Triode-Pentode

6KT8

The 6KT8 is a general-purpose triode-pentode contained in a miniature envelope.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

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

Direct Interelectrode Capacitances

Pentode Section	**With Shield§**	**Without Shield**	
Grid-Number 1 to Plate: (Pg1 to Pp), maximum .	0.03	0.046	pf
Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.) . .	7.5	7.5	pf
Output: Pp to (h + Pk + Pg2 + Pg3 + i.s.) . .	2.8	2.2	pf
Triode Section			
Grid to Plate: (Tg to Tp)	3.0	3.0	pf
Input: Tg to (h + Tk + Pk + Pg3 + i.s.) . .	3.2	3.2	pf
Output: Tp to (h + Tk + Pk + Pg3 + i.s.) . .	2.4	1.6	pf

Coupling	**With Shield§**	**Without Shield**	
Triode Grid to Pentode Plate: (Tg to Pp), maximum.	0.003	0.018	pf
Pentode Grid-Number 1 to Triode Plate: (Pg1 to Tp), maximum	0.002	0.006	pf

MECHANICAL

Operating Position - Any
Envelope - T-6 1/2, Glass
Base - E9-1, Small Button 9-Pin
Outline Drawing - EIA 6-2

Maximum Diameter.	0.875	Inches
Minimum Diameter.	0.750	Inches
Maximum Over-all Length . . .	2.188	Inches
Maximum Seated Height	1.938	Inches

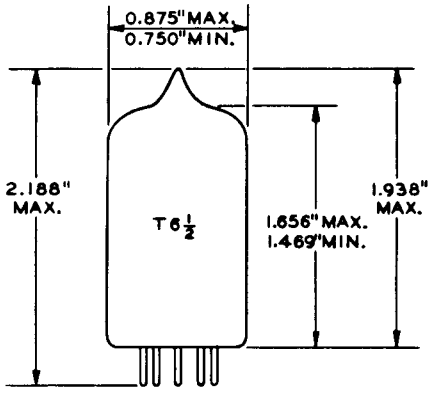
MAXIMUM RATINGS

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

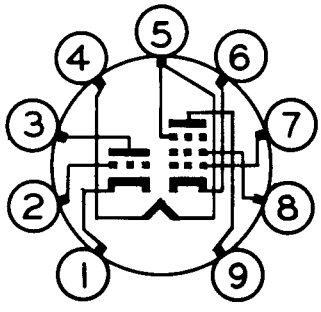


EIA 6-2

TERMINAL CONNECTIONS

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

BASING DIAGRAM



EIA 9QP

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	2.5	1.0	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			
With Fixed Bias	0.25	0.5	Meghoms
With Cathode Bias	1.0	1.0	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS	Pentode Section	Triode Section	
Plate Voltage	125	250	Volts
Screen Voltage	125	---	Volts
Grid-Number 1 Voltage	-1.0	-2.0	Volts
Amplification Factor	---	100	
Plate Resistance, approximate	150000	31500	Ohms
Transconductance	10000	3200	Micromhos
Plate Current	12	1.8	Milliamperes
Screen Current	4.5	---	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 20 Microamperes	-7	-3.5	Volts

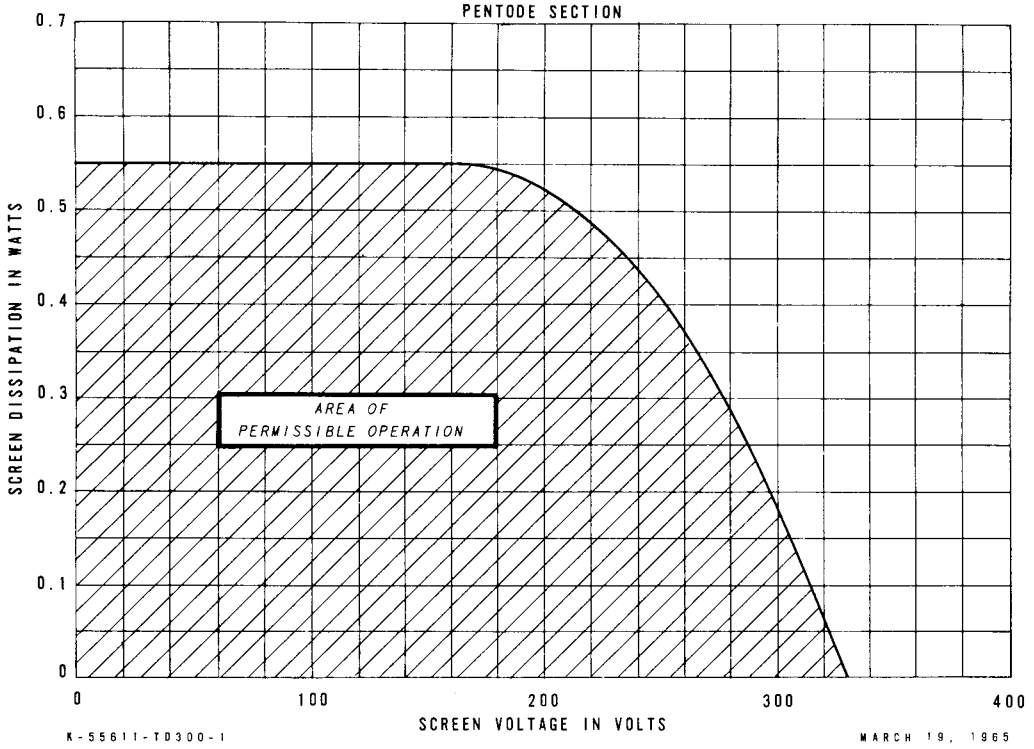
NOTES

* 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.

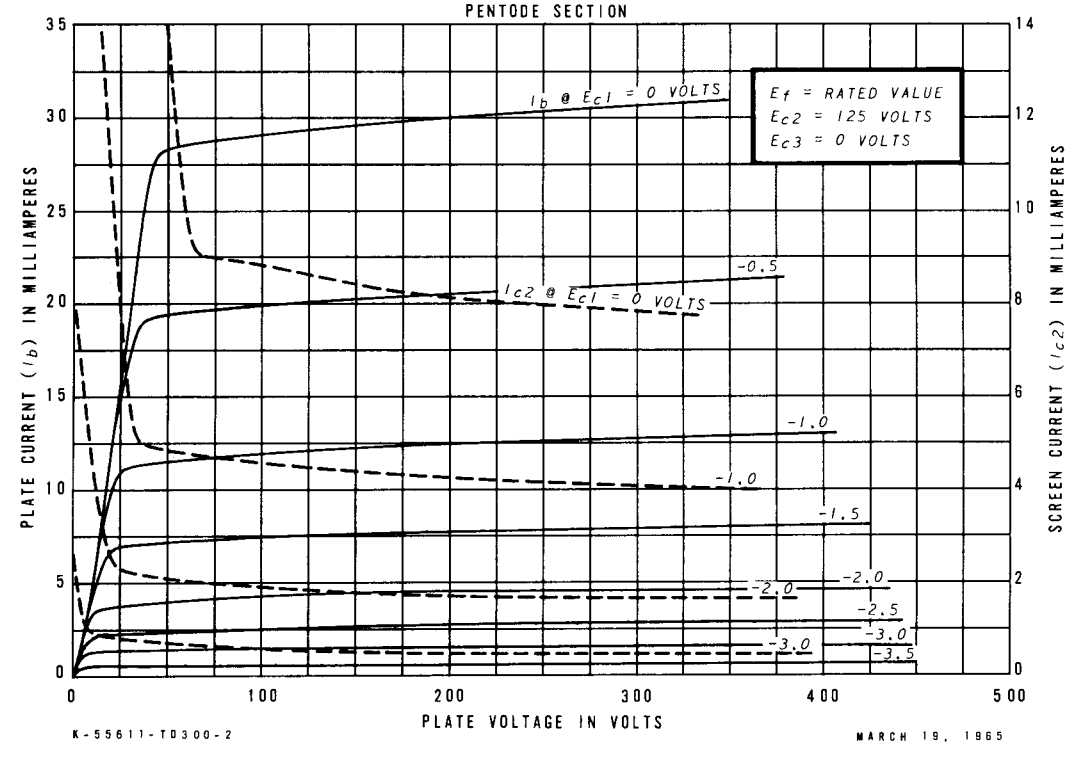
‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ With external shield (EIA 315) connected to pins 4 and 5.

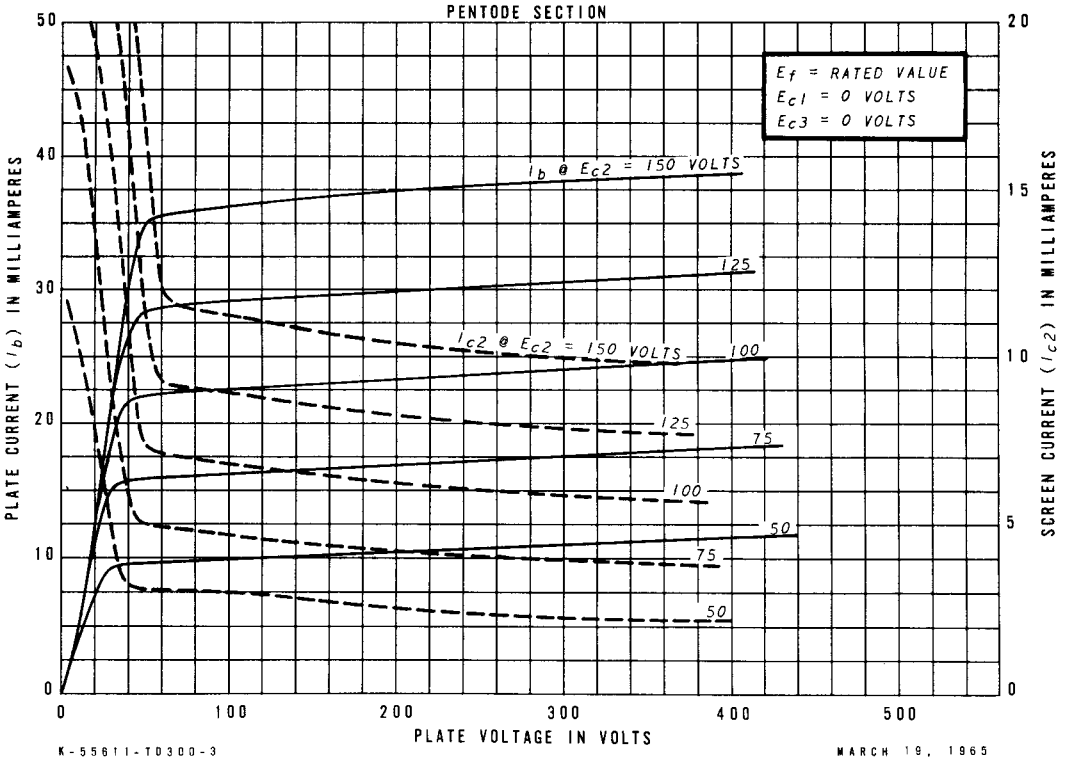
SCREEN RATING CHART



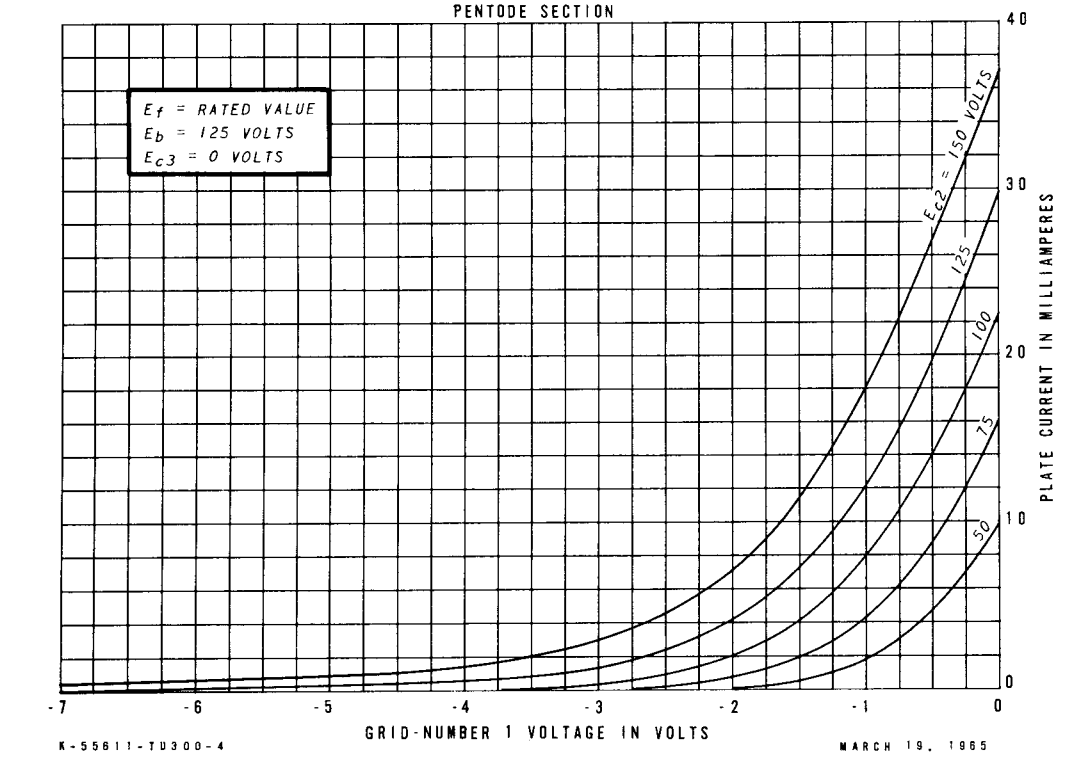
AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

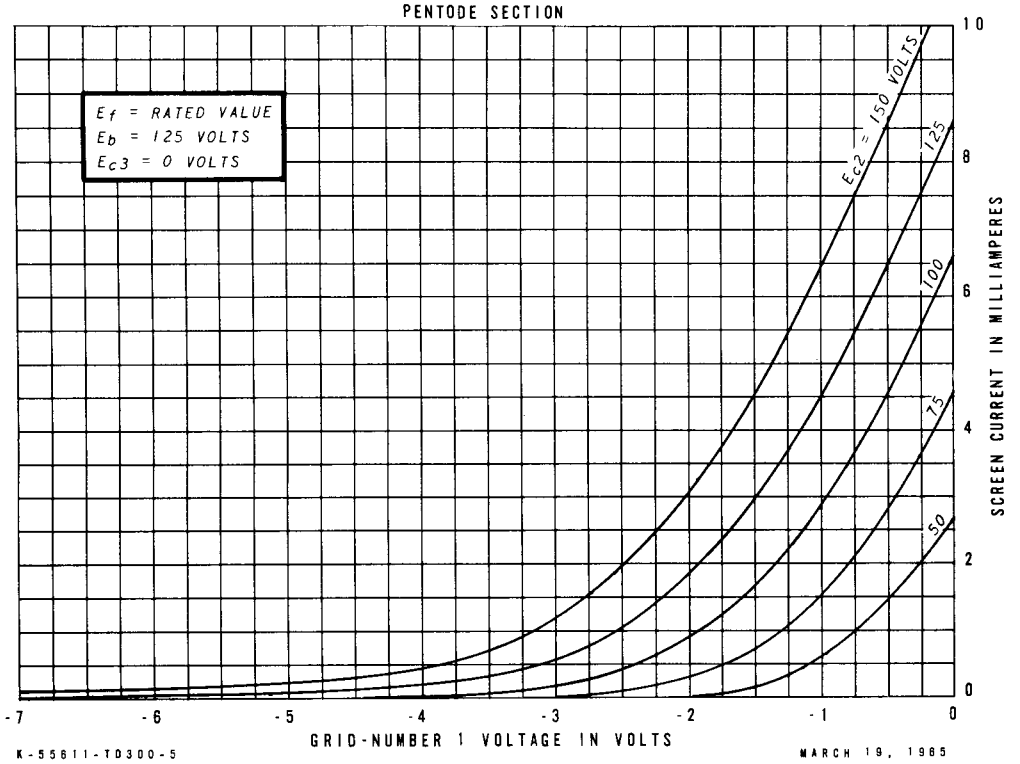


AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



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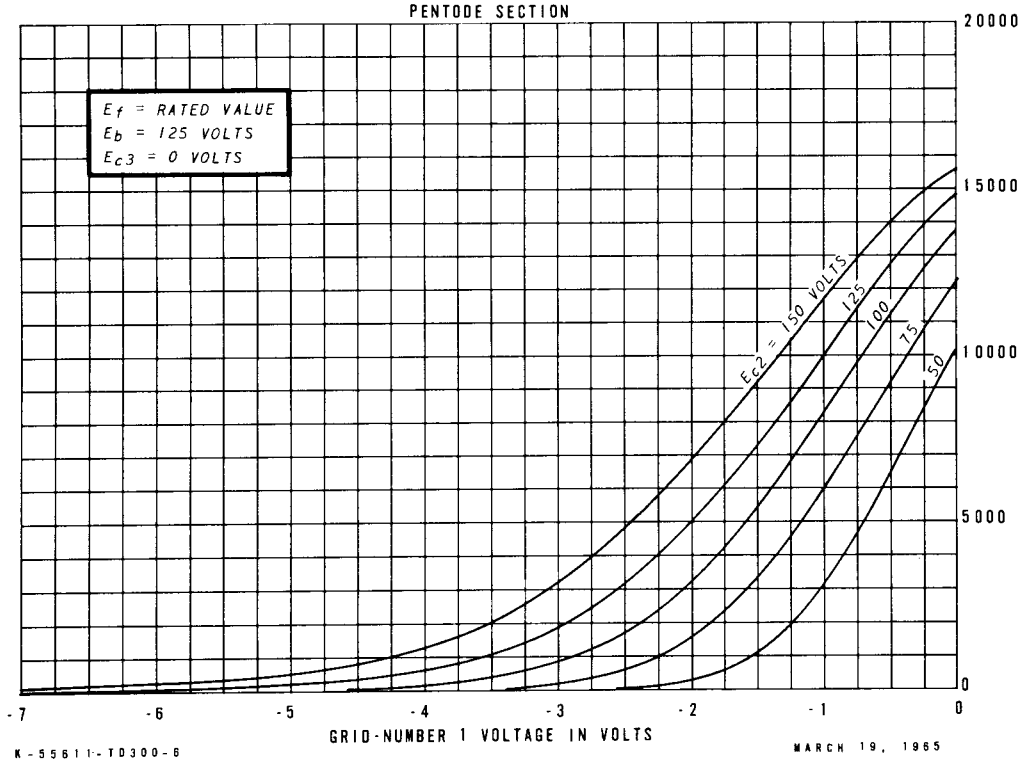
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



K-55611-TD300-6

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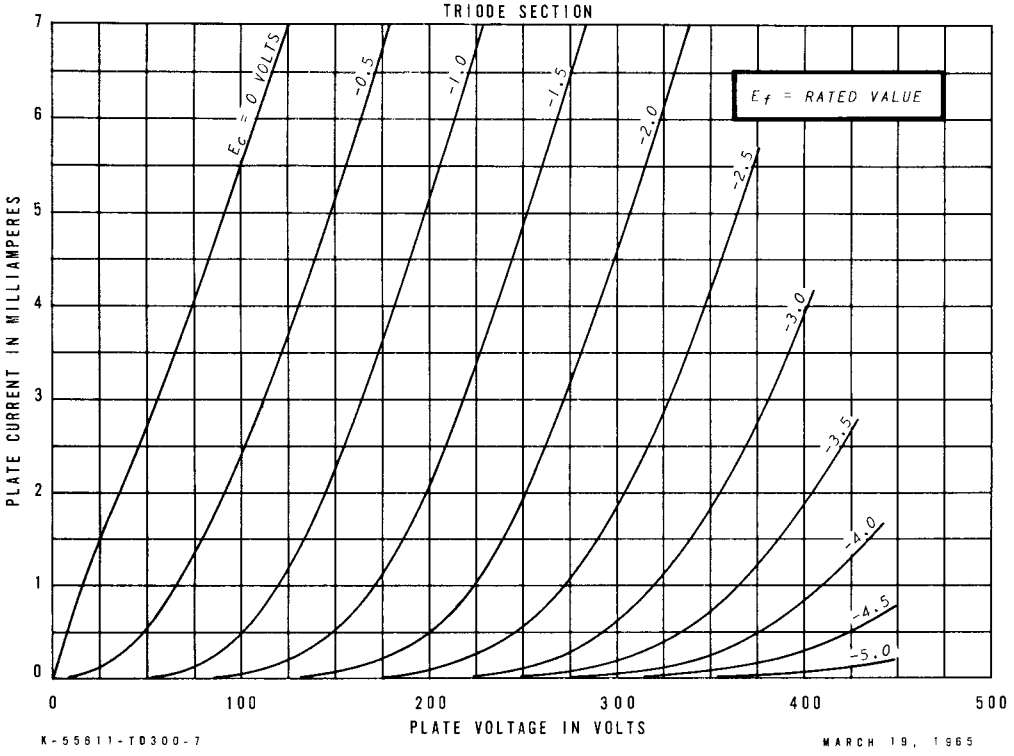
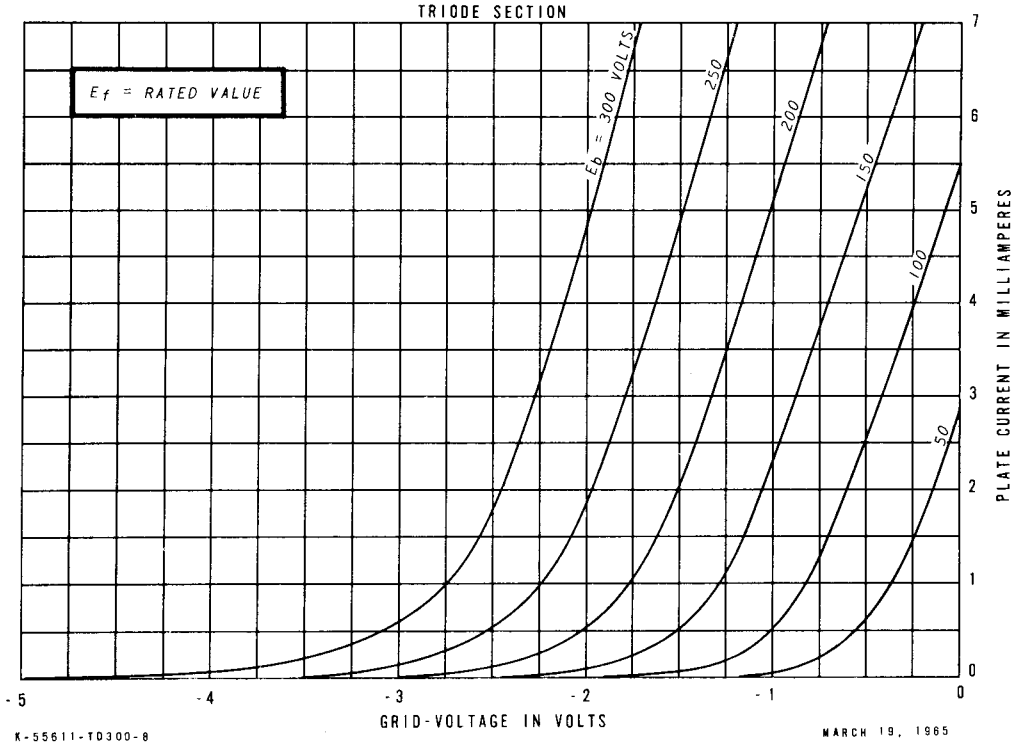
AVERAGE PLATE CHARACTERISTICS



K-55611-TD300-7

MARCH 19, 1965

AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD300-8

MARCH 19, 1965

AVERAGE CHARACTERISTICS