

10LW8 TRIODE-PENTODE

DESCRIPTION AND RATING

The 10LW8 is a miniature triode-pentode containing a high-mu triode and a sharp-cutoff pentode. The pentode is intended for use as a video amplifier and the triode for general-purpose use.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC* 10.5 Volts

Heater Current†. 0.45±0.03 Amperes

Heater Warm-up Time, average‡ 11 Seconds

Direct Interelectrode Capacitances¶

Pentode Section

Grid-Number 1 to Plate:

(Pg1 to Pp) 0.08 pf

Input: Pg1 to (h + Pk +

Pg2 + Pg3 + i.s.) 12 pf

Output: Pp to (h + Pk +

Pg2 + Pg3 + i.s.) 4.4 pf

Triode Section

Grid to Plate: (Tg to Tp) 3.6 pf

Input: Tg to (h + Tk +

Pk + Pg3 + i.s.) 2.8 pf

Output: Tp to (h + Tk +

Pk + Pg3 + i.s.) 3.0 pf

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 2.625 Inches

Maximum Seated Height. 2.375 Inches

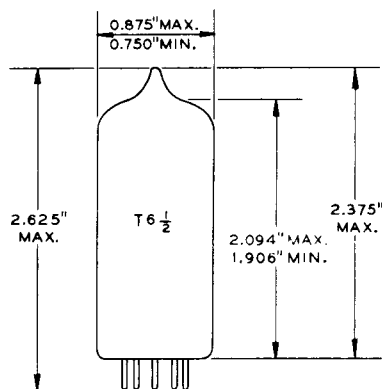
MAXIMUM RATINGS

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

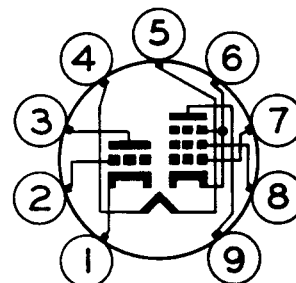


EIA 6-3

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

BASING DIAGRAM



EIA 9DX

MAXIMUM RATINGS (Cont'd)**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	4.0	1.5	Watts
Screen Dissipation	1.5	---	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	0.5	0.5	Megohms
With Cathode Bias	1.0	1.0	Megohms

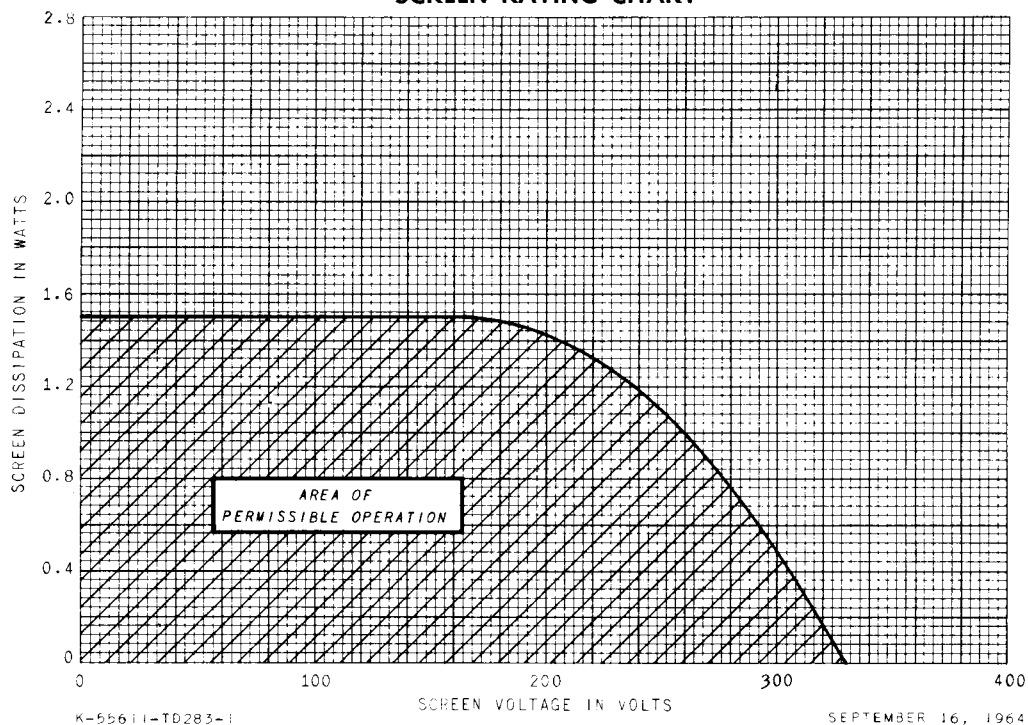
CHARACTERISTICS AND TYPICAL OPERATION**AVERAGE CHARACTERISTICS**

	Pentode Section	Triode Section	
Plate Voltage	35	200	200 Volts
Screen Voltage	100	100	--- Volts
Grid-Number 1 Voltage	0	---	-2.0 Volts
Cathode-Bias Resistor	---	82	--- Ohms
Amplification Factor	---	---	75
Plate Resistance, approximate	---	60000	18700 Ohms
Transconductance	---	19000	4000 Micromhos
Plate Current	48	16.5	2.6 Milliamperes
Screen Current	12.5	2.8	--- Milliamperes
Grid Voltage, approximate			
Ib = 30 Microamperes	---	---	-4 Volts
Grid-Number 1 Voltage, approximate			
Ib = 100 Microamperes	---	-5.5	--- Volts

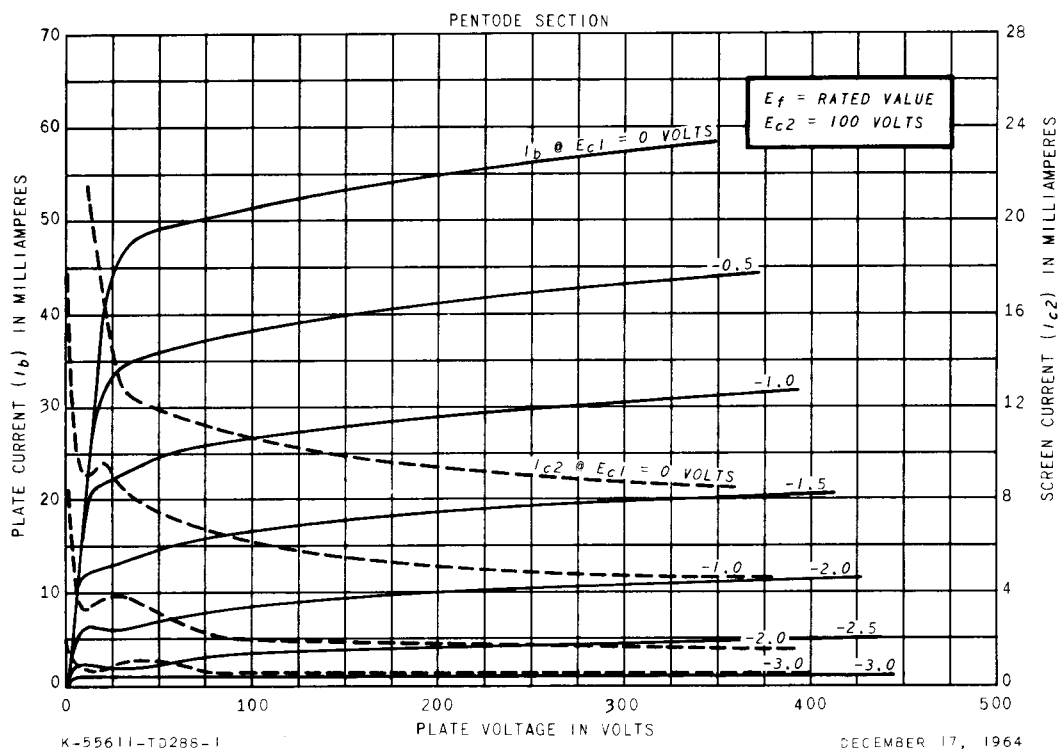
NOTES

- * Heater voltage for a bogey tube at $I_f = 0.45$ amperes.
- # The equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.
- § The time required for the voltage across the heater to reach 80 percent of the bogey value after applying 4 times the bogey heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the bogey heater voltage divided by the bogey heater current.
- ¶ Without external shield.

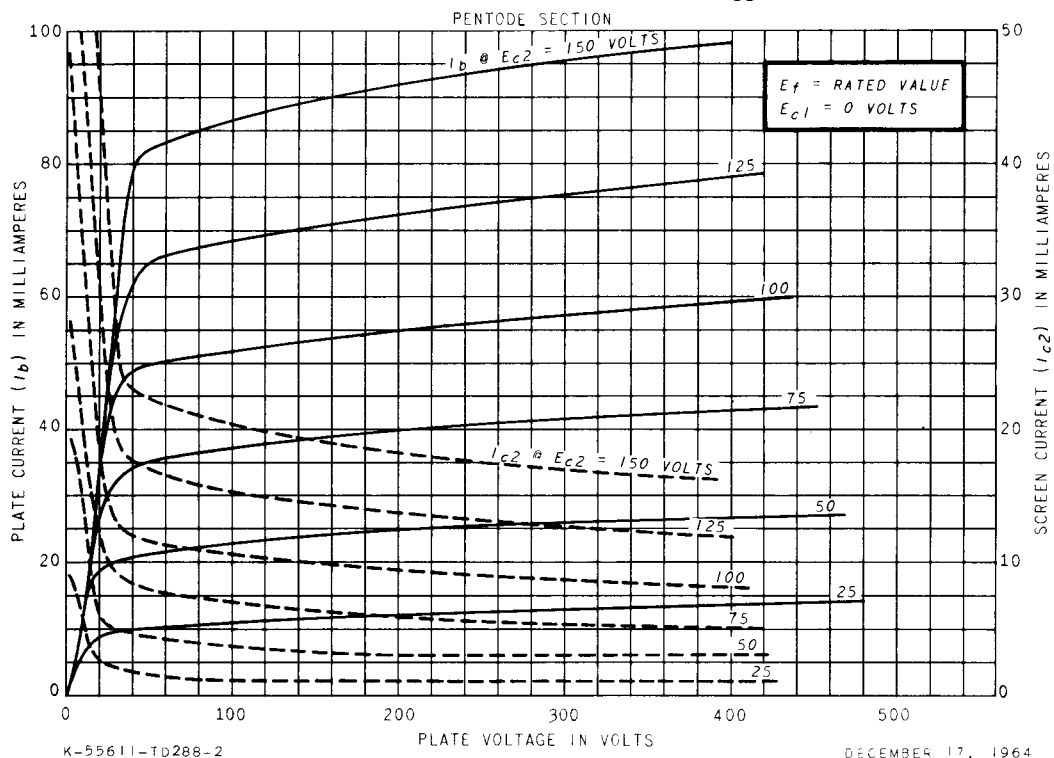
SCREEN RATING CHART



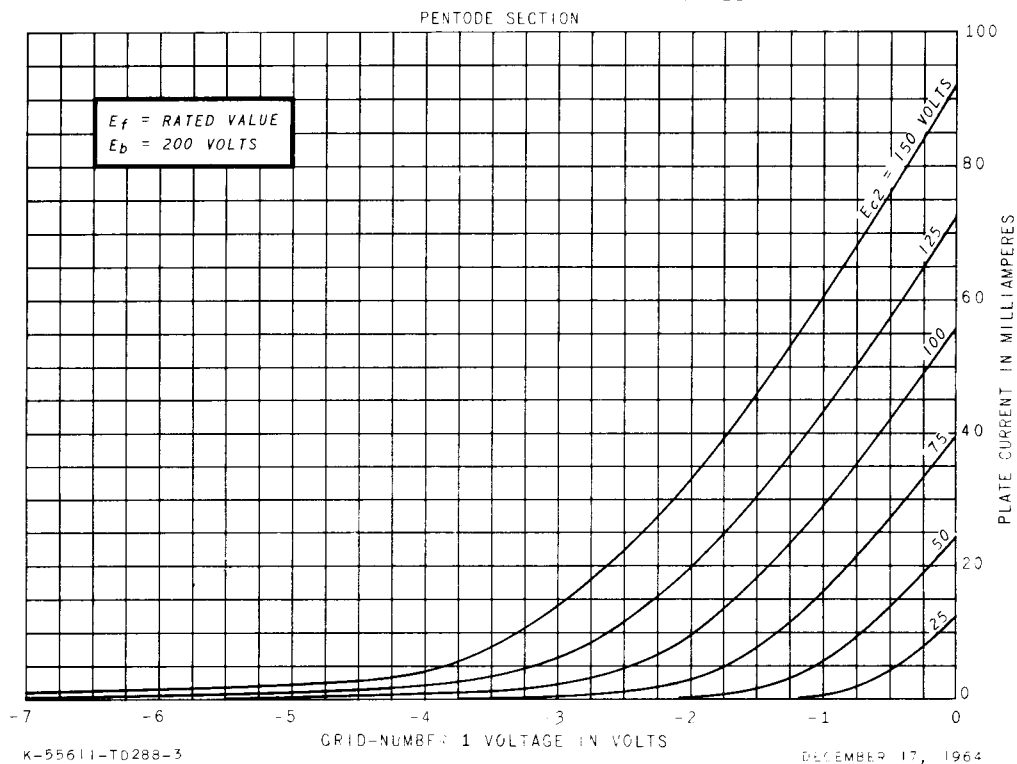
AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

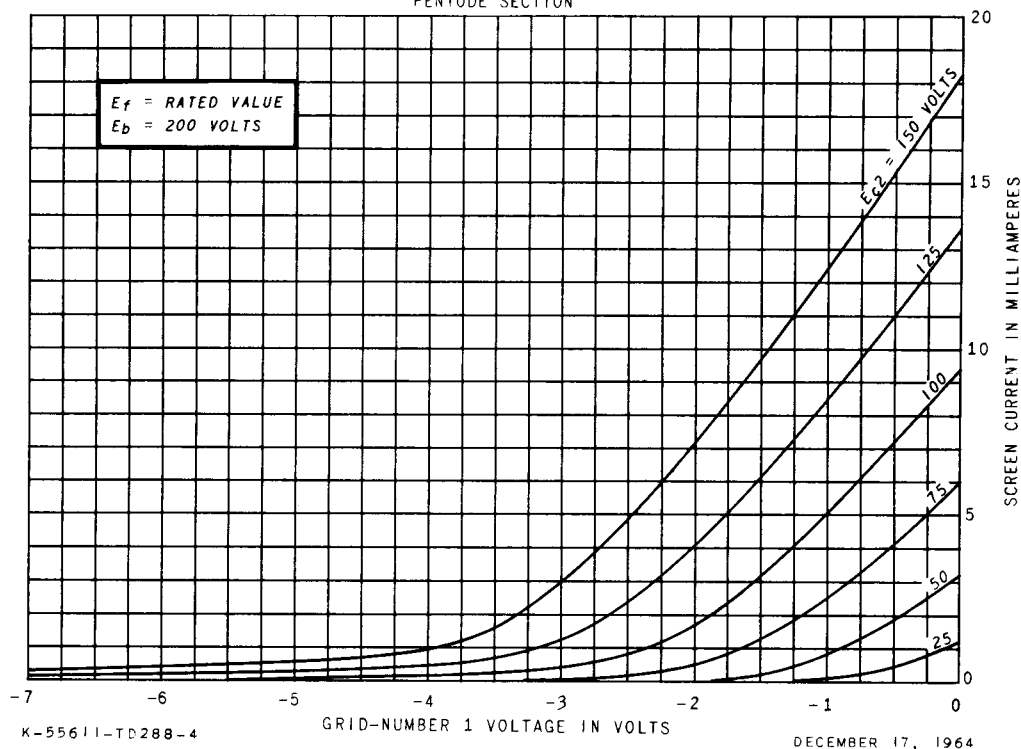


AVERAGE TRANSFER CHARACTERISTICS



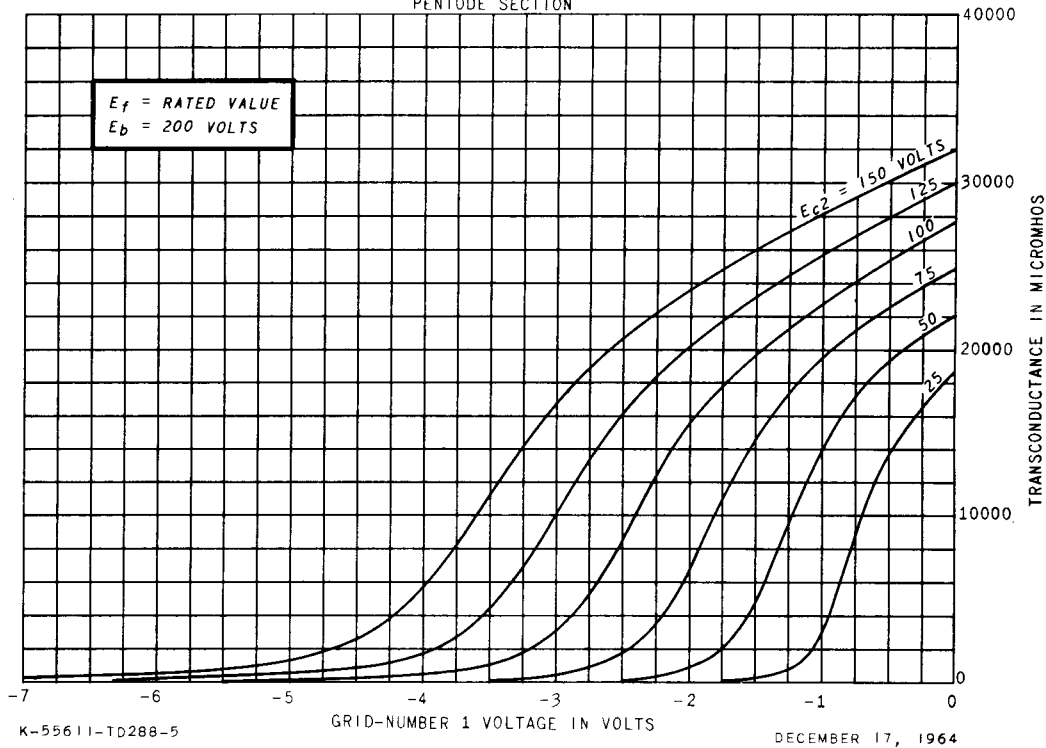
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

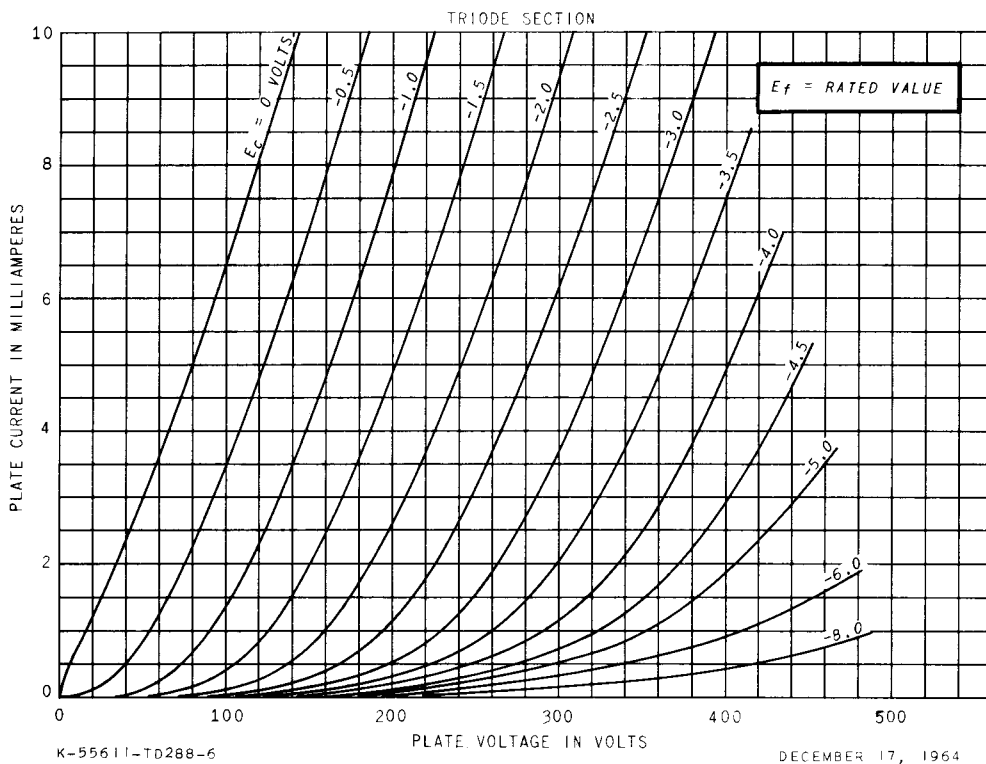


AVERAGE TRANSFER CHARACTERISTICS

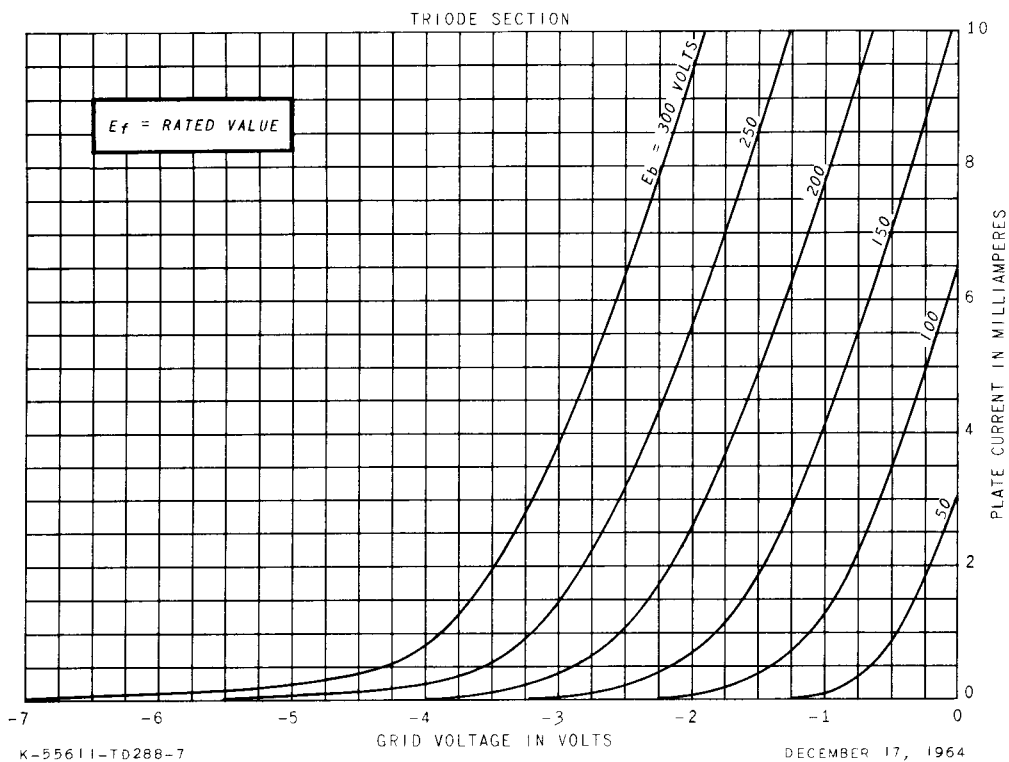
PENTODE SECTION



AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS

