



TRIODE-PENTODE

DESCRIPTION AND RATING

The 6GN8 is a miniature tube containing a sharp-cutoff pentode and a high-mu triode. The pentode section is intended primarily for use as a video amplifier. The triode section is suitable for use as a voltage amplifier or sync separator.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

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

Heater Current†. 0.75 Amperes

Direct Interelectrode Capacitances§

Pentode Section

Grid-Number 1 to Plate: (Pg1 to Pp) . 0.1 pf

Input: Pg1 to (h + Pk + Pg2 +
Pg3 + i.s.) 11 pf

Output: Pp to (h + Pk + Pg2 +
Pg3 + i.s.) 4.2 pf

Triode Section

Grid to Plate (Tg to Tp). 4.4 pf

Input: Tg to (h + Tk). 2.2 pf

Output: Tp to (h + Tk) 0.36 pf

Coupling

Pentode Grid-Number 1 to Triode

Plate: (Pg1 to Tp), maximum. . 0.005 pf

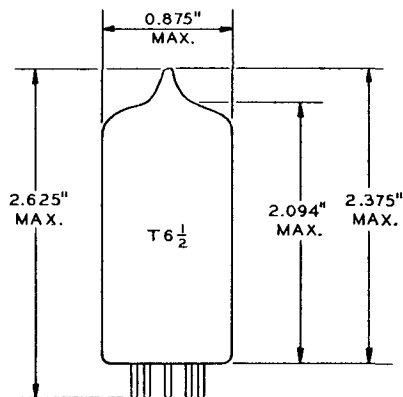
Triode Grid to Pentode Plate:

(Tg to Pp), maximum 0.018 pf

Pentode Plate to Triode Plate:

(Pp to Tp), maximum 0.17 pf

PHYSICAL DIMENSIONS



EIA 6-3

TERMINAL CONNECTIONS

- Pin 1 - Triode Cathode
- Pin 2 - Triode Grid
- Pin 3 - Triode Plate
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Cathode, Grid Number 3, and Internal Shield
- Pin 7 - Pentode Grid Number 1
- Pin 8 - Pentode Grid Number 2 (Screen)
- Pin 9 - Pentode Plate

MECHANICAL

Operating Position - Any

Envelope - T-6 1/2, Glass

Base - E9-1, Small Button 9-Pin

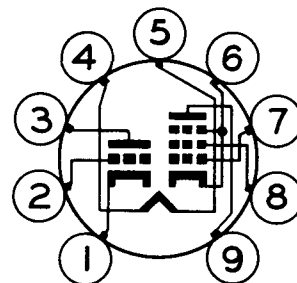
Outline Drawing - EIA 6-3

Maximum Diameter 0.875 Inches

Maximum Over-all Length 2.626 Inches

Maximum Seated Height. 2.375 Inches

BASING DIAGRAM



EIA 9DX

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.

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section	
Plate Voltage	330	330	Volts
Screen Supply Voltage.	330	---	Volts
Screen Voltage - See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage.	0	0	Volts
Plate Dissipation	5.0	1.0	Watts
Screen Dissipation.	1.1	---	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component.	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias.	0.25	0.5	Megohms
With Cathode Bias	1.0	1.0	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

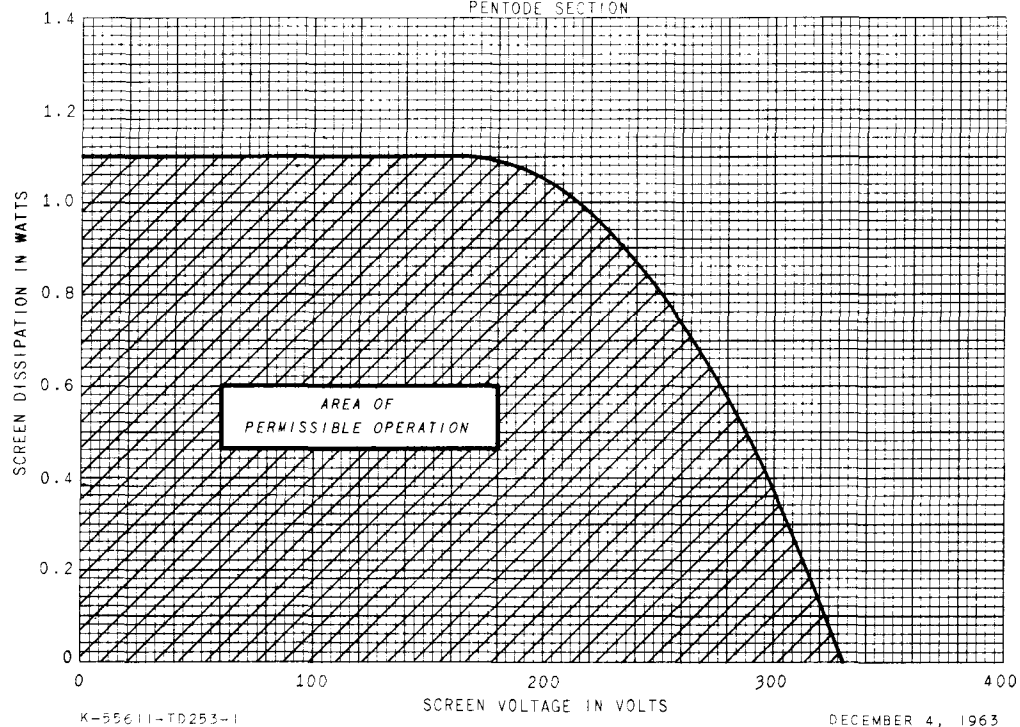
	Pentode Section	Triode Section	
Plate Voltage	60	250	Volts
Screen Voltage	150	---	Volts
Grid-Number 1 Voltage.	0 [¶]	-2.0	Volts
Cathode-Bias Resistor.	---	---	Ohms
Amplification Factor	---	100	
Plate Resistance, Approximate	---	60000	Ohms
Transconductance	---	11500	Micromhos
Plate Current	55	25	Milliamperes
Screen Current	18	5.5	Milliamperes
Grid-Number 1 Voltage, Approximate			
Ib = 10 Microamperes	---	---	-5 Volts
Grid-Number 1 Voltage, Approximate			
Ib = 100 Microamperes.	---	-10	---

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.
- ¶ Applied for short interval (two seconds maximum) so as not to damage tube.

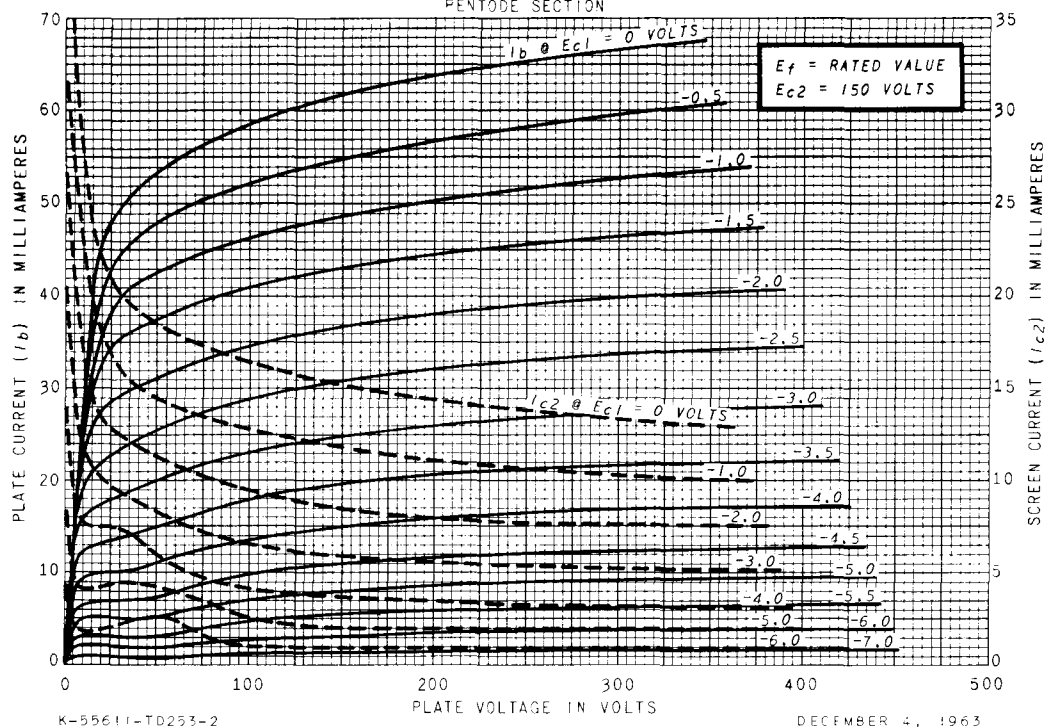
SCREEN RATING CHART

PENTODE SECTION

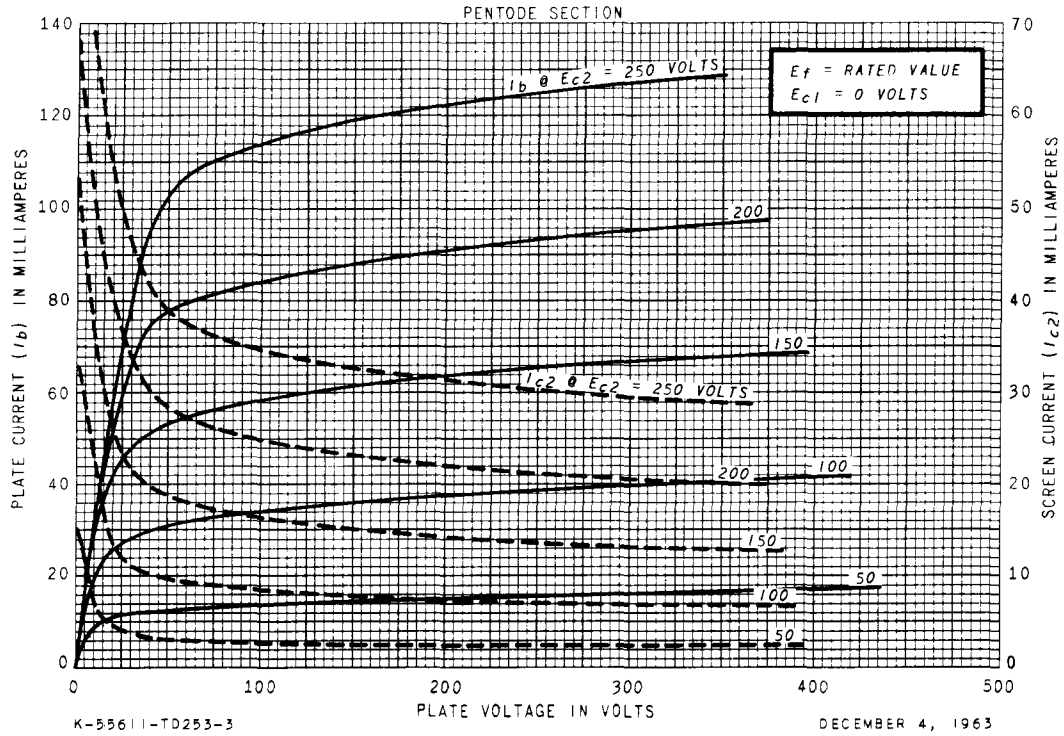


AVERAGE PLATE CHARACTERISTICS

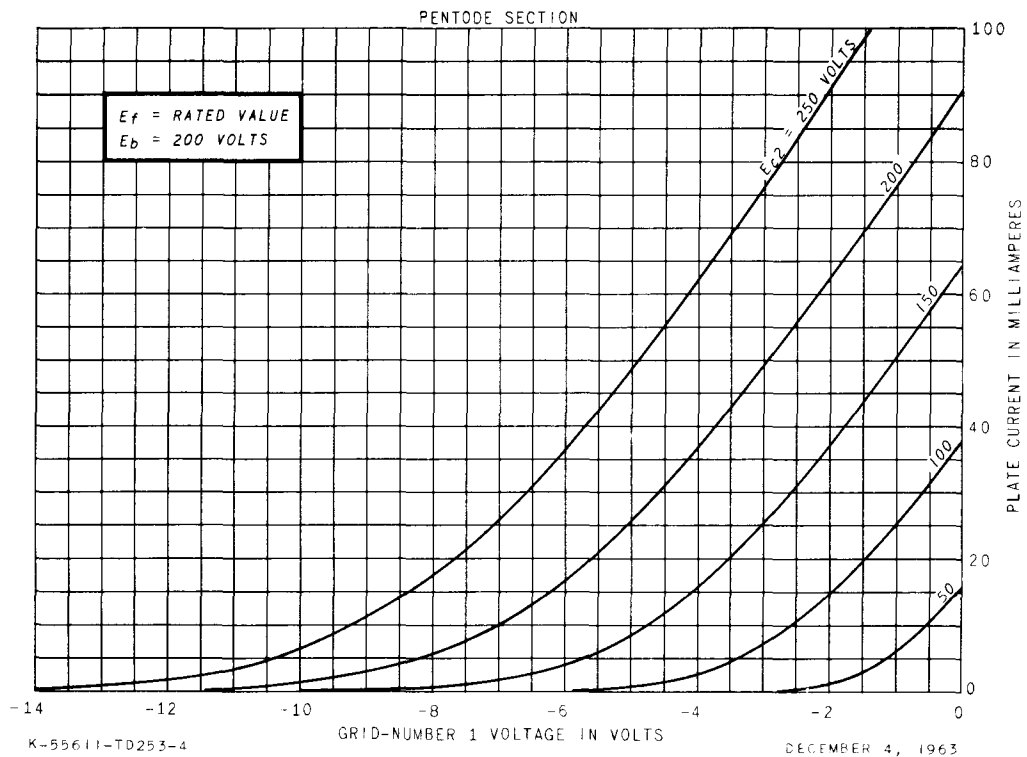
PENTODE SECTION



AVERAGE PLATE CHARACTERISTICS

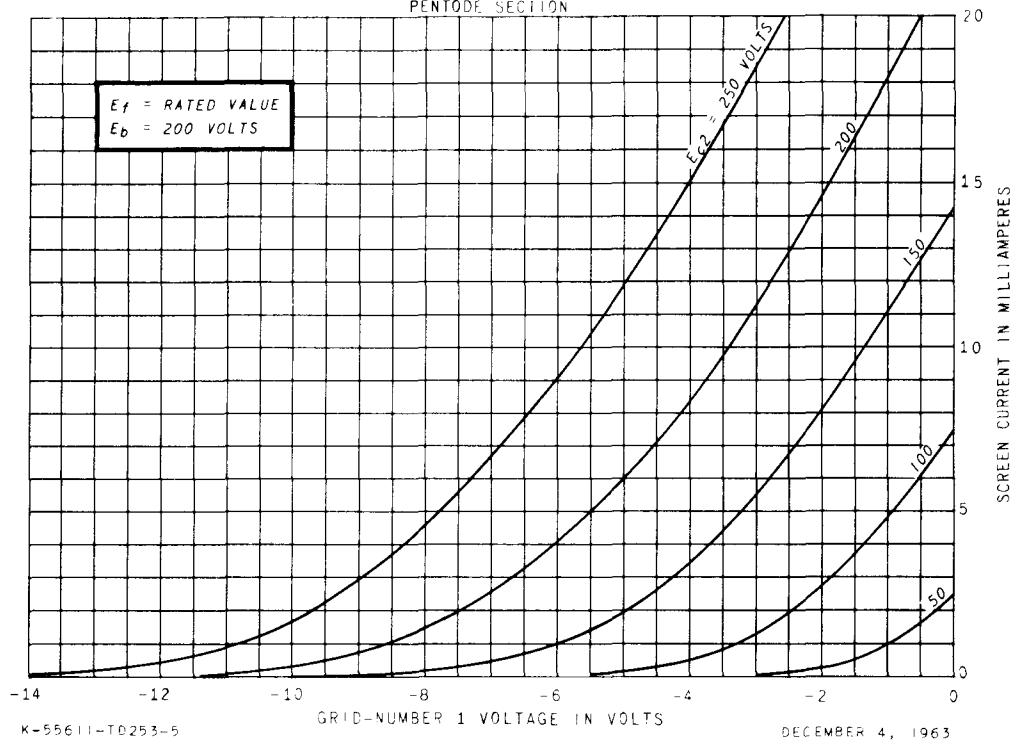


AVERAGE TRANSFER CHARACTERISTICS



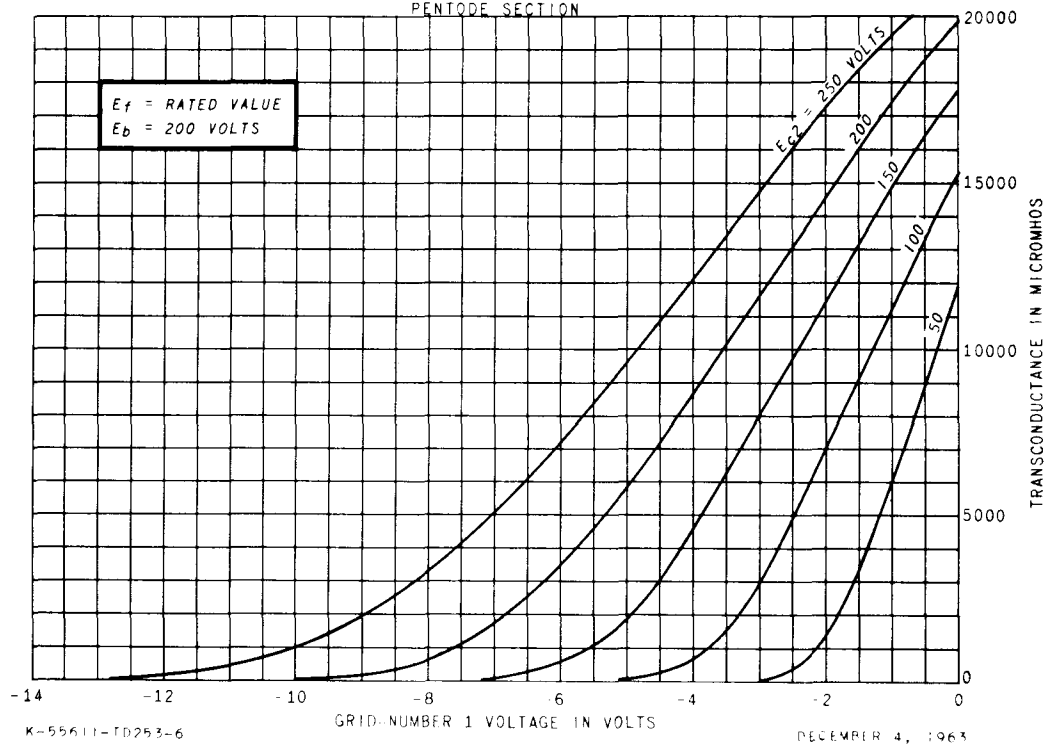
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

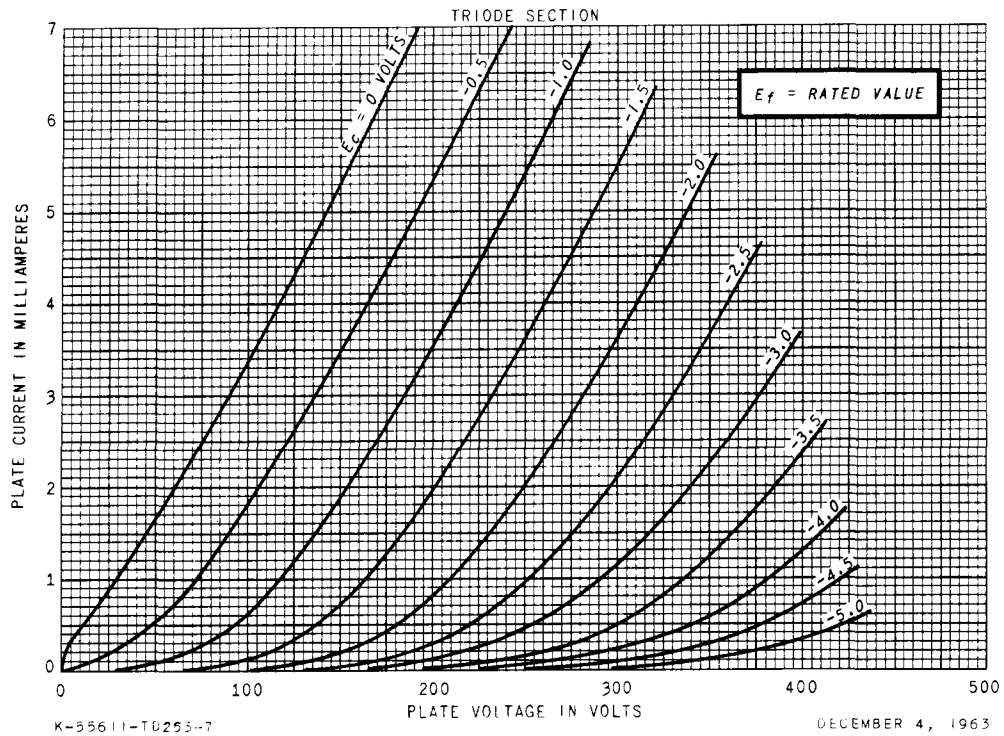


AVERAGE TRANSFER CHARACTERISTICS

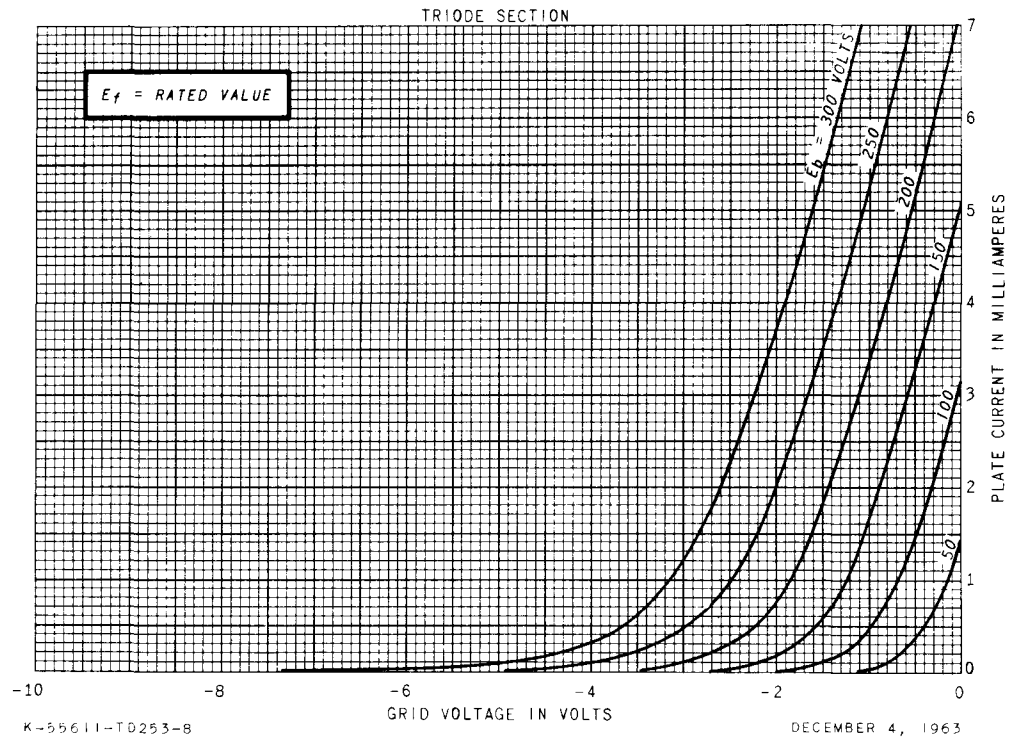
PENTODE SECTION



AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS

