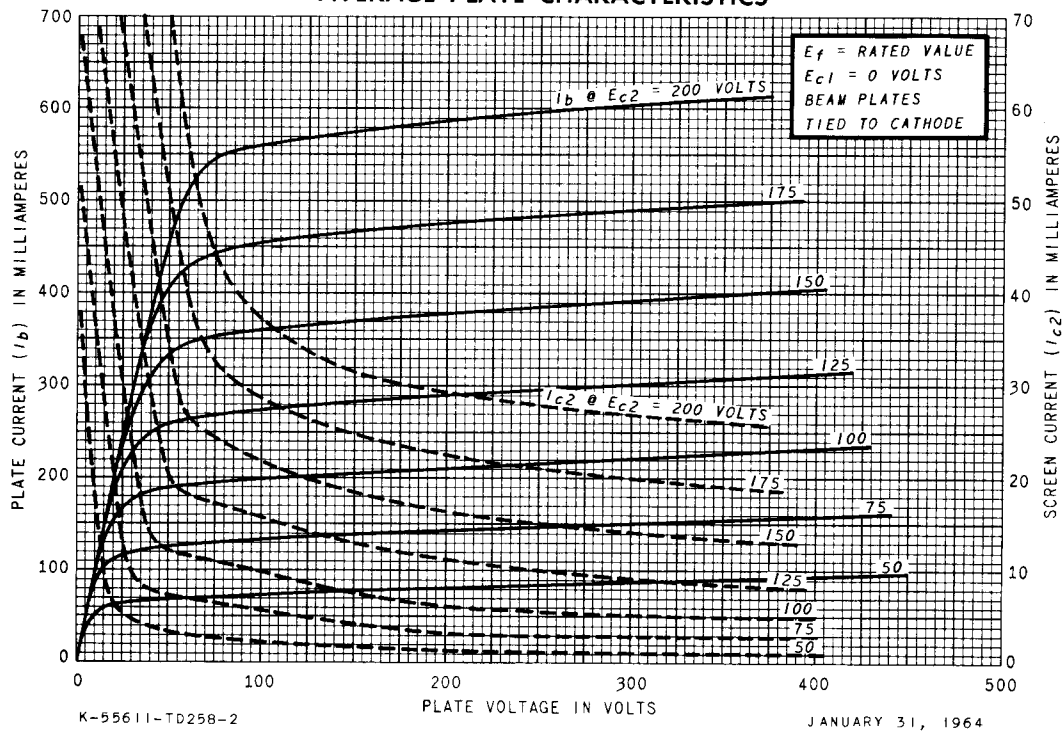
NOTES

- * 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 E_f = 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 E_f = E_{c2} = 150 volts and E_{c1} = -22.5 volts.

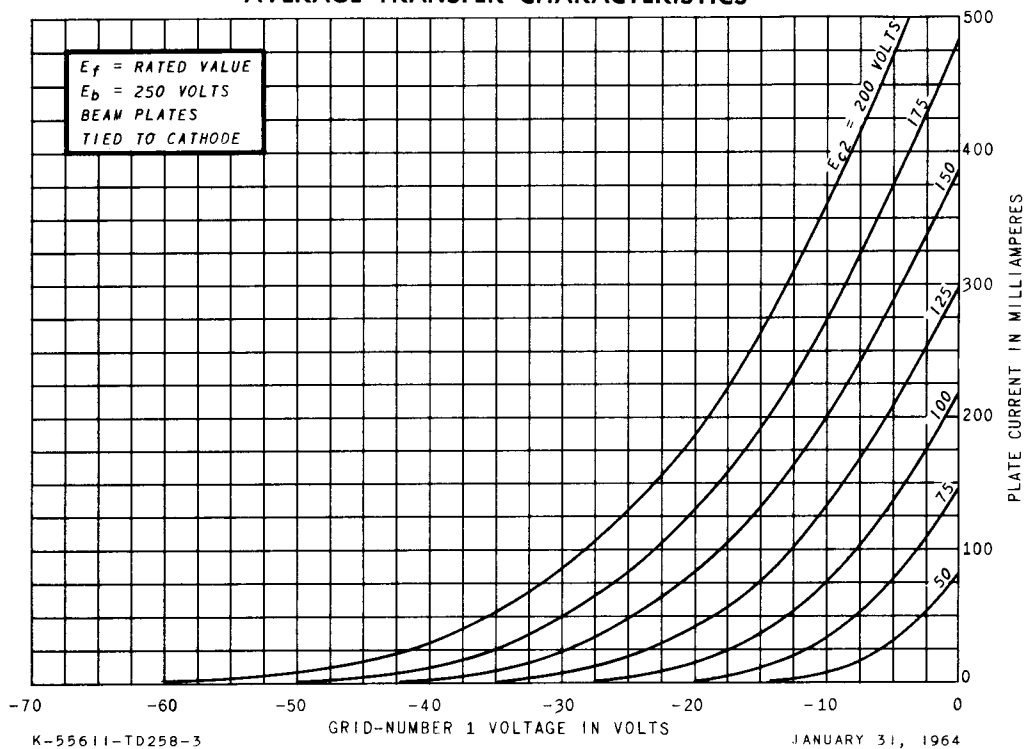
AVERAGE PLATE CHARACTERISTICS



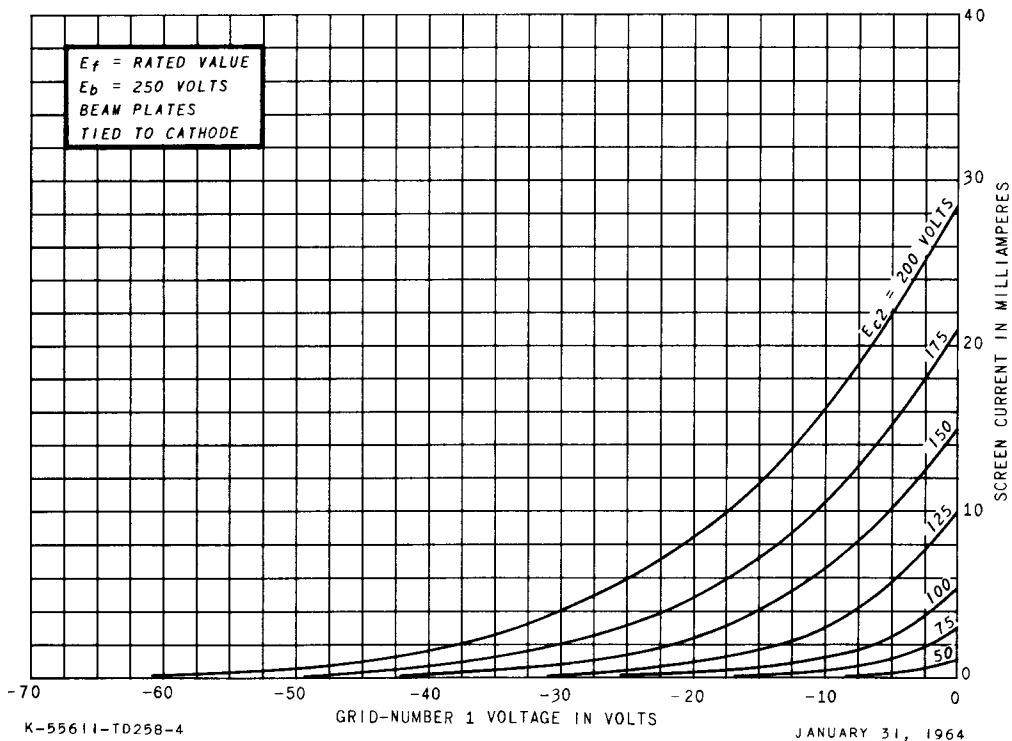
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



TUBE DEPARTMENT

GENERAL  ELECTRIC

Owensboro, Kentucky