

### MECHANICAL DATA

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

### ELECTRICAL DATA

#### HEATER CHARACTERISTICS

	6BA8A	8BA8A	
Heater Voltage . . . . .	6.3	8.4 Volts	
Heater Current . . . . .	600	450 Volts	
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

Triode	Shielded <sup>2</sup>	Unshielded
Grid to plate: (g to p) . . . . .	2.2	2.2 $\mu\mu\text{f}$
Input: g to (h + k) . . . . .	2.7	2.5 $\mu\mu\text{f}$
Output: p to (h + k) . . . . .	1.9	0.4 $\mu\mu\text{f}$
<b>Pentode</b>		
Grid to plate: (g1 to p) . . . . .	0.03	0.04 $\mu\mu\text{f}$
Input: g1 to (h+k+g2+g3+ I.S.) . . . . .	10.0	10.0 $\mu\mu\text{f}$
Output: p to (h+k+g2+g3+ I.S.) . . . . .	4.5	3.6 $\mu\mu\text{f}$
<b>Coupling</b>		
Pentode Grid No. 1 to Triode Plate . . . . .	0.003	0.006 $\mu\mu\text{f}$
Pentode Plate to Triode Grid . . . . .	0.006	0.016 $\mu\mu\text{f}$
Pentode Plate to Triode Plate . . . . .	0.023	0.150 $\mu\mu\text{f}$

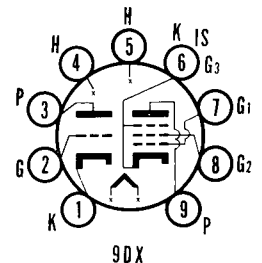
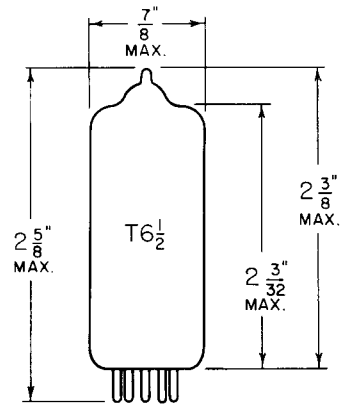
#### RATINGS (Design Center Values)

	Triode	Pentode	
Plate Voltage . . . . .	300	300 Volts	Max.
Grid No. 2 Supply Voltage . . . . .		300 Volts	Max.
Grid No. 2 Voltage . . . . .	See Rating Chart		
Plate Dissipation . . . . .	2.0	3.25 Watts	Max.
Grid No. 2 Dissipation . . . . .		1.0 Watt	Max.
Negative Grid No. 1 Voltage . . . . .		50 Volts	Max.
Positive Grid No. 1 Voltage . . . . .		0 Volts	Max.
Grid No. 1 Circuit Resistance			
Fixed Bias . . . . .	0.5	0.25 Megohm	Max.
Self Bias . . . . .	1.0	1.0 Megohm	Max.

### QUICK REFERENCE DATA

The Sylvania Type 6BA8A is a miniature, medium mu triode and sharp cutoff pentode. The triode section is intended for use as a sync separator and the pentode section as a video amplifier. The pentode section features a controlled plate knee characteristic. The 6BA8A incorporates a 600 ma heater and controlled heater warm-up time for operation in television receivers employing a series heater string.

The 8BA8A is identical to the 6BA8A except for heater characteristics.



**SYLVANIA ELECTRIC PRODUCTS INC.**  
**RADIO TUBE DIVISION**  
**EMPORIUM, PA.**

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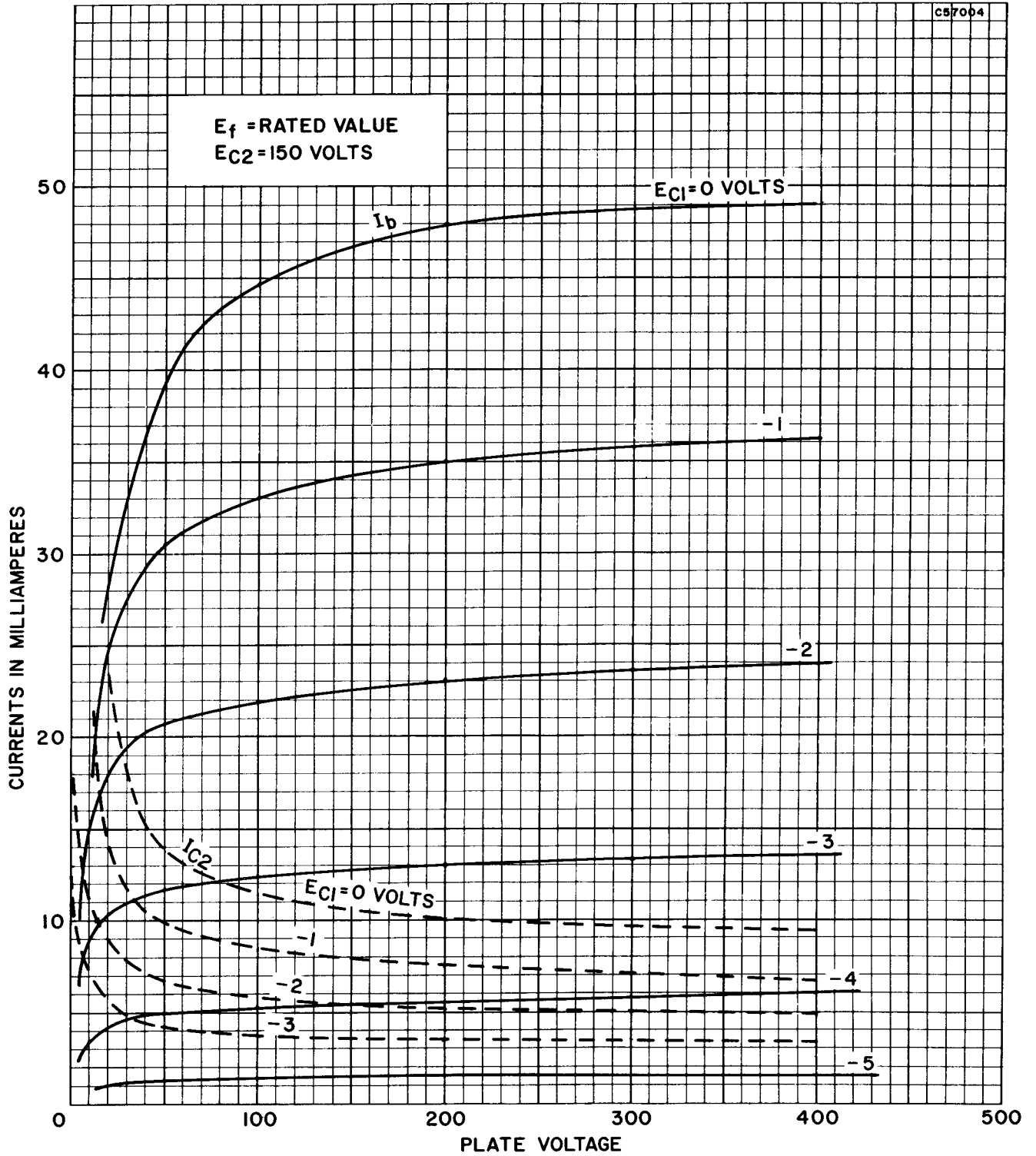
**CHARACTERISTICS AND TYPICAL OPERATION**

<b>Class A<sub>1</sub> Amplifier</b>	<b>Triode</b>	<b>Pentode</b>
Plate Voltage . . . . .	200	200 Volts
Grid No. 2 Voltage . . . . .		150 Volts
Grid No. 1 Voltage . . . . .	-8	0 Volts
Cathode Bias Resistor . . . . .		180 Ohms
Plate Current . . . . .	8.0	13 Ma
Grid No. 2 Current . . . . .		3.5 Ma
Transconductance . . . . .	2700	9000 $\mu$ mhos
Amplification Factor . . . . .	18	
Plate Resistance (approx.) . . . . .	6700	400,000 Ohms
Grid No. 1 Voltage for $I_b = 10 \mu a$ (approx.) . . . . .	-16	-10 Volts
Zero Bias: With $E_b = 65 V$ , and $E_{c2} = 150 V$ ; (Instantaneous Values)		
Plate Current . . . . .		42 Ma
Grid No. 2 Current . . . . .		12.5 Ma

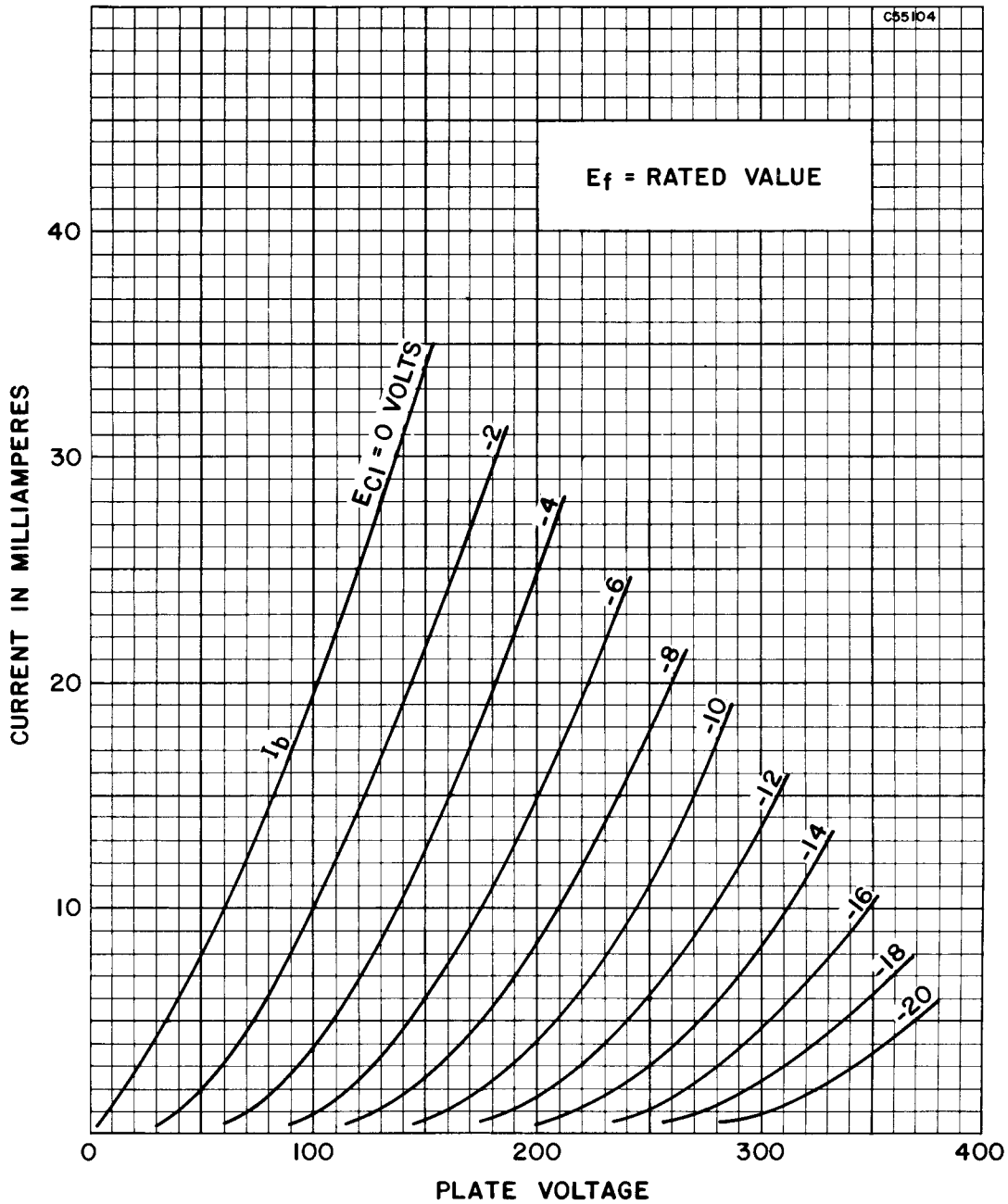
**NOTES:**

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value 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 rated heater voltage divided by rated heater current.
2. Shield No. 315 tied to cathode base pin of section under test.

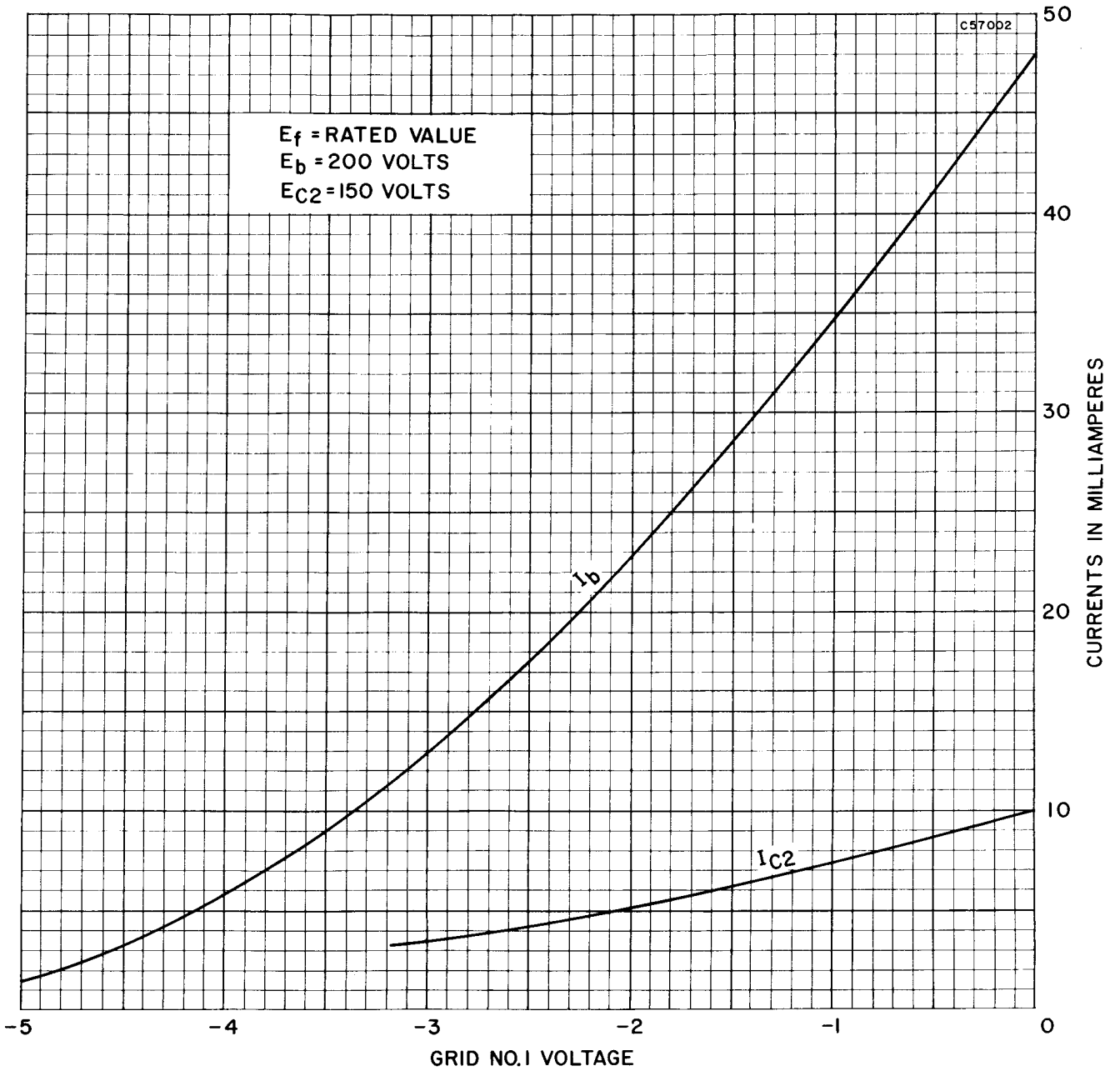
AVERAGE PLATE CHARACTERISTICS  
(PENTODE SECTION)



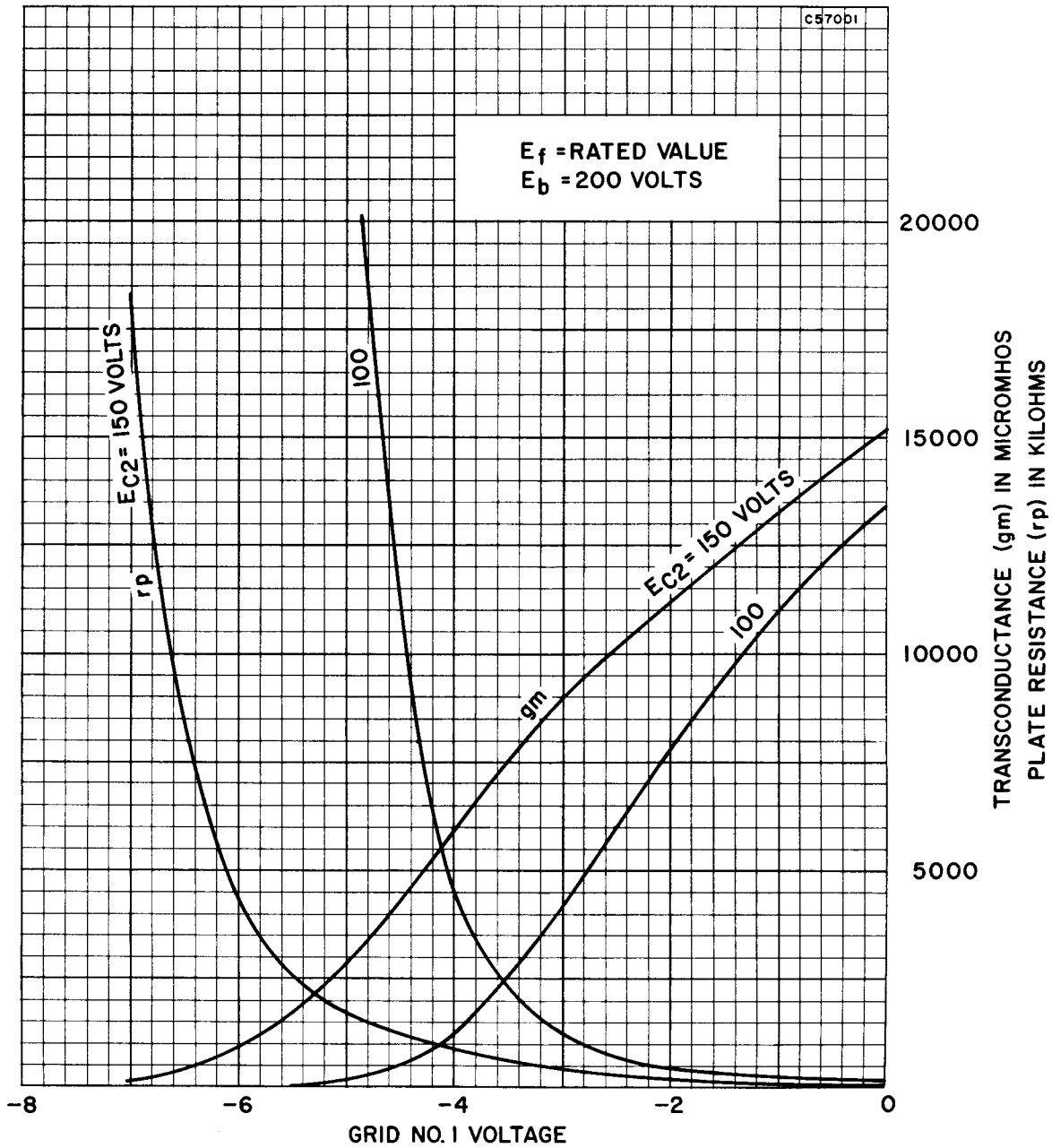
**AVERAGE PLATE CHARACTERISTICS**  
**(TRIODE SECTION)**



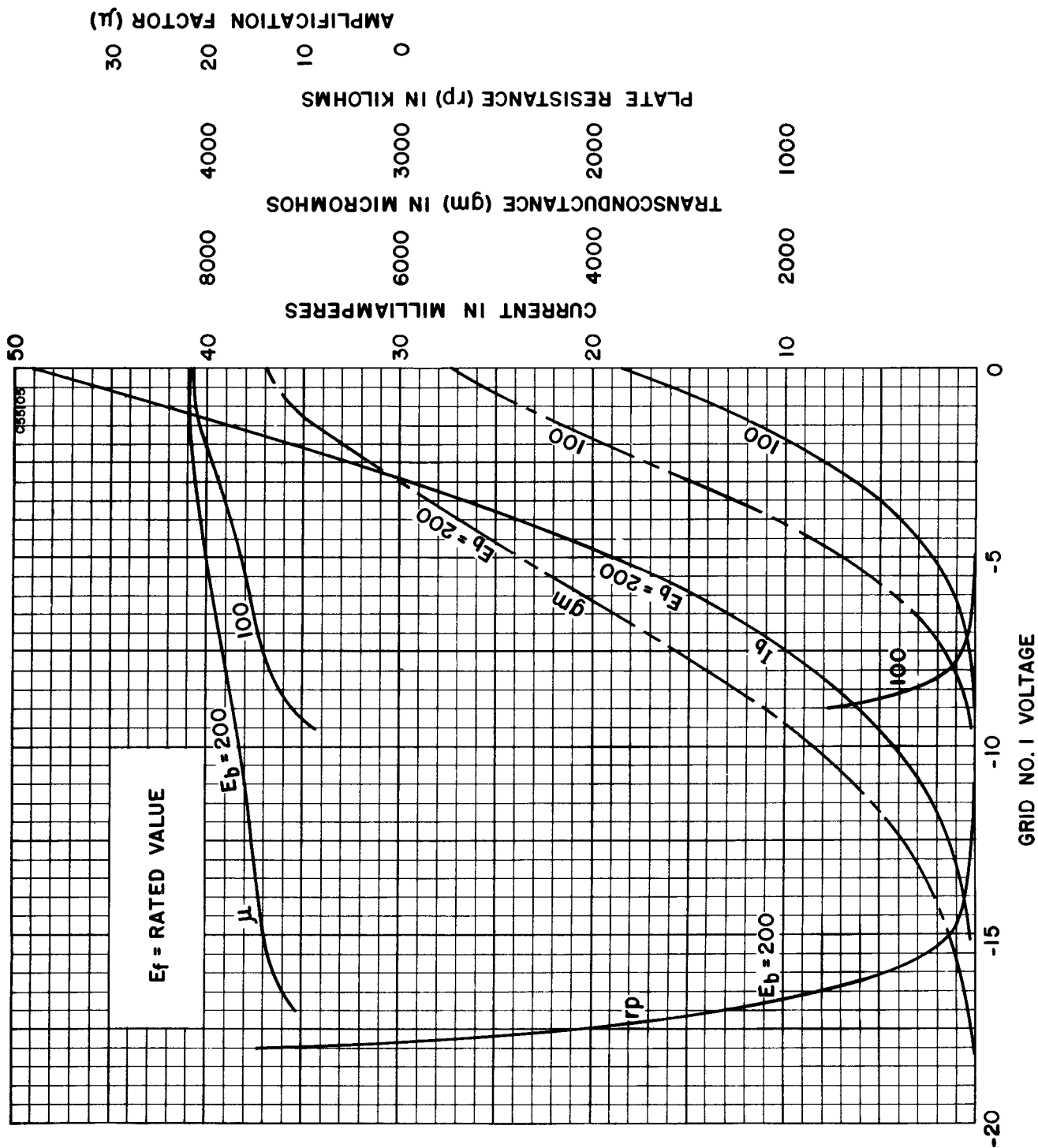
AVERAGE TRANSFER CHARACTERISTICS  
(PENTODE SECTION)



AVERAGE TRANSFER CHARACTERISTICS  
(PENTODE SECTION)



AVERAGE TRANSFER CHARACTERISTICS  
(TRIODE SECTION)



RATING CHART

