

### MECHANICAL DATA

Bulb . . . . .	T-6 1/2
Base . . . . .	E9-1, Small Button, 9-Pin
Outline . . . . .	6-3
Basing . . . . .	9EF
Cathode . . . . .	Coated Unipotential
Mounting Position . . . . .	Any

### ELECTRICAL DATA

#### HEATER CHARACTERISTICS

	6CS7	8CS7	
Heater Voltage . . . . .	6.3	8.4 Volts	
Heater Current . . . . .	600	450 Ma	
Heater Warm-up Time <sup>1</sup> . . . . .	11	11 Seconds	
Heater-Cathode Voltage (Design Center Values)			
Heater Negative with Respect to Cathode			
Total DC and Peak . . . . .	200	200 Volts	Max.
Heater Positive with Respect to Cathode			
DC . . . . .	100	100 Volts	Max.
Total DC and Peak . . . . .	200	200 Volts	Max.

#### DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

	Section 1 <sup>2</sup>	Section 2
Grid to Plate . . . . .	2.6	2.6 $\mu\text{mf}$
Input: g to (k+h+ I.S.) . . . . .	1.8	3.0 $\mu\text{mf}$
Output: p to (k+h+ I.S.) . . . . .	0.5	0.5 $\mu\text{mf}$

#### RATINGS (Design Center Values—Except as Noted)

##### Vertical Deflection Oscillator and Amplifier<sup>3</sup>

	Section 1 <sup>2</sup> (Oscillator)	Section 2 (Amplifier)	
DC Plate Voltage . . . . .	500	500 Volts	Max.
Peak Positive Pulse Plate Voltage (Abs. Max.) . . . . .		2200 Volts	
Plate Dissipation <sup>4</sup> . . . . .	1.25	6.5 Watts	Max.
Peak Negative Pulse Grid Voltage . . . . .	400	250 Volts	Max.
Average Cathode Current . . . . .	20	30 Ma	Max.
Peak Cathode Current . . . . .	70	105 Ma	Max.
Grid Circuit Resistance . . . . .	2.2	2.2 Megohm.	Max.

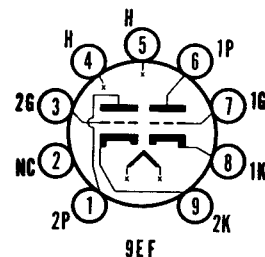
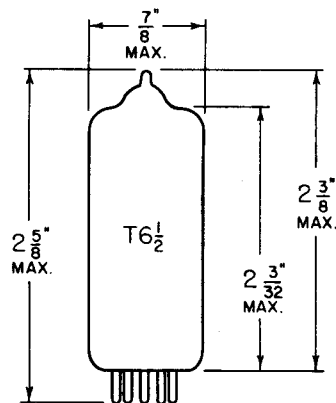
#### CHARACTERISTICS AND TYPICAL OPERATION

	Section 1 <sup>2</sup>	Section 2
Plate Voltage . . . . .	250	250 Volts
Grid Voltage . . . . .	-8.5	-10.5 Volts
Plate Current . . . . .	10.5	19.0 Ma
Transconductance . . . . .	2200	4500 $\mu\text{mhos}$
Amplification Factor . . . . .	17.0	15.5
Plate Resistance . . . . .	7700	3450 Ohms
Plate Current at $E_c = -16$ Volts . . . . .		3.0 Ma
Grid Voltage for $I_b = 10 \mu\text{a}$ . . . . .	-24	Volts
Grid Voltage for $I_b = 50 \mu\text{a}$ . . . . .		-22 Volts

### QUICK REFERENCE DATA

The Sylvania Types 6CS7 and 8CS7 are miniature double triodes having dissimilar sections. Section No. 1 is intended for operation as a vertical deflection oscillator and Section No. 2 as a vertical deflection amplifier.

Types 6CS7 and 8CS7 have controlled heater warm-up time for series string operation.



**SYLVANIA ELECTRIC  
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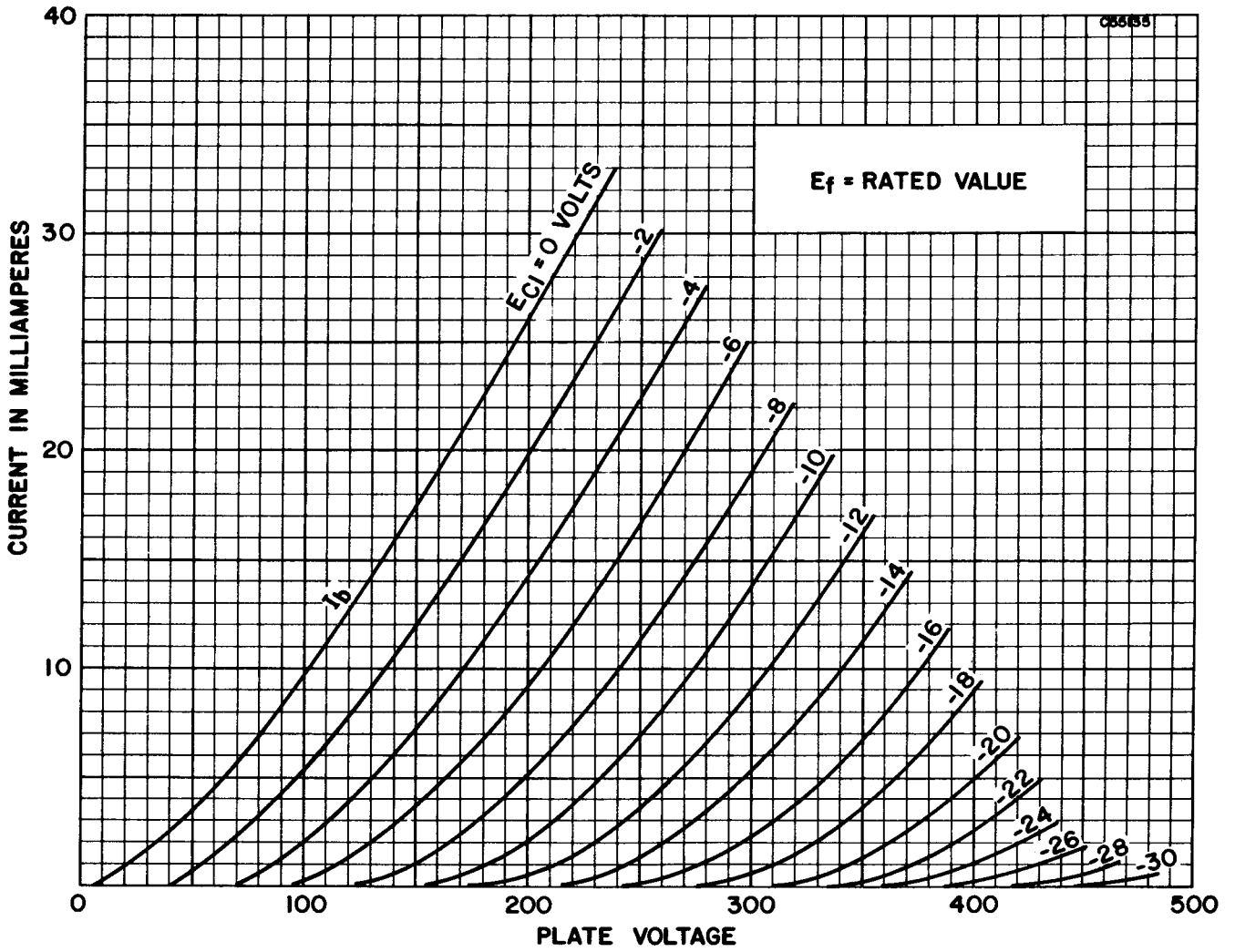
FEBRUARY, 1957

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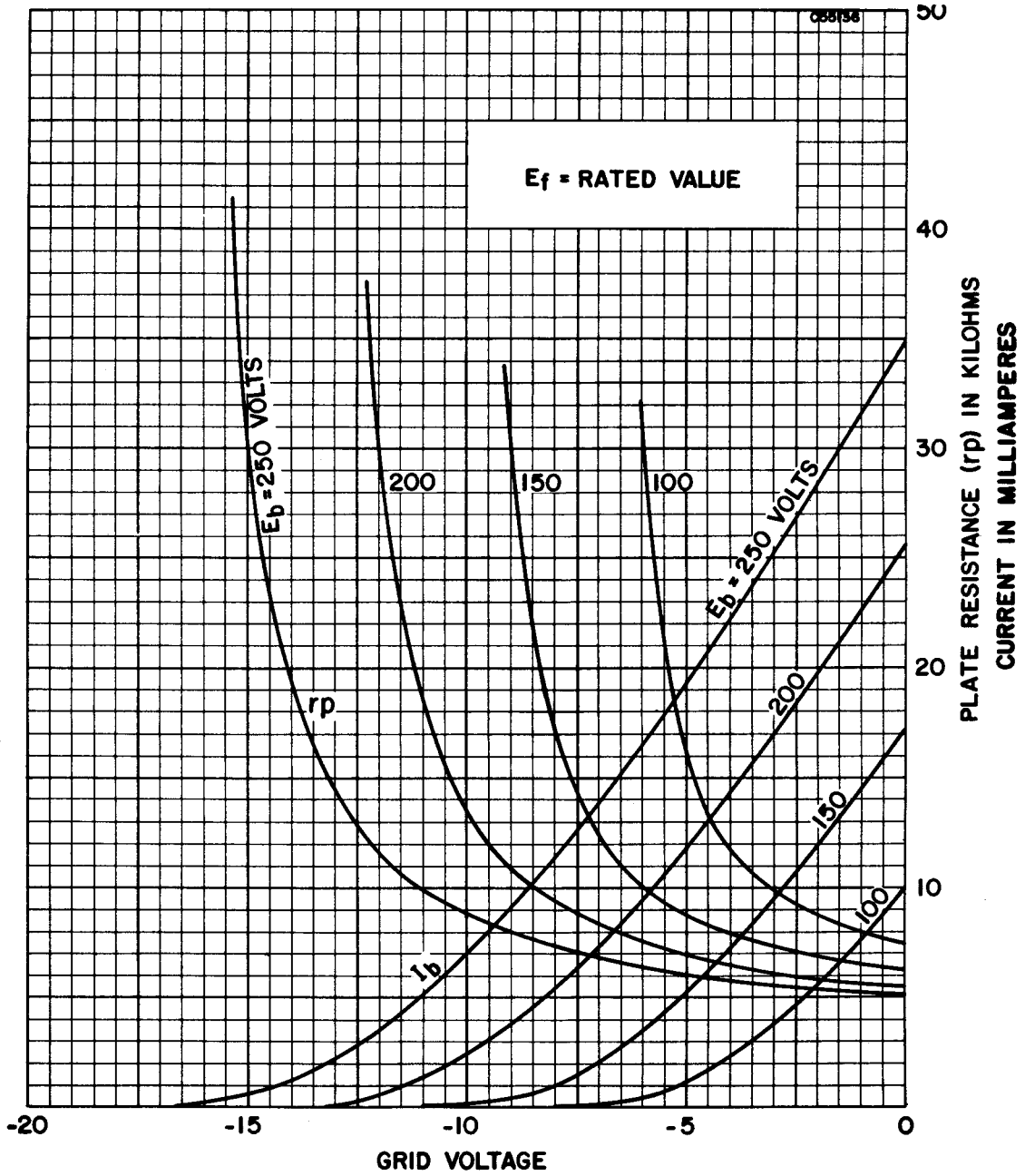
**NOTES:**

1. *Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.*
2. *Section 1 connects to pins 6, 7 and 8. Section 2 connects to pins 1, 3 and 9.*
3. *For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations; Federal Communications Commission." The duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.*
4. *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.*

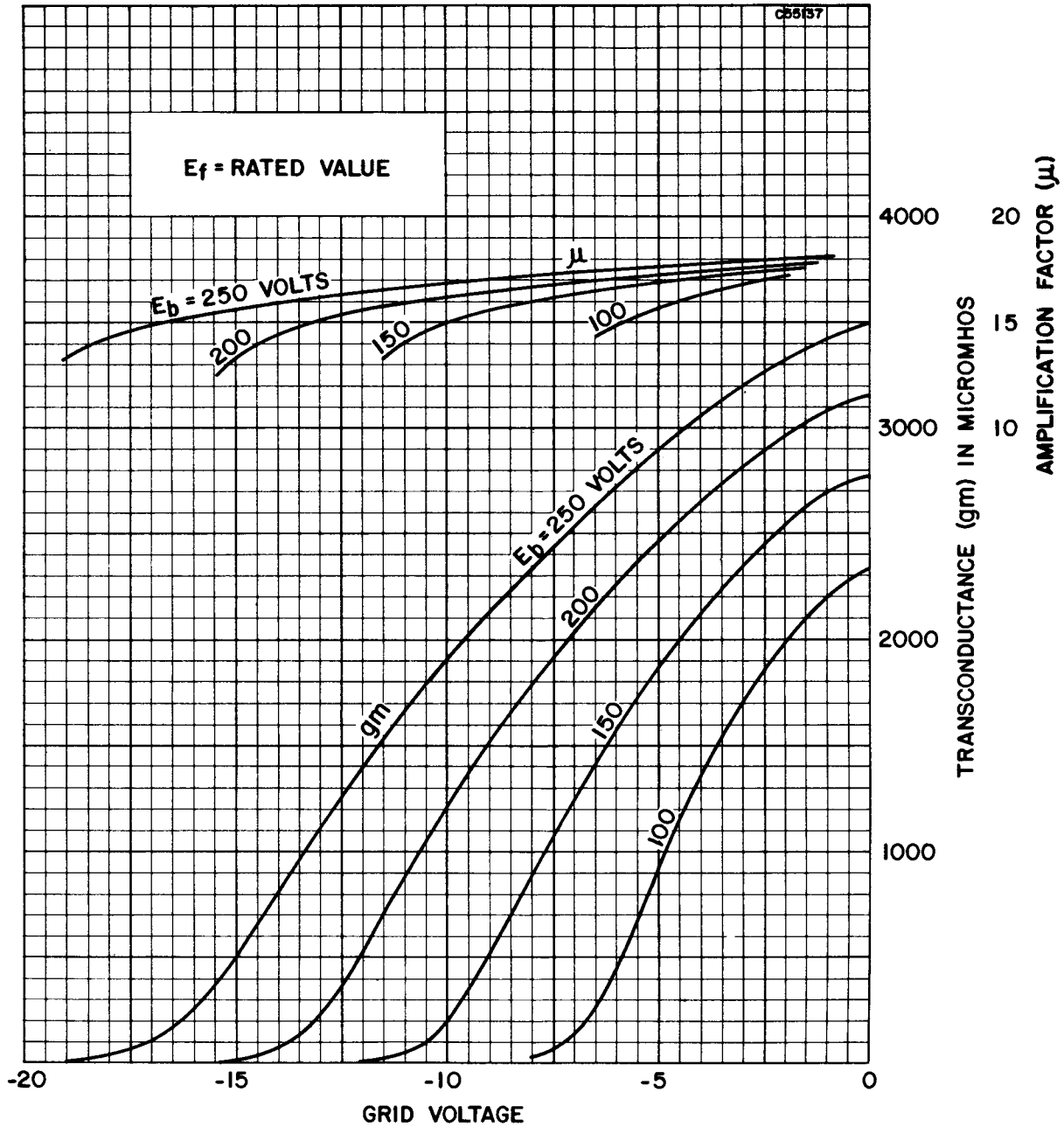
AVERAGE PLATE CHARACTERISTICS  
(SECTION No. 1)



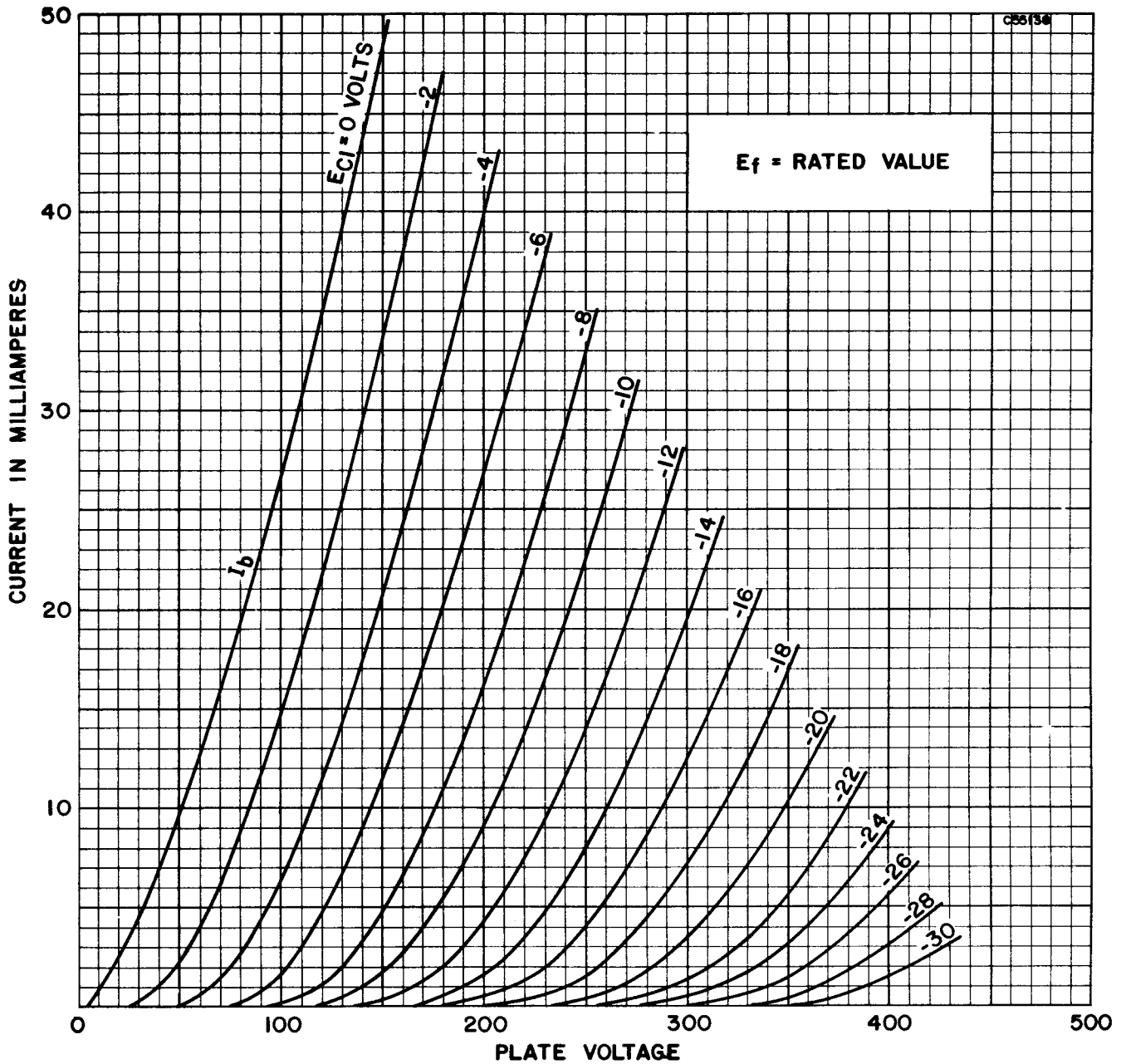
AVERAGE TRANSFER CHARACTERISTICS  
(SECTION No. 1)



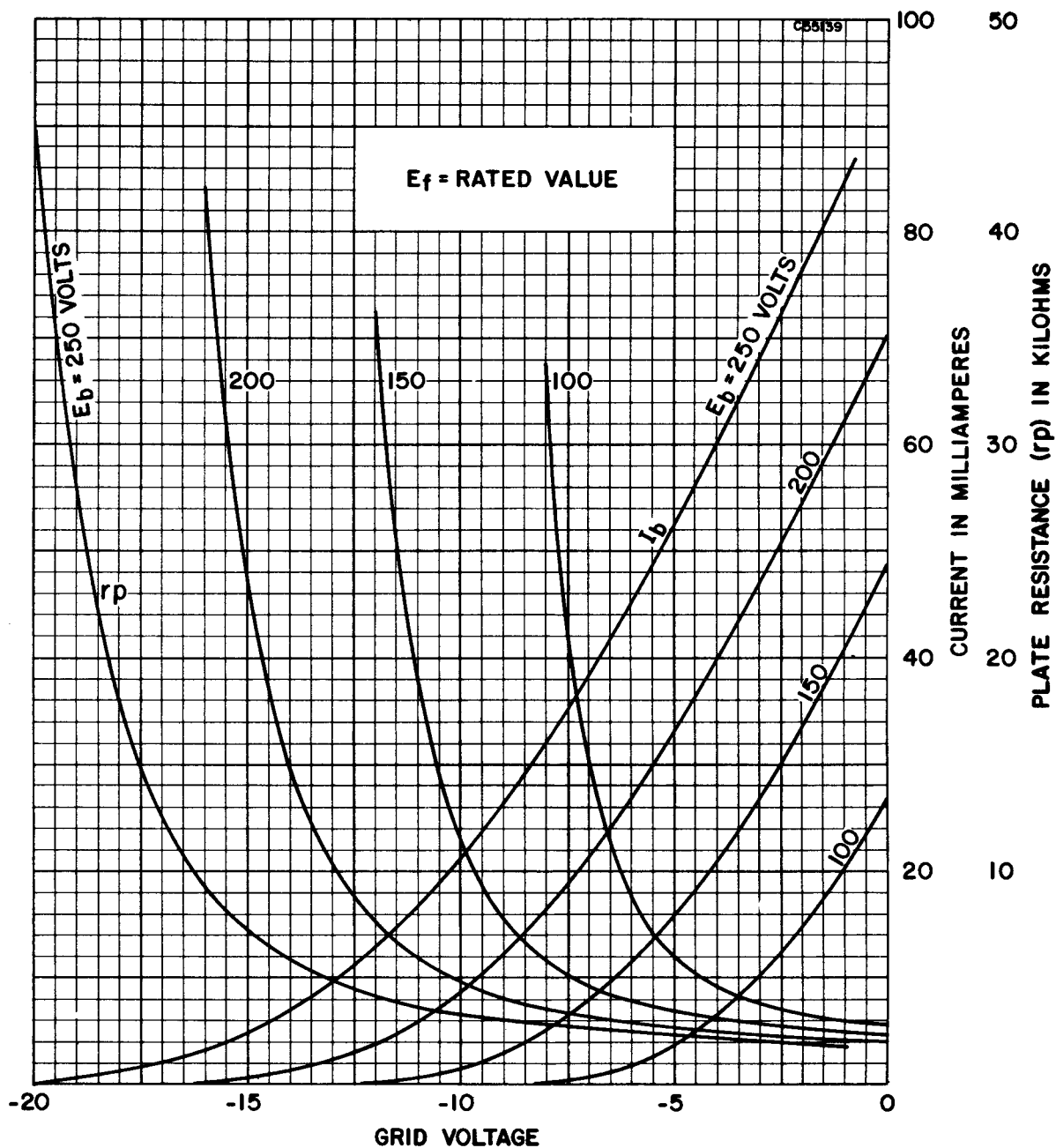
AVERAGE TRANSFER CHARACTERISTICS  
(SECTION No. 1)



AVERAGE PLATE CHARACTERISTICS  
(SECTION No. 2)



AVERAGE TRANSFER CHARACTERISTICS  
(SECTION No. 2)



AVERAGE TRANSFER CHARACTERISTICS  
 (SECTION No. 2)

