



COMPACTRON TRIODE-PENTODE

FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6JZ8 is a compactron containing a medium-mu 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† 1.2 Amperes
Direct Interelectrode Capacitances§

Pentode Section

Grid-Number 1 to Plate:
(Pg1 to Pp) 0.34 pf
Input: Pg1 to (h + Pk + Pg2 +
b.p.) 11 pf
Output: Pp to (h + Pk + Pg2 +
b.p.) 7.0 pf

Triode Section

Grid to Plate: (Tg to Tp) 3.6 pf
Input: Tg to (h + Tk) 2.2 pf
Output: Tp to (h + Tk) 0.7 pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-58
Maximum Diameter 1.188 Inches
Maximum Over-all Length. . . . 2.375 Inches
Maximum Seated Height 2.000 Inches

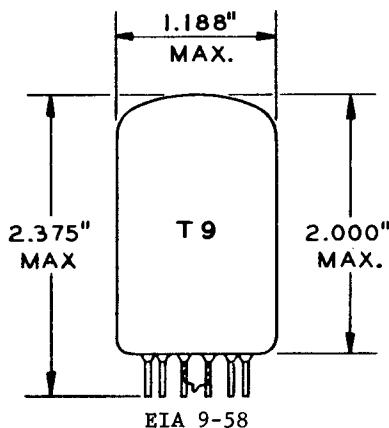
MAXIMUM RATINGS

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.

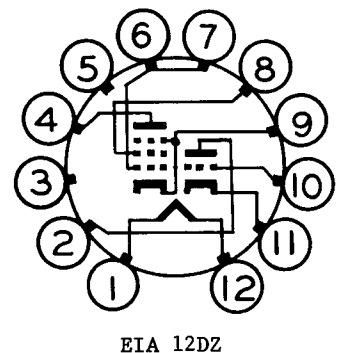
PHYSICAL DIMENSIONS



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

MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

Triode Section - Vertical Oscillator Service ¶

DC Plate Voltage	250	Volts
Peak Negative Grid Voltage.	400	Volts
Plate Dissipation.	1.0	Watts
DC Cathode Current . . . . .	. 20	Milliamperes
Peak Cathode Current. . . . .	. 70	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 Fixed Bias	1.0	Megohms
With Cathode Bias.	2.2	Megohms

Pentode Section - Vertical Deflection Amplifier Service ¶

DC Plate Voltage	250	Volts
Peak Pulse Plate Voltage	2000	Volts
Screen Voltage.	200	Volts
Peak Negative Grid-Number 1 Voltage.	150	Volts
Plate Dissipation#	7.0	Watts
Screen Dissipation	1.8	Watts
DC Cathode Current . . . . .	. 70	Milliamperes
Peak Cathode Current.	245	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

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Triode Section

Plate Voltage	150	Volts
Grid Voltage	-5.0	Volts
Amplification Factor. . . . .	. 20	
Plate Resistance, approximate.	8500	Ohms
Transconductance	2350	Micromhos
Plate Current	5.5	Milliamperes
Grid Voltage, approximate		
I _b = 10 Microamperes.	-11	Volts

Pentode Section

Plate Voltage	45	120	Volts
Screen Voltage.	110	110	Volts
Grid-Number 1 Voltage	0Δ	-8.0	Volts
Plate Resistance, approximate.	---	11700	Ohms
Transconductance	---	7100	Micromhos
Plate Current . . . . .	. 122	46	Milliamperes
Screen Current. . . . .	. 16.5	3.5	Milliamperes
Grid-Number 1 Voltage, approximate			
I _b = 100 Microamperes	---	-25	Volts

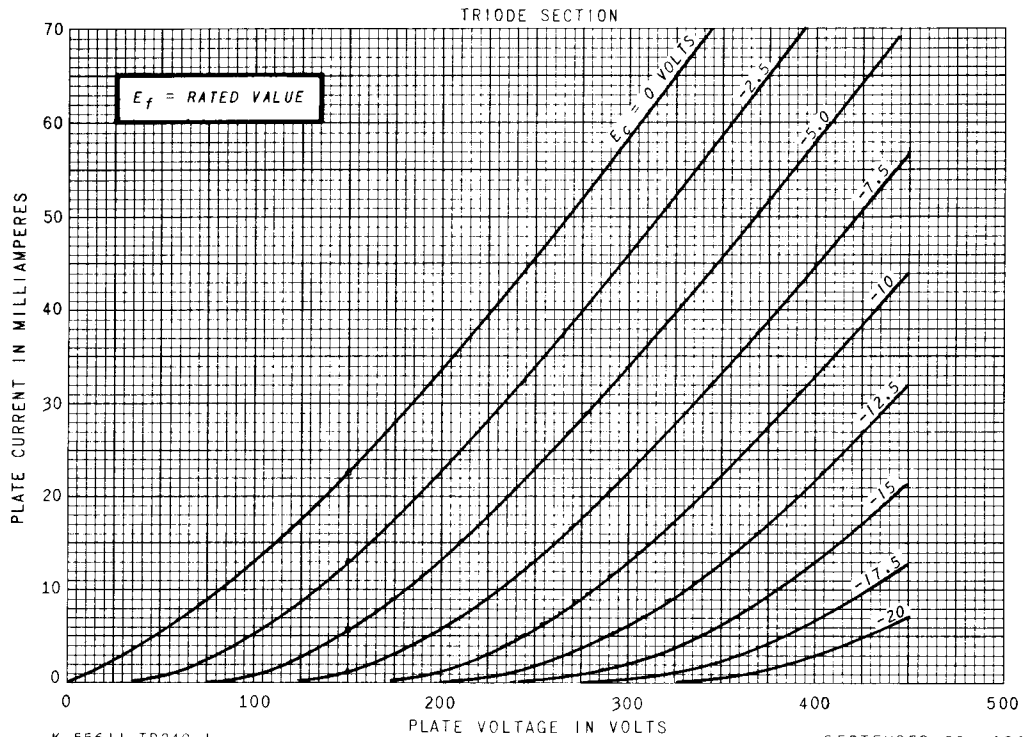
NOTES

- * 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 $E_f = 6.3$ 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.

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

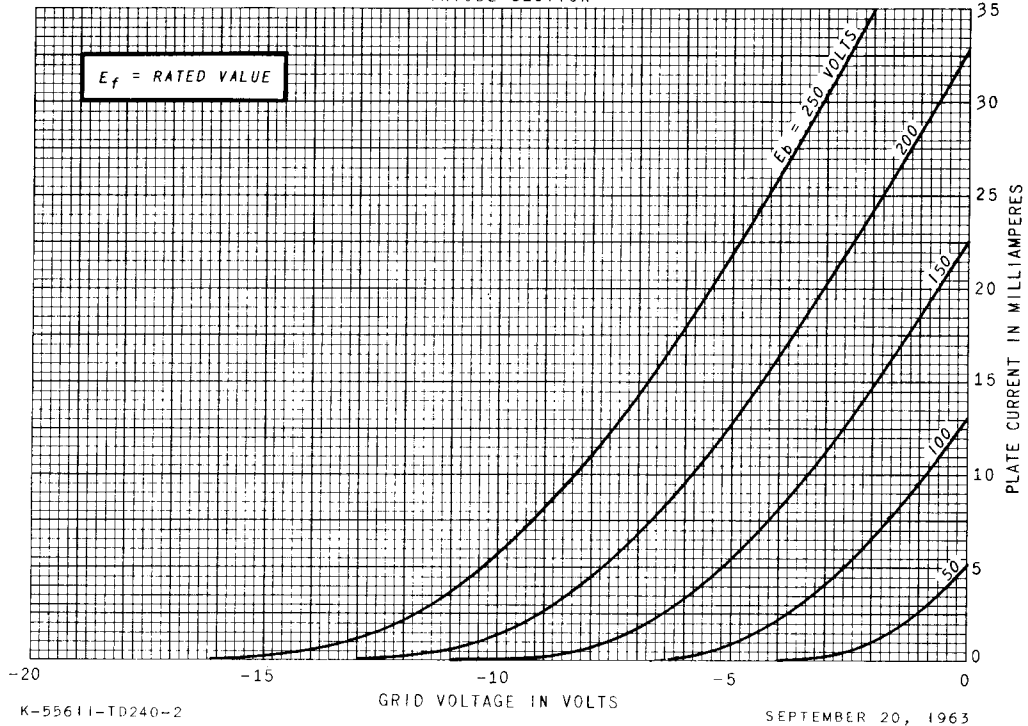
express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

AVERAGE PLATE CHARACTERISTICS



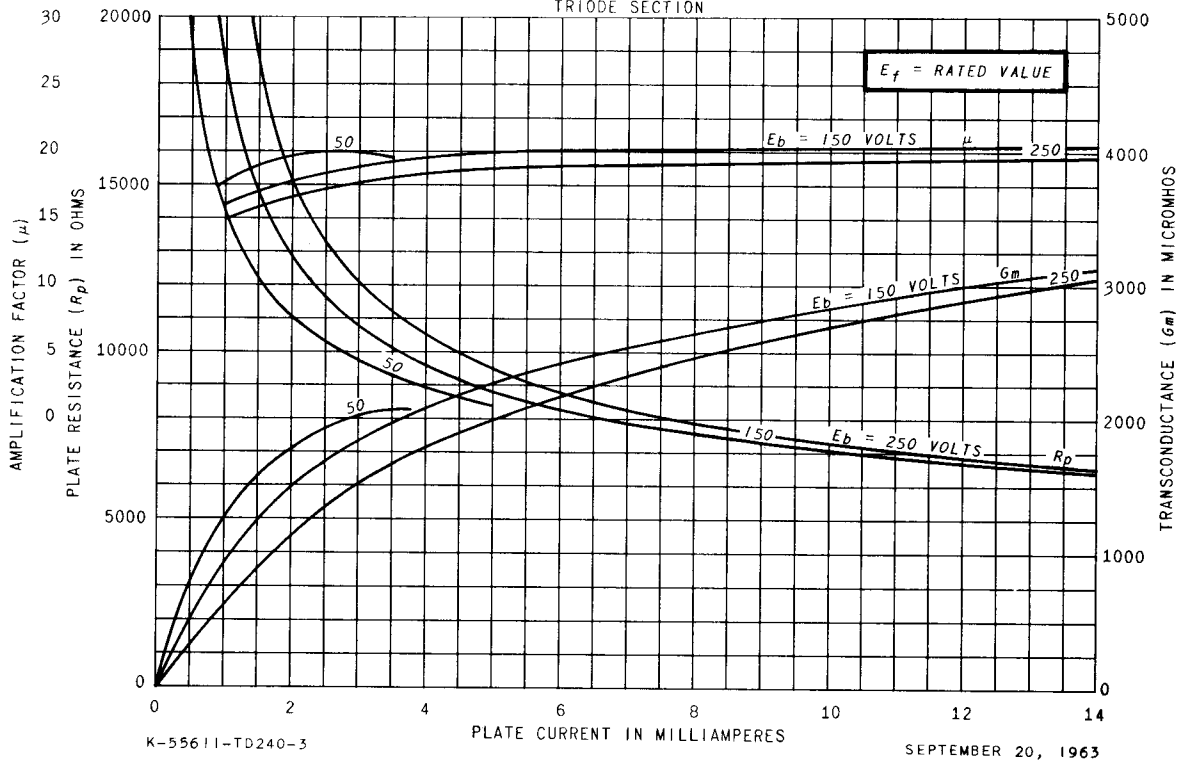
AVERAGE TRANSFER CHARACTERISTICS

TRIODE SECTION

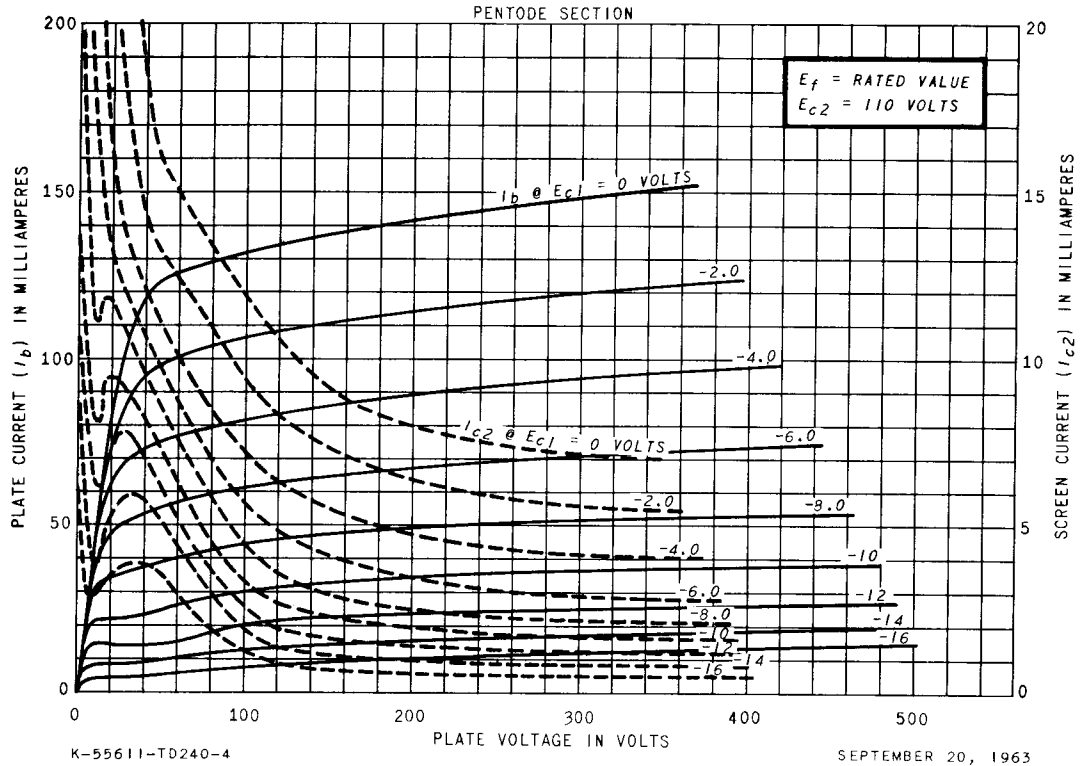


AVERAGE CHARACTERISTICS

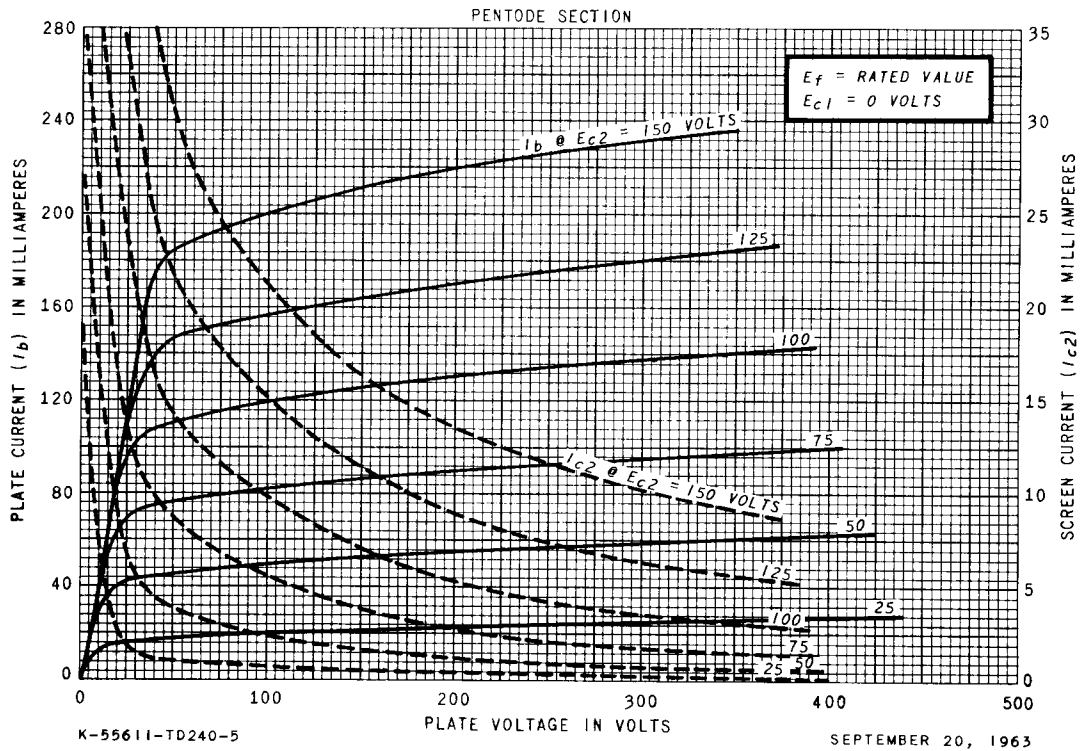
TRIODE SECTION



AVERAGE PLATE CHARACTERISTICS

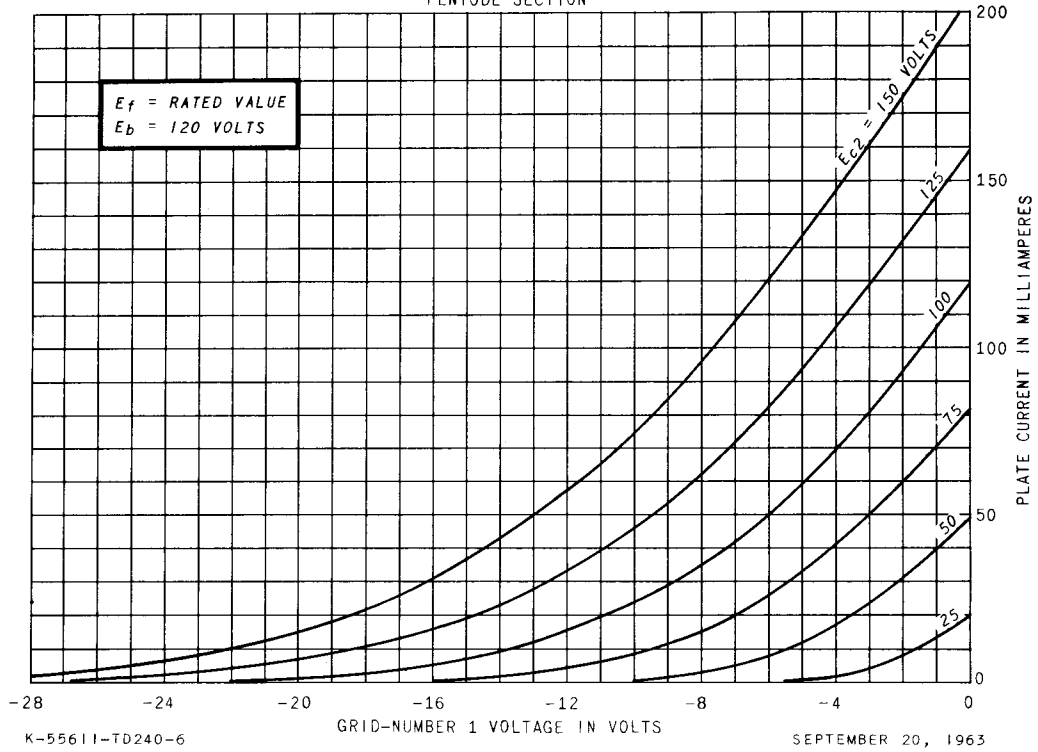


AVERAGE PLATE CHARACTERISTICS



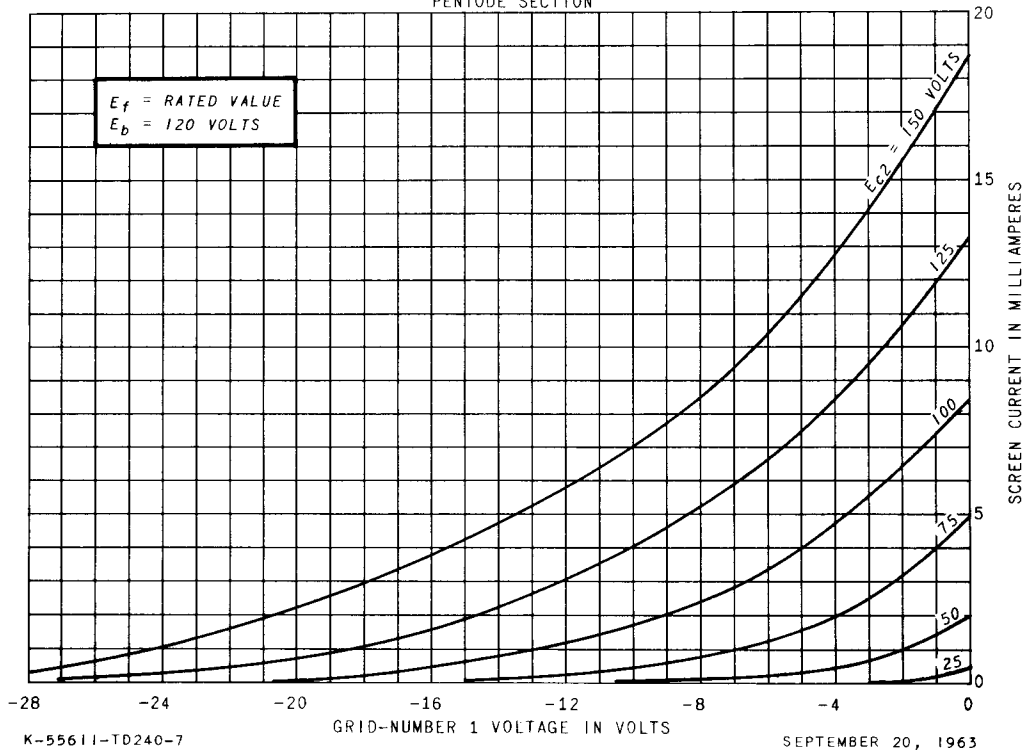
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



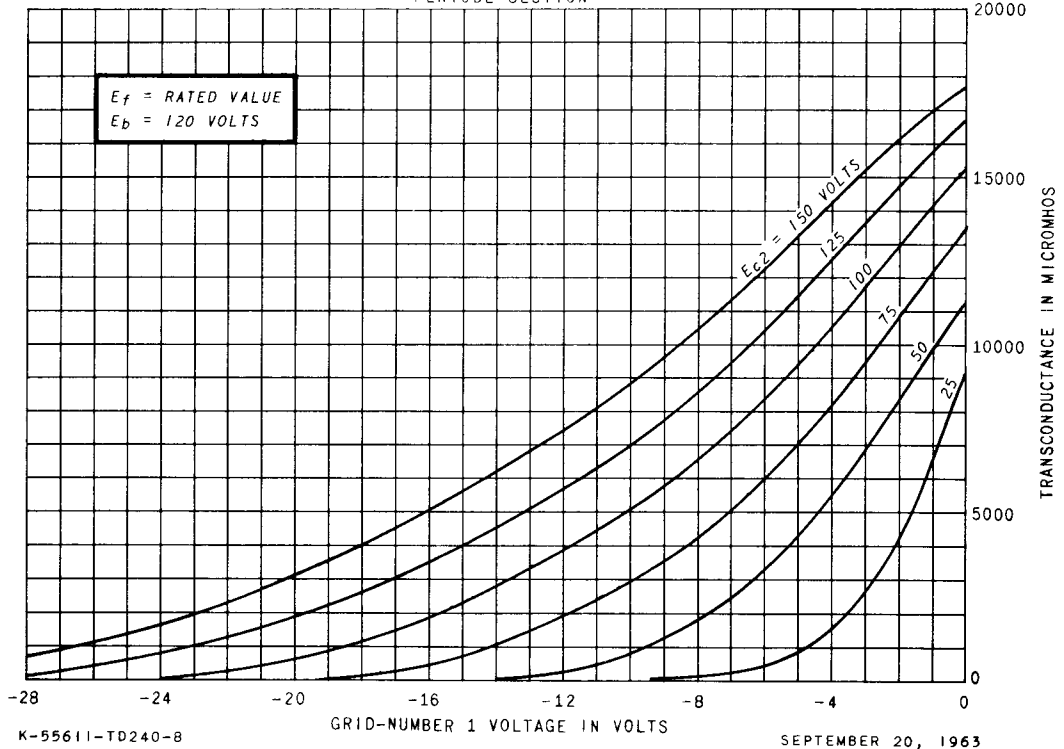
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



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