

— PRODUCT INFORMATION —

6LU8

Compactron Triode-Pentode

**FOR TV VERTICAL-DEFLECTION OSCILLATOR
AND AMPLIFIER APPLICATIONS**

The 6LU8 is a compactron containing a medium- μ triode and a beam pentode. The triode is designed for service as a vertical-deflection oscillator and the pentode as a vertical-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† 1.5 Amperes
 Direct Interelectrode Capacitances‡

Pentode Section

Grid-Number 1 to Plate:
 (P_{g1} to P_p) 0.5 pf
 Input: P_{g1} to (h + P_k + P_{g2} +
 b.p.) 16 pf
 Output: P_p to (h + P_k + P_{g2} +
 b.p.) 9.0 pf

Triode Section

Grid to Plate: (T_g to T_p) . . . 6.0 pf
 Input: T_g to (h + T_k) 7.0 pf
 Output: T_p to (h + T_k) 2.0 pf

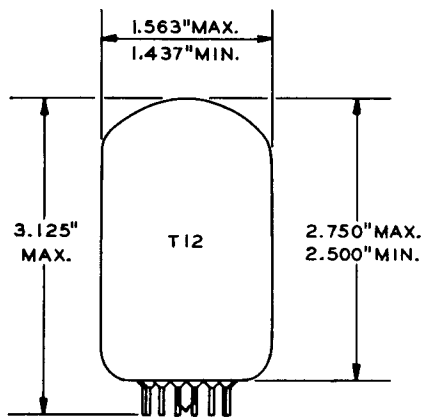
Coupling

Pentode Grid-Number 1 to Triode
 Plate: (P_{g1} to T_p), max . . . 0.13 pf
 Pentode Plate to Triode Plate:
 (P_p to T_p), max 0.40 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

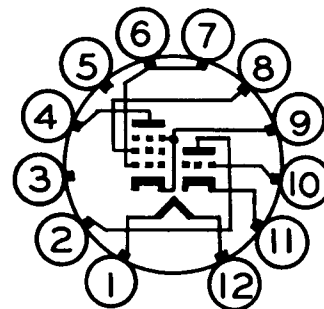


EIA 12-57

TERMINAL CONNECTIONS

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

BASING DIAGRAM



EIA 12DZ

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

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MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Triode Section-Vertical Oscillator Service†

DC Plate Voltage	400	Volts
Peak Negative Grid Voltage.	400	Volts
Plate Dissipation.	2.5	Watts
DC Cathode Current 30	Milliamperes
Peak Cathode Current.	105	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-Circuit Resistance		
With Cathode Bias.	2.2	Megohms

Pentode Section-Vertical Deflection Amplifier Service†

DC Plate Voltage	400	Volts
Peak Pulse Plate Voltage	2500	Volts
Screen Voltage.	300	Volts
Peak Negative Grid-Number 1 Voltage.	250	Volts
Plate Dissipation# 14	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

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

Triode Section

Plate Voltage	250	Volts
Grid Voltage	-4.0	Volts
Amplification Factor. 58	
Plate Resistance, approximate.	16000	Ohms
Transconductance	3600	Micromhos
Plate Current	2.3	Milliamperes
Grid Voltage, approximate		
I _b = 10 Microamperes.	-6.6	Volts

CHARACTERISTICS AND TYPICAL OPERATION (Cont'd)

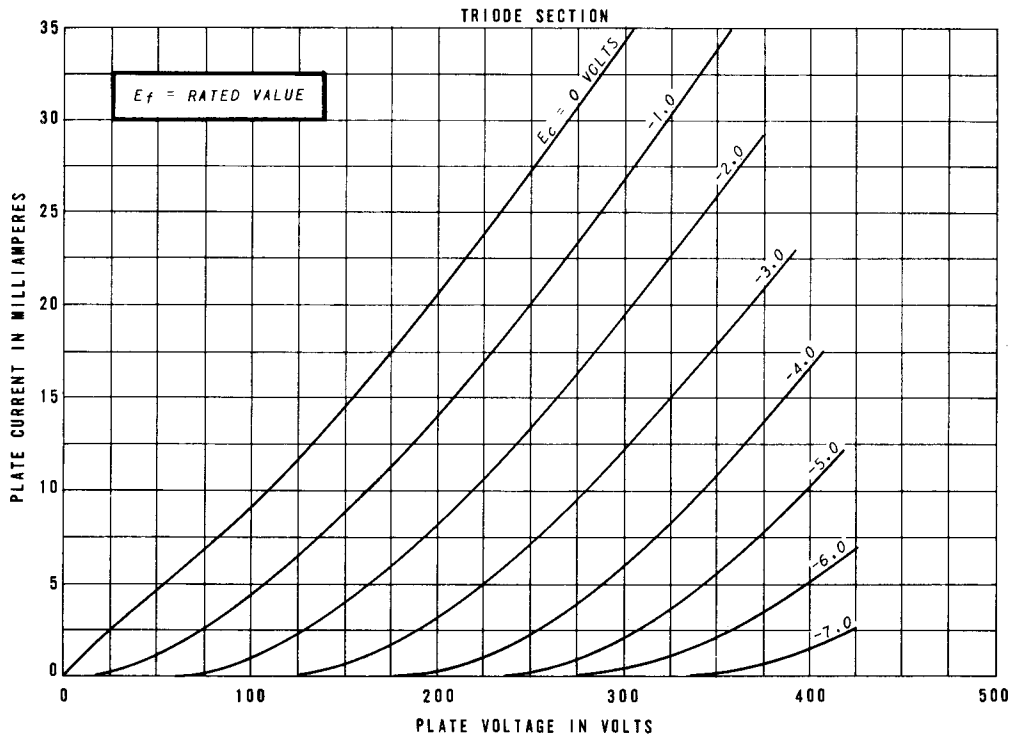
Pentode Section

Plate Voltage	45	135	Volts
Screen Voltage	125	120	Volts
Grid-Number 1 Voltage	0 Δ	-10	Volts
Plate Resistance, approximate.	---	12000	Ohms
Transconductance	---	9300	Micromhos
Plate Current	200	56	Milliamperes
Screen Current	20	3.0	Milliamperes
Grid-Number 1 Voltage, approximate			
I _b = 100 Microamperes	---	-30	Volts
Grid-Number 1 Voltage, approximate			
I _b = 1.0 Milliampere.	---	-26	Volts
Triode Amplification Factor**.	---	6.5	

NOTES

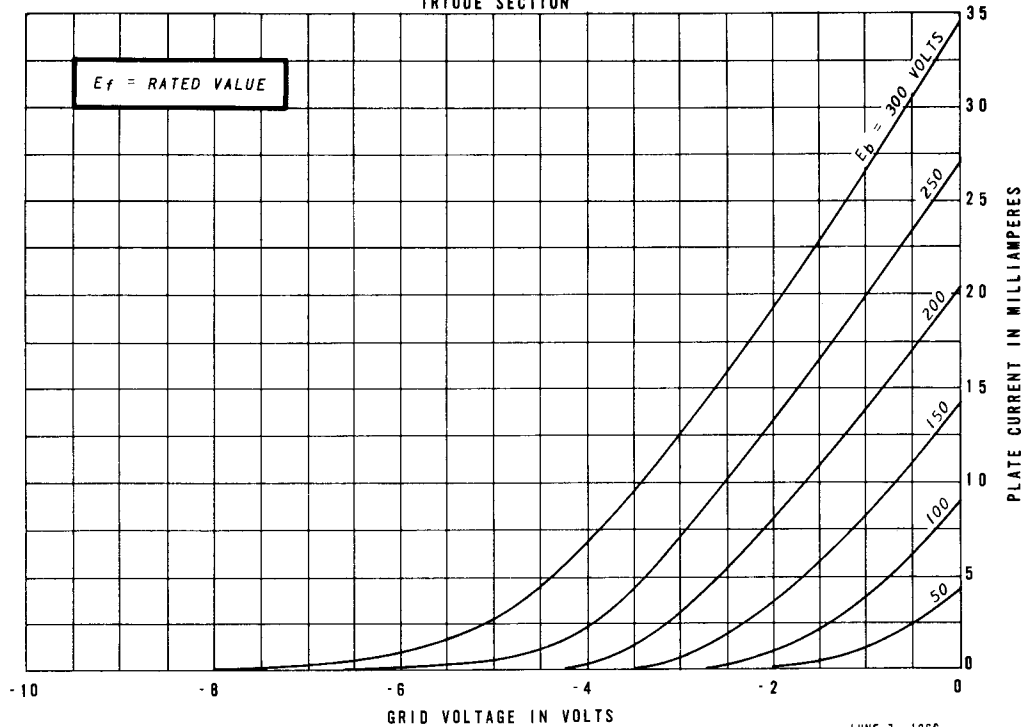
- * The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
- † Heater current of a bogey tube at E_f = 6.3 volts.
- § Without external shield.
- ¶ 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_b = E_{c2} = 120 volts and E_{c1} = -10 volts.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

TRIODE SECTION

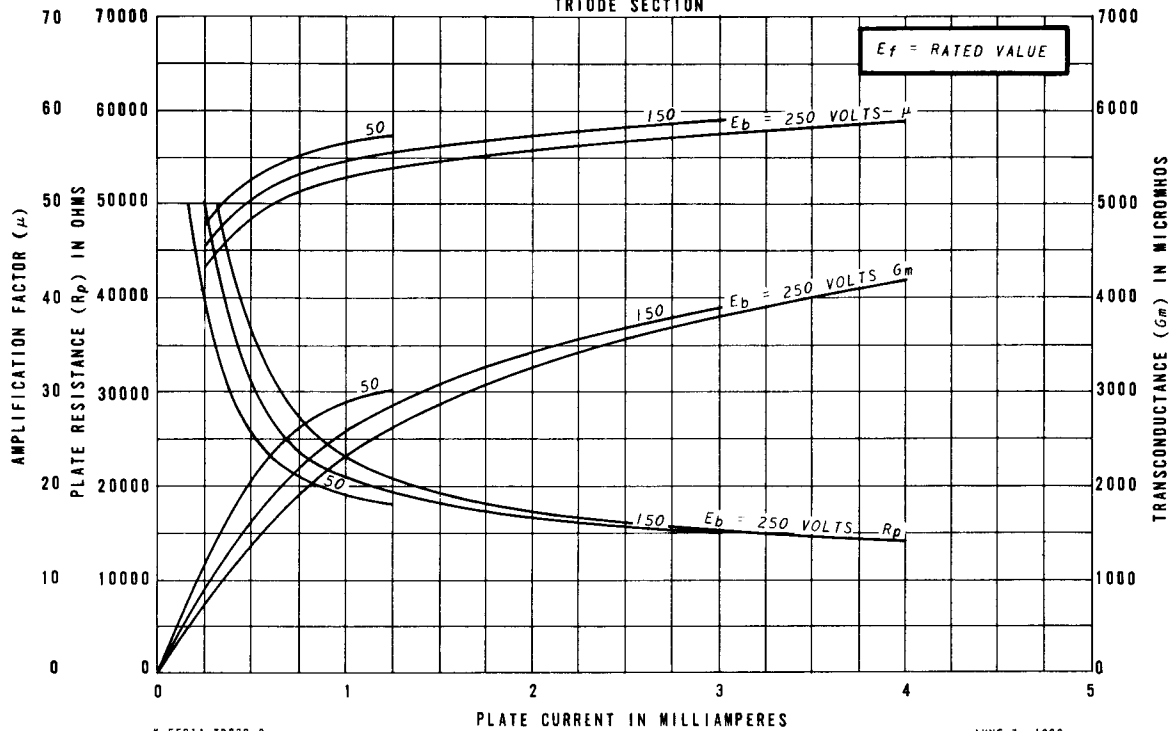


K-55811-TD330-2

JUNE 7, 1966

AVERAGE CHARACTERISTICS

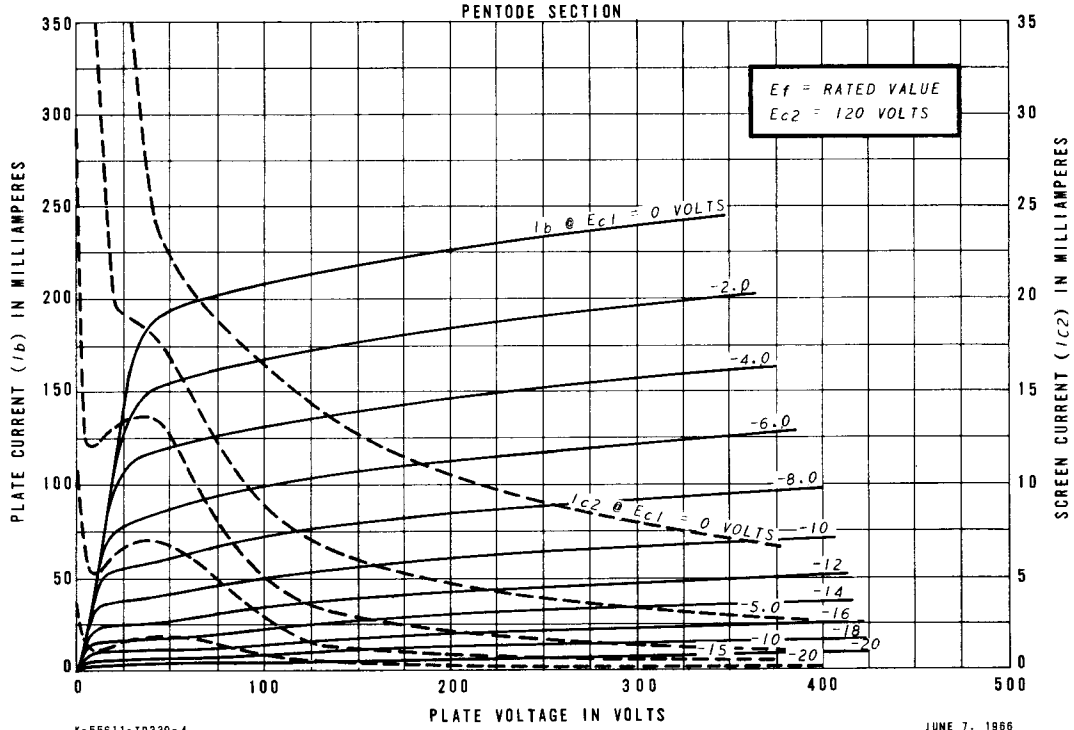
TRIODE SECTION



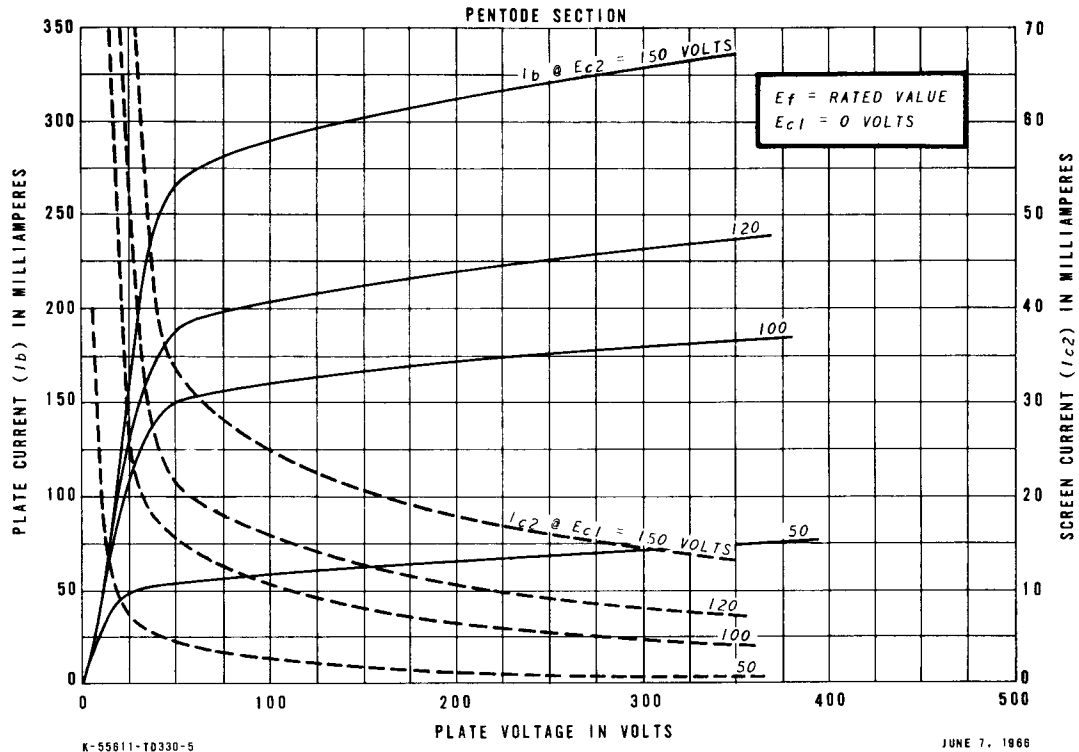
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AVERAGE PLATE CHARACTERISTICS

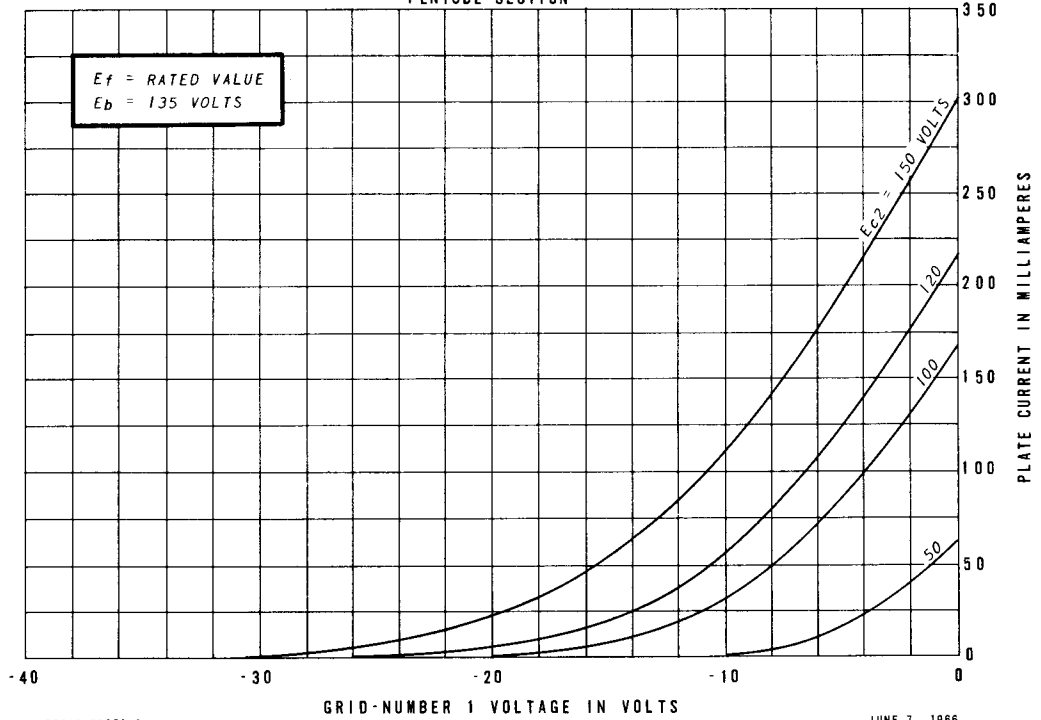


AVERAGE PLATE CHARACTERISTICS



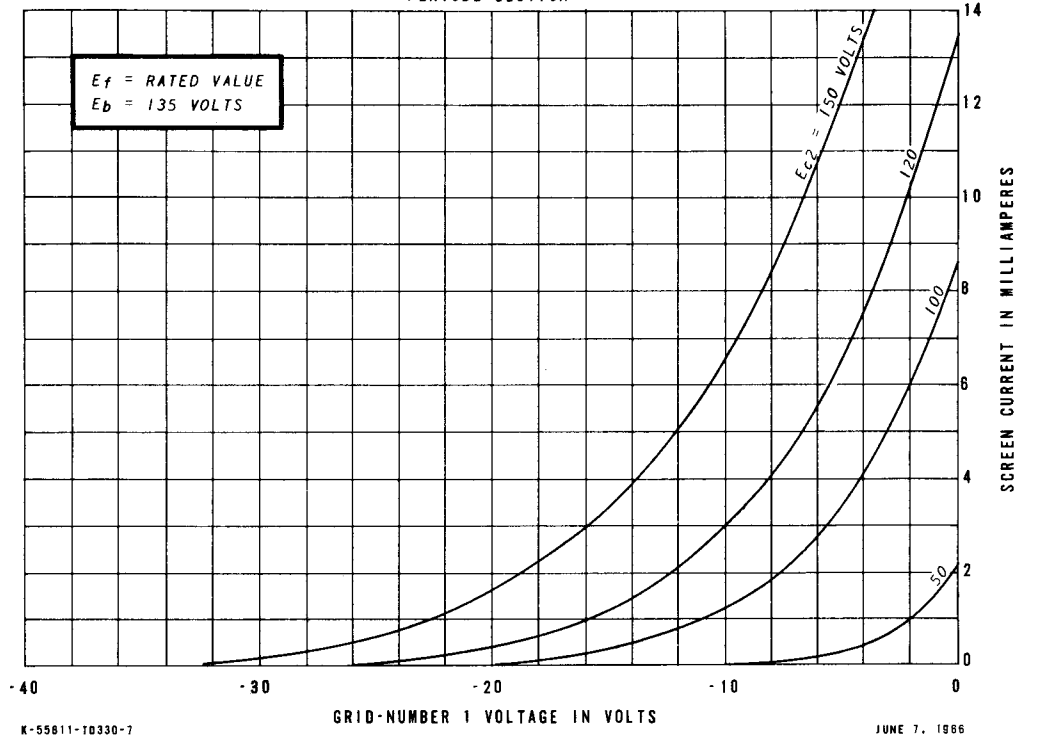
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

