

6EU8-5EU8

TRIODE-PENTODE

FOR VHF CONVERTER APPLICATIONS

DESCRIPTION AND RATING

The 6EU8 is a miniature, triode-pentode primarily intended for service as a combined triode oscillator and pentode mixer in television receivers. Except for heater ratings, the 5EU8 is identical to the 6EU8. Both tubes incorporate a controlled heater-warm-up characteristic.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC 4.7

Heater Current $0.6 \pm 5\%$

Heater Warm-up Time* 11

Direct Interelectrode Capacitances

Pentode Section

With Shield†

Without Shield

Grid-Number 1 to Plate: (Pg1 to Pp), maximum . . 0.01

Input: Pg1 to (h+Pk+Pg2+Pg3+i.s.) 5.0

Output: Pp to (h+Pk+Pg2+Pg3+i.s.) 3.4

Heater to Cathode: (Pk to h) $3.0 \pm$

Triode Section

Grid to Plate: (Tg to Tp) 1.7

Input: Tg to (Tk+h+Pk+Pg3+i.s.) 3.2

Output: Tp to (Tk+h+Pk+Pg3+i.s.) 2.1

Heater to Cathode: (Pk to h) $3.0 \pm$

MECHANICAL

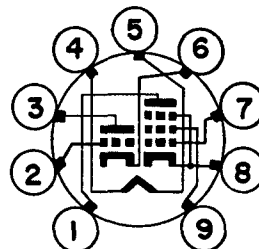
Mounting Position—Any

Envelope—T-6½, Glass

Base—E9-1, Small Button 9-Pin

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BASING DIAGRAM

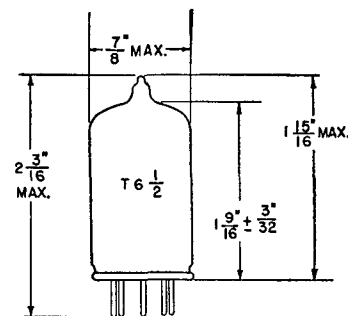


EIA 9JF

TERMINAL CONNECTIONS

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

PHYSICAL DIMENSIONS



EIA 6-2

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section
Plate Voltage.....	330	330 Volts
Screen Supply Voltage.....	330	... Volts
Positive DC Grid-Number 1 Voltage.....	0	0 Volts
Plate Dissipation.....	3.1	3.0 Watts
Screen Dissipation.....	0.55	... 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.....	0.1	0.1 Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

These values are chosen by the tube manufacturer to provide acceptable serviceability of the tube, taking responsibility 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, variation in characteristics of all other tubes in the equipment, equipment control adjustment, load variation, signal variation, and environmental conditions.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Pentode Section	Triode Section
Plate Voltage.....	125	150 Volts
Screen Voltage.....	125	... Volts
Grid-Number 1 Voltage.....	-1.0	... Volts
Cathode-Bias Resistor.....		56 Ohms
Amplification Factor.....		40
Plate Resistance, approximate.....	80000	5000 Ohms
Transconductance.....	6400	8500 Micromhos
Plate Current.....	12	18 Milliampères
Screen Current.....	4.0	... Milliampères
Grid-Number 1 Voltage, approximate		
I _b = 10 Microampères.....	-9	-12 Volts

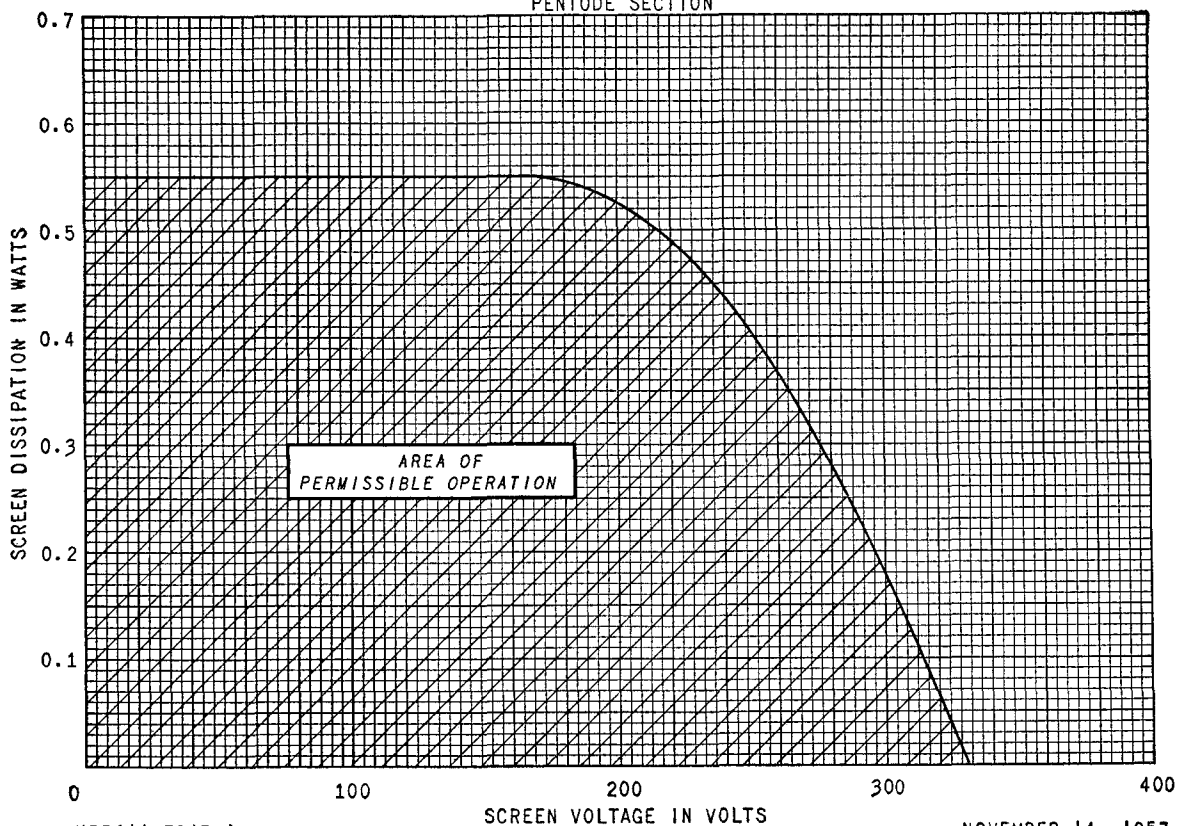
* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (EIA 315) connected to cathode of section under test unless otherwise indicated.

‡ With external shield (EIA 315) connected to ground.

SCREEN RATING CHART

PENTODE SECTION

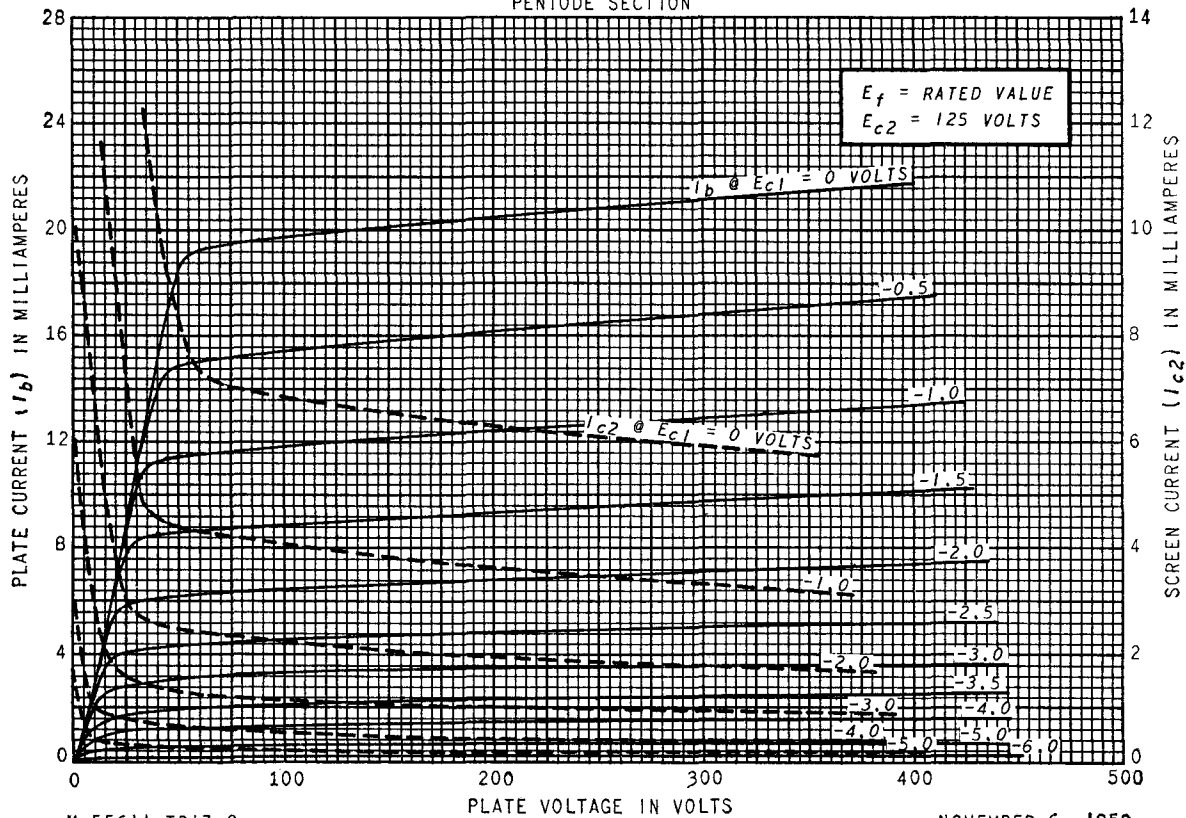


K55611-TD17-1

NOVEMBER 14, 1957

AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION

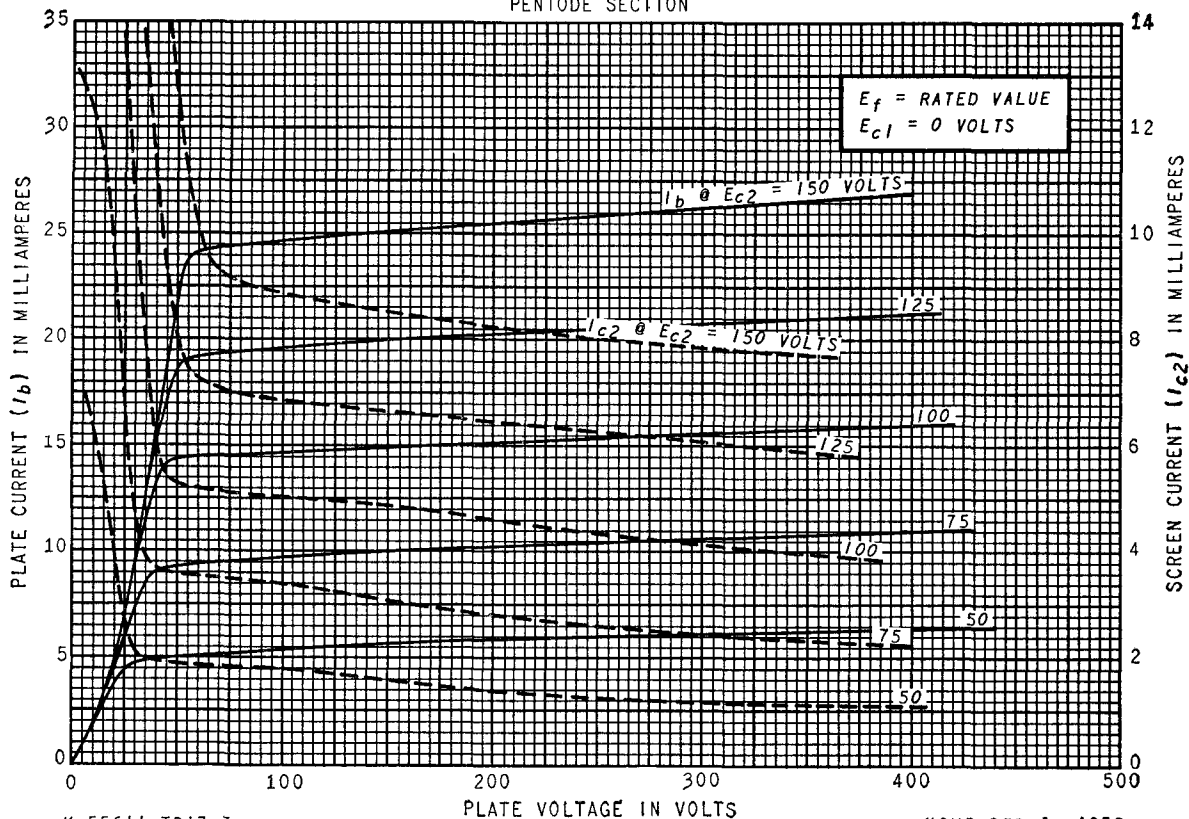


K-55611-TD17-2

NOVEMBER 6, 1959

AVERAGE PLATE CHARACTERISTICS

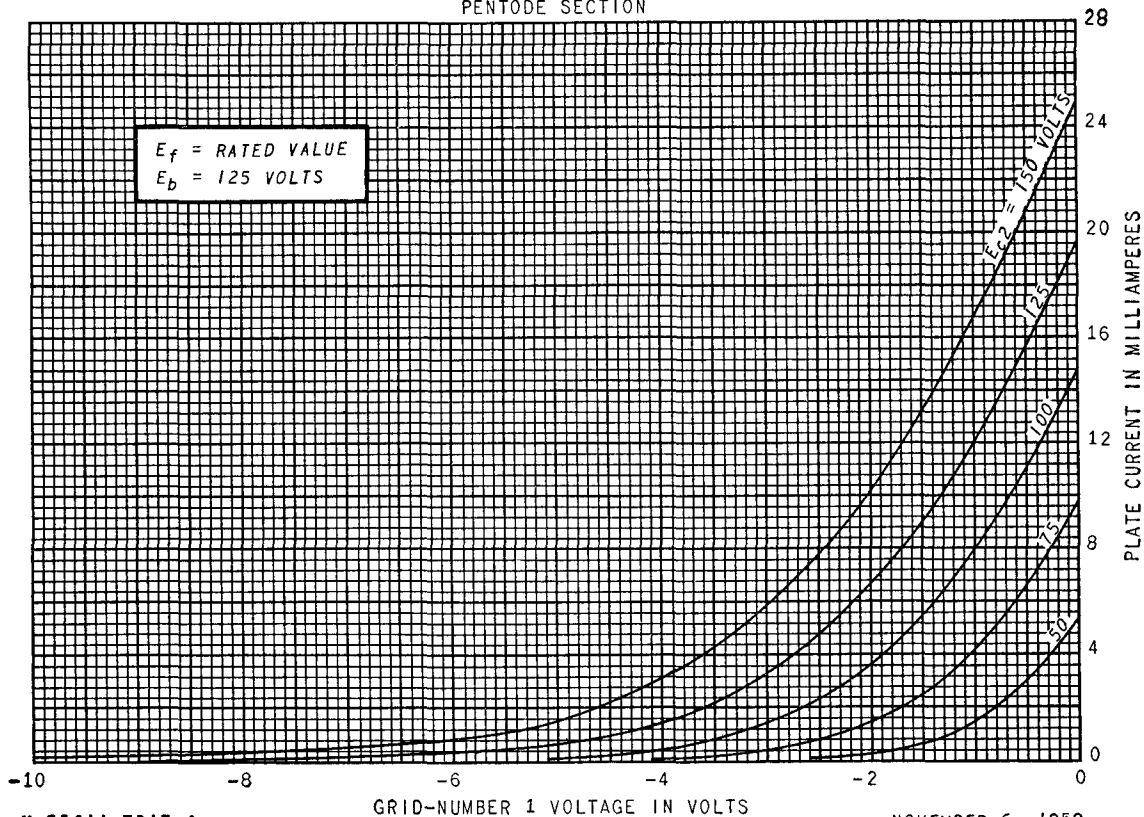
PENTODE SECTION



NOVEMBER 6, 1959

AVERAGE TRANSFER CHARACTERISTICS

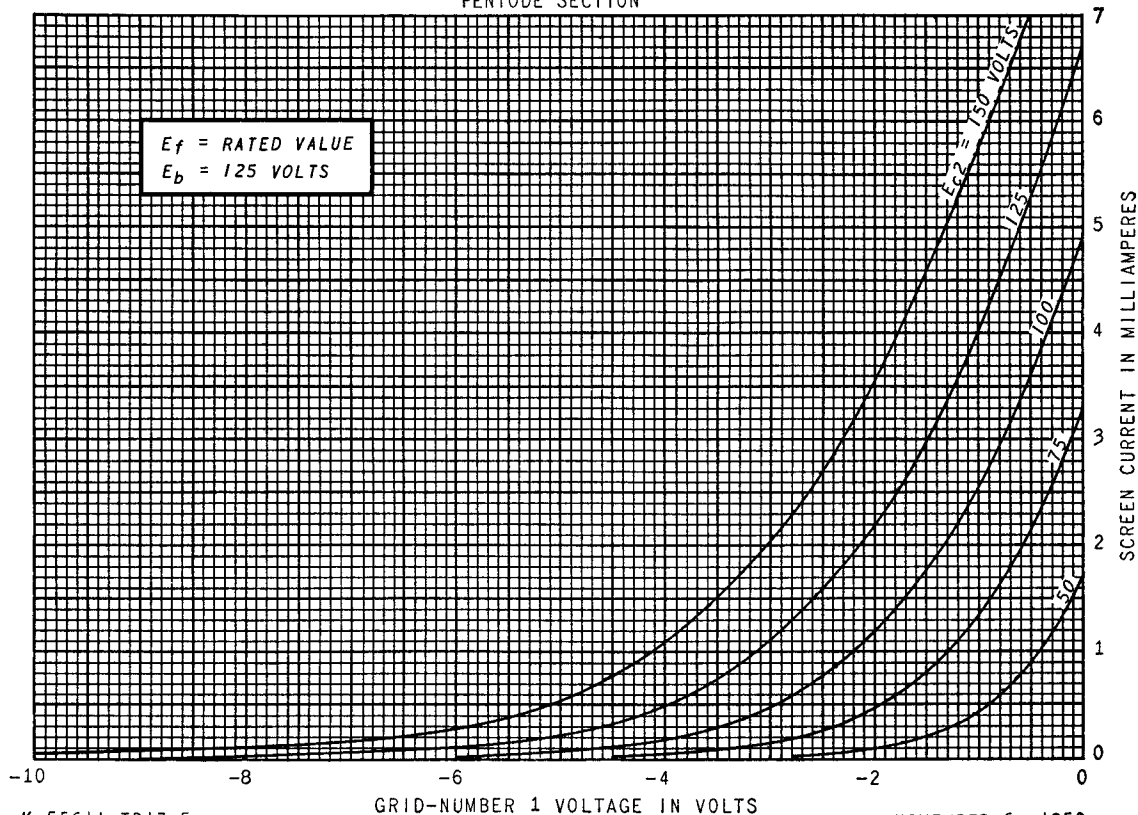
PENTODE SECTION



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AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

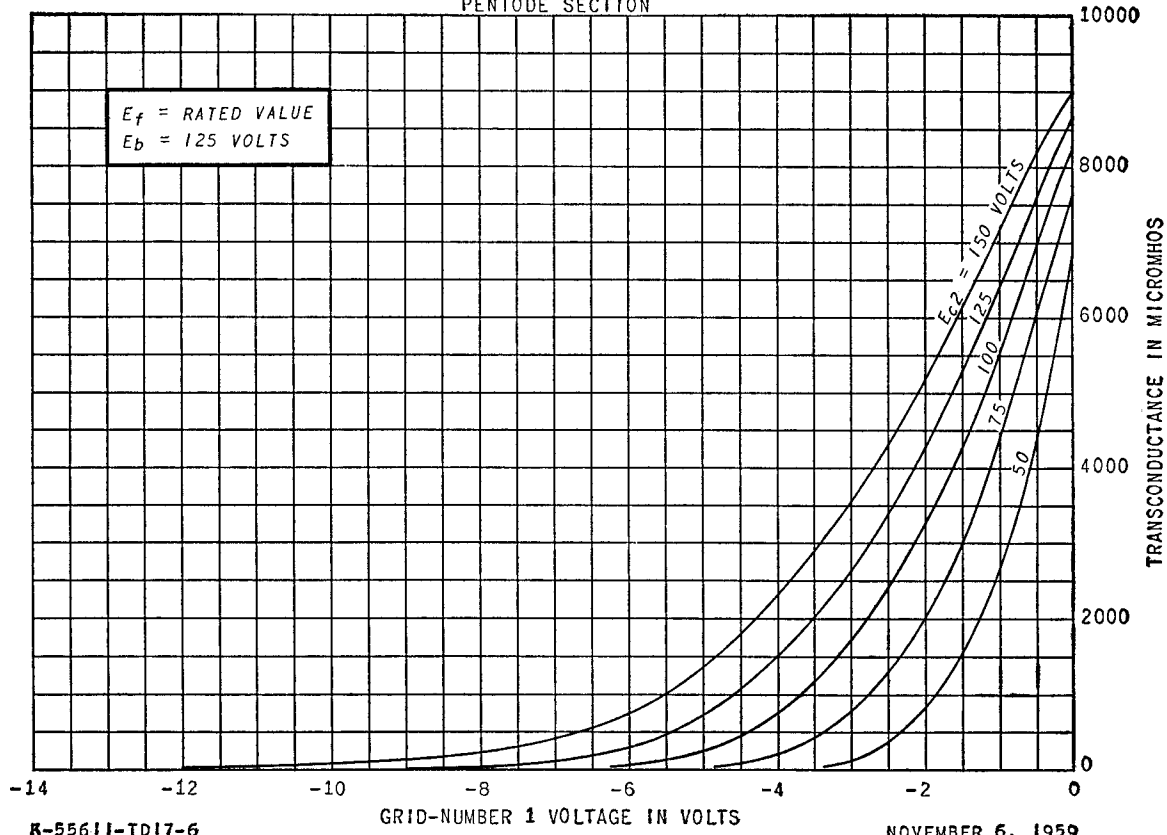


K-55611-TD17-5

NOVEMBER 6, 1959

AVERAGE TRANSFER CHARACTERISTICS

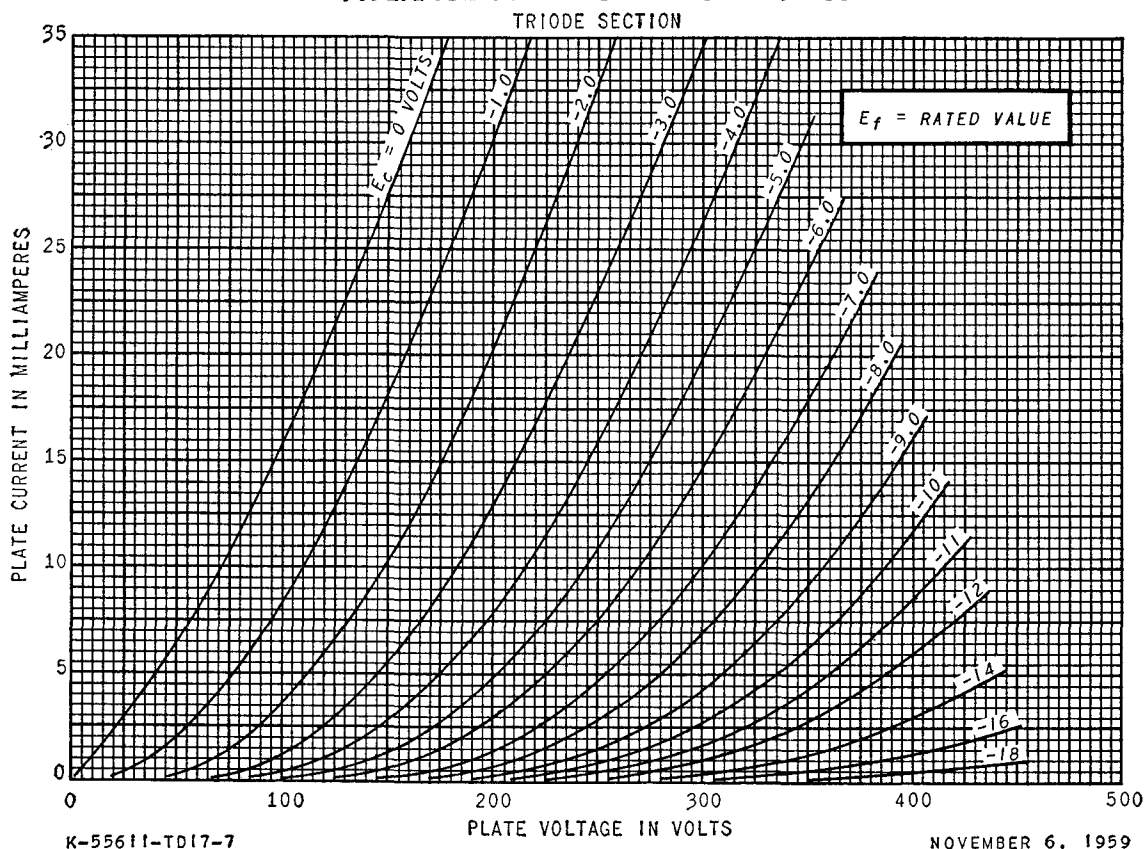
PENTODE SECTION



K-55611-TD17-6

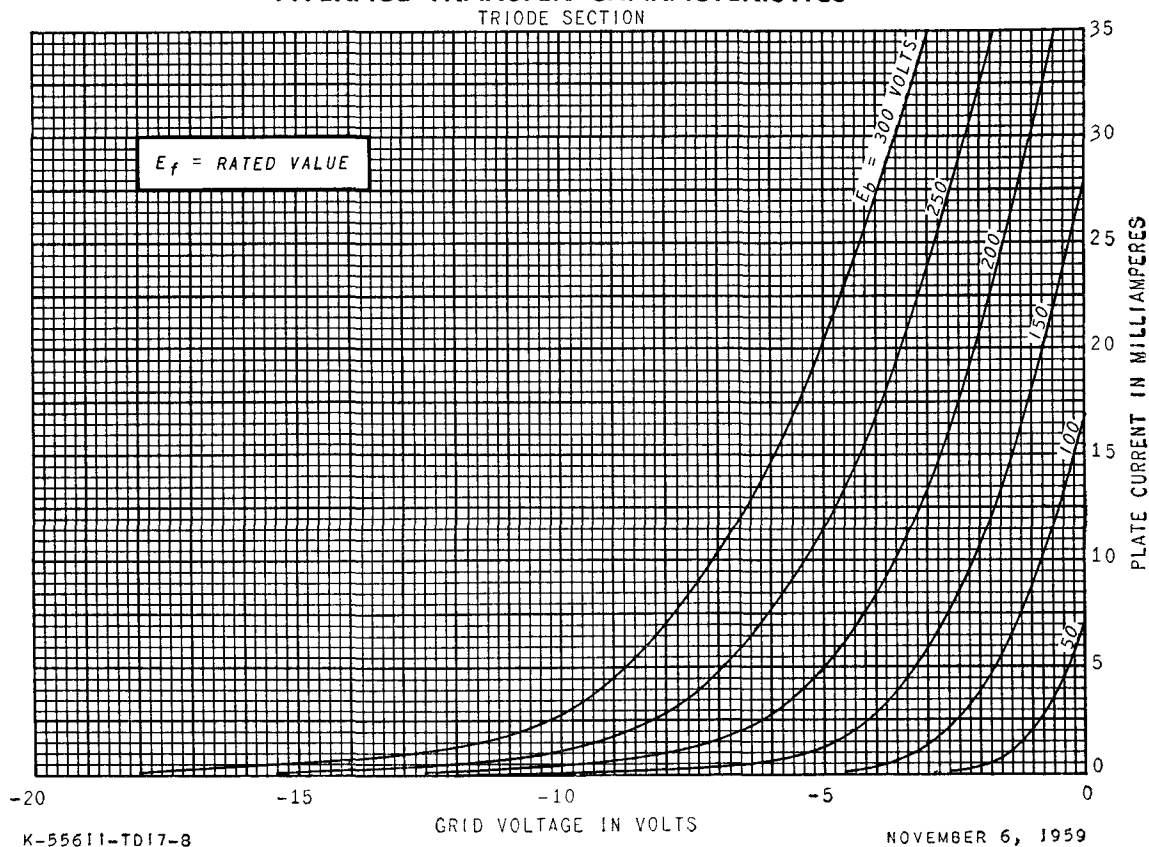
NOVEMBER 6, 1959

AVERAGE PLATE CHARACTERISTICS



NOVEMBER 6, 1959

AVERAGE TRANSFER CHARACTERISTICS



NOVEMBER 6, 1959

AVERAGE CHARACTERISTICS

TRIODE SECTION

