

**HUM CRITERIA**

The hum level at the plate averages 1.2 millivolts when used as a normal voltage amplifier with a stage gain of 340 and the 6.3 Vac heater supply balanced to ground for minimum hum.

The stage gain of 340 is obtained with a supply voltage of 250 volts, a plate resistor of 270,000 ohms, a grid No. 2 resistor of 680,000, a grid No. 1 resistor of 100,000 ohms, a cathode resistor (bypassed) of 1,000 ohms and a following stage loading resistor of 10 megohms. (Loading resistance of VTVM.)

By utilizing the R-C data specified, removal of the cathode bypass condenser will reduce the hum level at the plate to 0.9 millivolts and the stage gain to 110.

**MECHANICAL DATA**

Bulb . . . . .	T-5½
Base . . . . .	E7-1, Miniature Button 7-Pin
Outline . . . . .	5-2
Basing . . . . .	7BK
Cathode . . . . .	Coated Unipotential
Mounting Position . . . . .	Any

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

Heater Voltage . . . . .	6.3 Volts
Heater Current . . . . .	300 Ma
Heater-Cathode Voltage (Design-Center Values)	
Heater Negative with Respect to Cathode	
Total DC and Peak . . . . .	200 Volts Max.
Heater Positive with Respect to Cathode	
DC . . . . .	100 Volts Max.
Total DC and Peak . . . . .	200 Volts Max.

**DIRECT INTERELECTRODE CAPACITANCES**

	Shielded <sup>1</sup>	Unshielded	
Pentode Connection			
Grid No. 1 to Plate . . . . .	.0035	.0035 $\mu\mu\text{f}$	Max.
Input: g1 to (h+k+g <sup>2</sup> +g <sup>3</sup> +I.S.) . . . . .	5.5	5.5 $\mu\mu\text{f}$	
Output: p to (h+k+g <sup>2</sup> +g <sup>3</sup> +I.S.) . . . . .	5.0	50. $\mu\mu\text{f}$	
Triode Connection <sup>2</sup>			
Grid to Plate: g1 to (p+g <sup>2</sup> +g <sup>3</sup> +I.S.) . . . . .	2.6	2.6 $\mu\mu\text{f}$	
Input: g1 to (h+k) . . . . .	3.2	3.2 $\mu\mu\text{f}$	
Output: p+g <sup>2</sup> +g <sup>3</sup> +I.S. to (h+k) . . . . .	8.5	1.2 $\mu\mu\text{f}$	

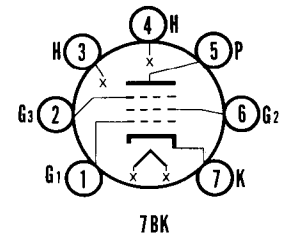
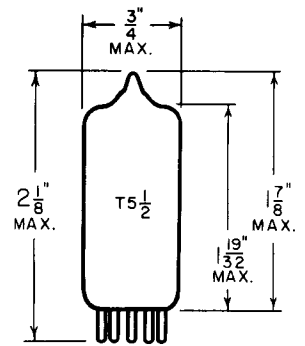
**RATINGS (Design-Center Values)**

	Triode Conn. <sup>2</sup>	Pentode Conn.	
Plate Voltage . . . . .	250	300 Volts	Max.
Grid No. 2 Supply Voltage . . . . .		300 Volts	Max.
Grid No. 2 Voltage . . . . .		See Rating Chart	
Plate Dissipation . . . . .	3.2	3.0 Watts	Max.
Grid No. 2 Dissipation . . . . .		0.65 Watts	Max.
Positive Grid No. 1 Voltage . . . . .	0	0 Volts	Max.

**QUICK REFERENCE DATA**

The Sylvania Type 7543 is designed to provide low hum, non-microphonic operation through the incorporation of a helical wound heater and rigid mounting of the internal components.

The 7543 is otherwise similar to, and a replacement for, the Type 6AU6.



**SYLVANIA ELECTRONIC TUBES**

A Division of Sylvania Electric Products Inc.

**RECEIVING TUBE OPERATIONS EMPORIUM, PA.**

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File Under RECEIVING TUBES

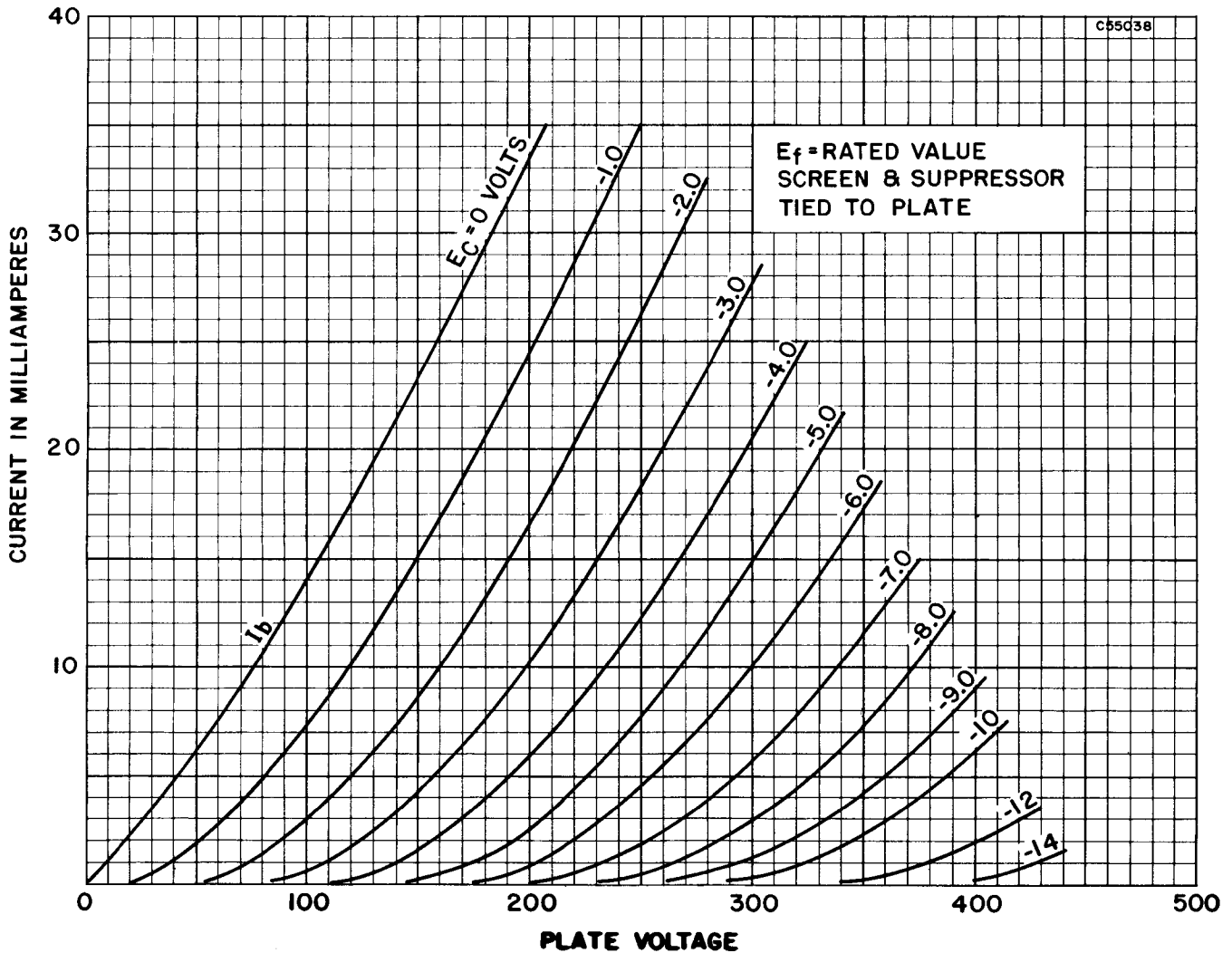
CHARACTERISTICS AND TYPICAL OPERATION

	Triode Connected <sup>2</sup>	Pentode Connected		
Plate Voltage . . . . .	250	100	250	250 Volts
Grid No. 3 Voltage . . . . .		Connected to Cathode at Socket		
Grid No. 2 Voltage . . . . .		100	125	150 Volts
Cathode Bias Resistor . . . . .	330	150	100	68 Ohms
Plate Current . . . . .	12.2	5.0	7.6	10.6 Ma
Grid No. 2 Current . . . . .		2.1	3.0	4.3 Ma
Transconductance . . . . .	4800	3900	4500	5200 $\mu$ mhos
Amplification Factor . . . . .	36			
Plate Resistance (Approx.) . . . . .		0.5	1.5	1.0 Megohms
E <sub>c</sub> for I <sub>b</sub> = 10 $\mu$ a (Approx.) . . . . .		-4.2	-5.5	-6.5 Volts

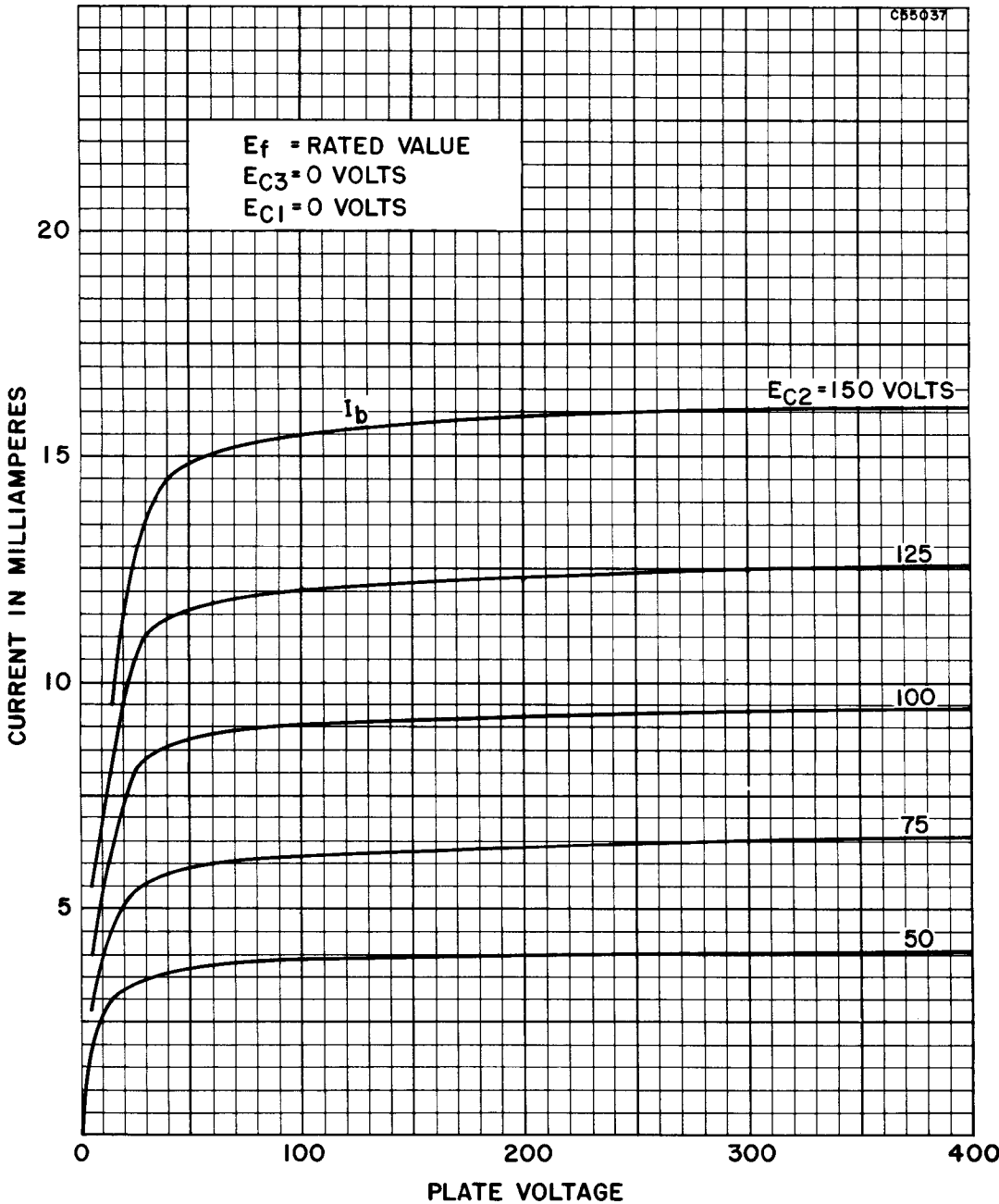
NOTES:

1. Shield No. 316 connected to Cathode Pin No. 7.
2. When operated as a triode Grid No. 2 and Grid No. 3 should be tied to the plate.

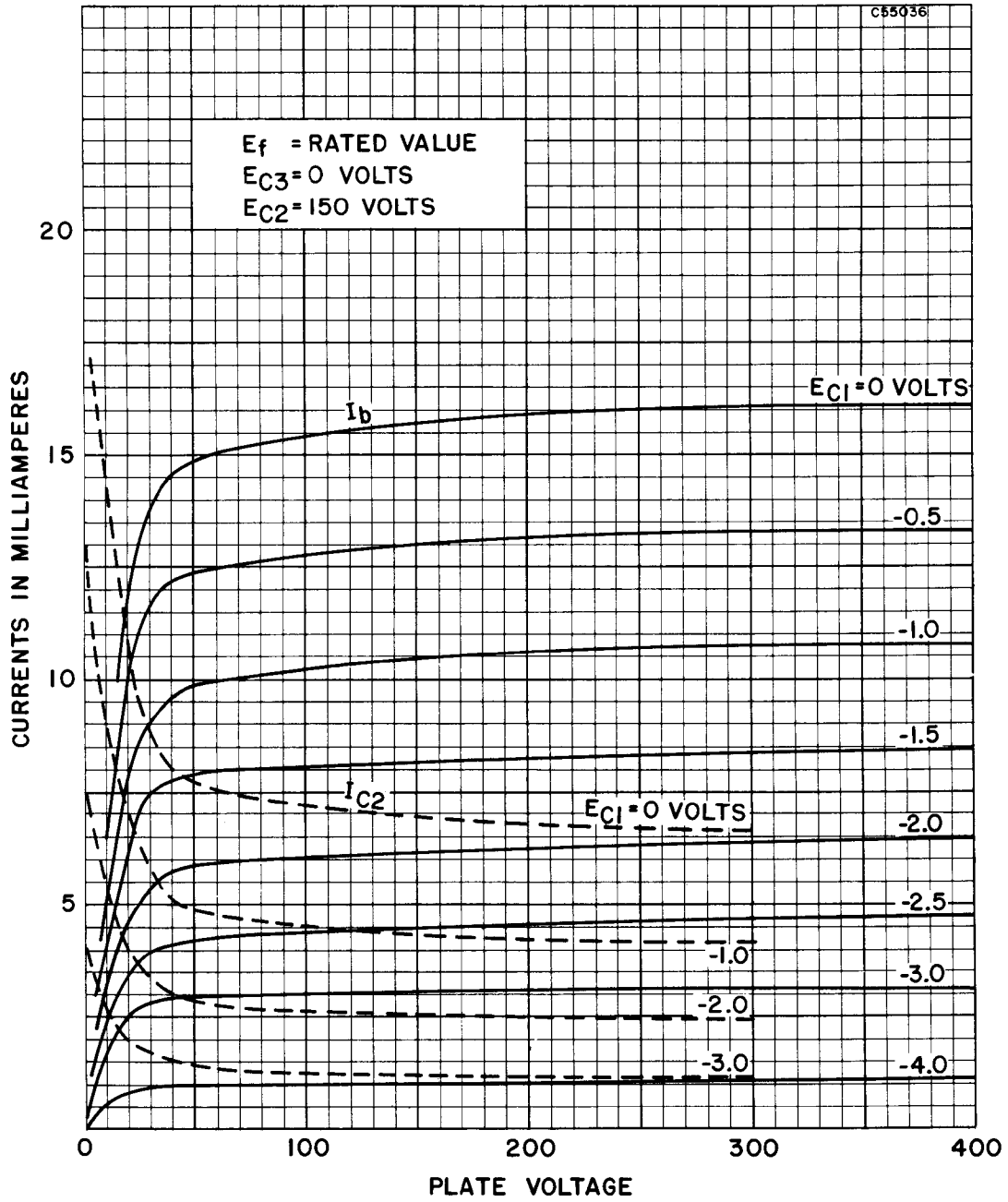
AVERAGE PLATE CHARACTERISTICS  
(Triode Connected)



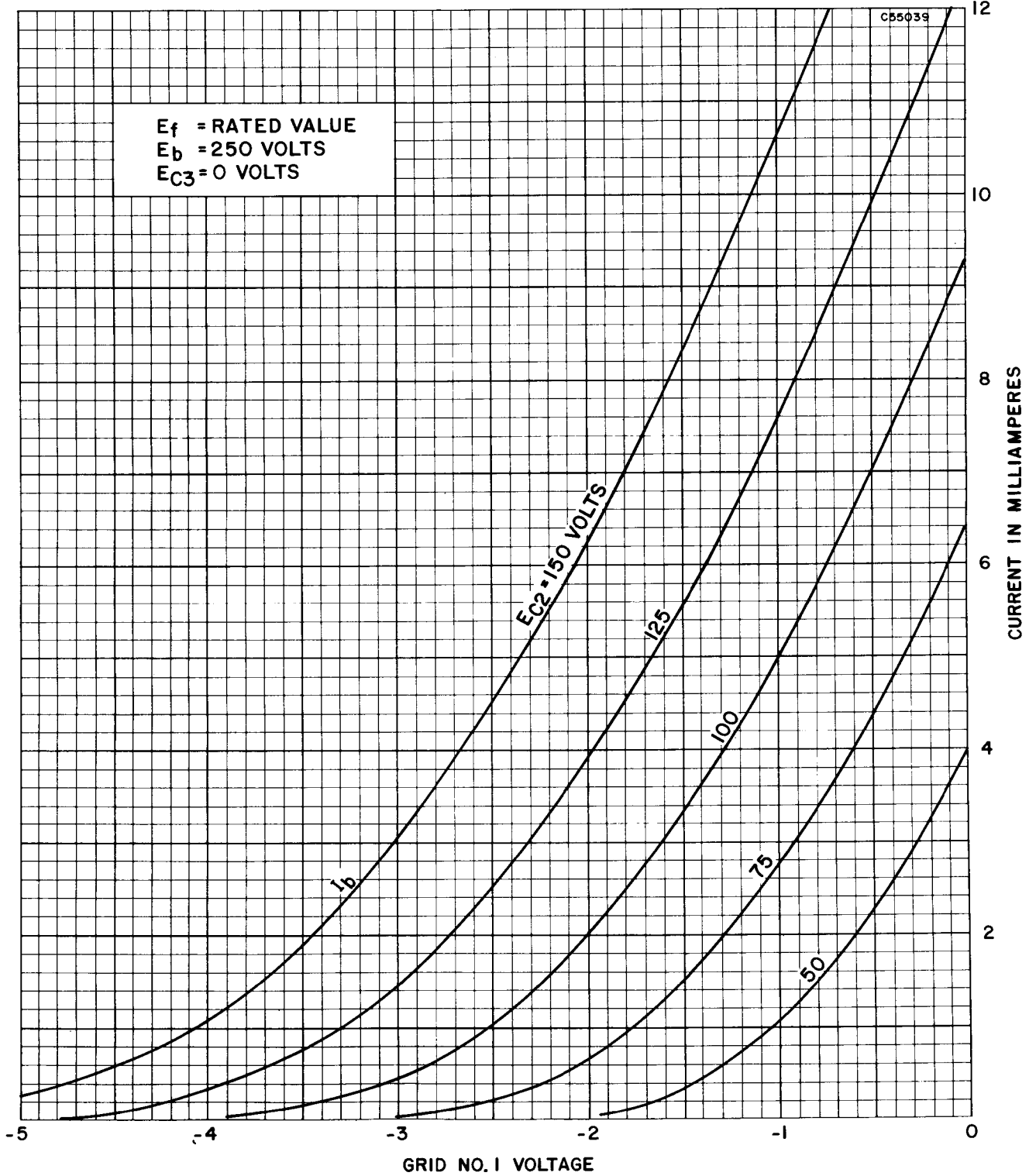
AVERAGE PLATE CHARACTERISTICS



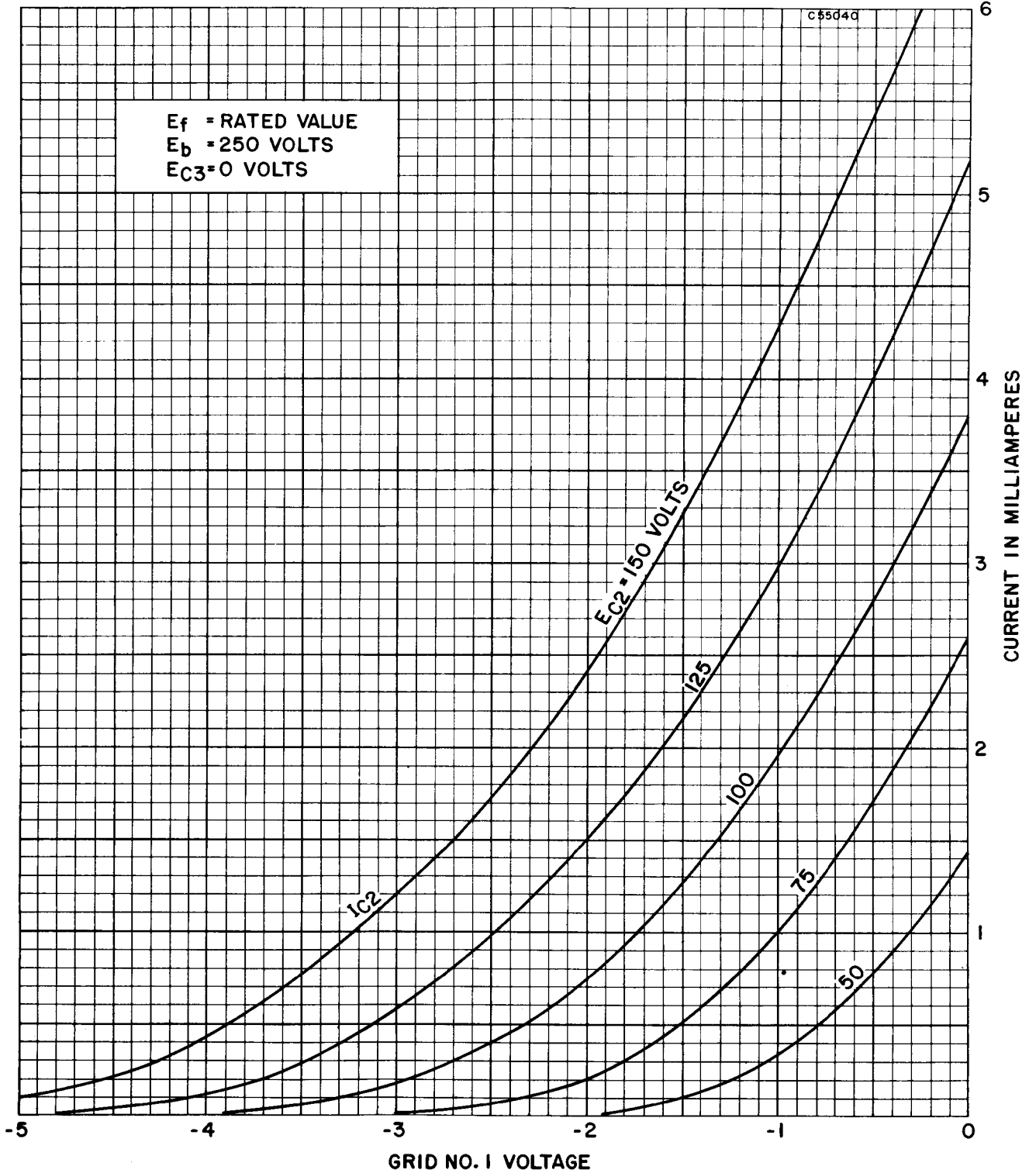
AVERAGE PLATE CHARACTERISTICS



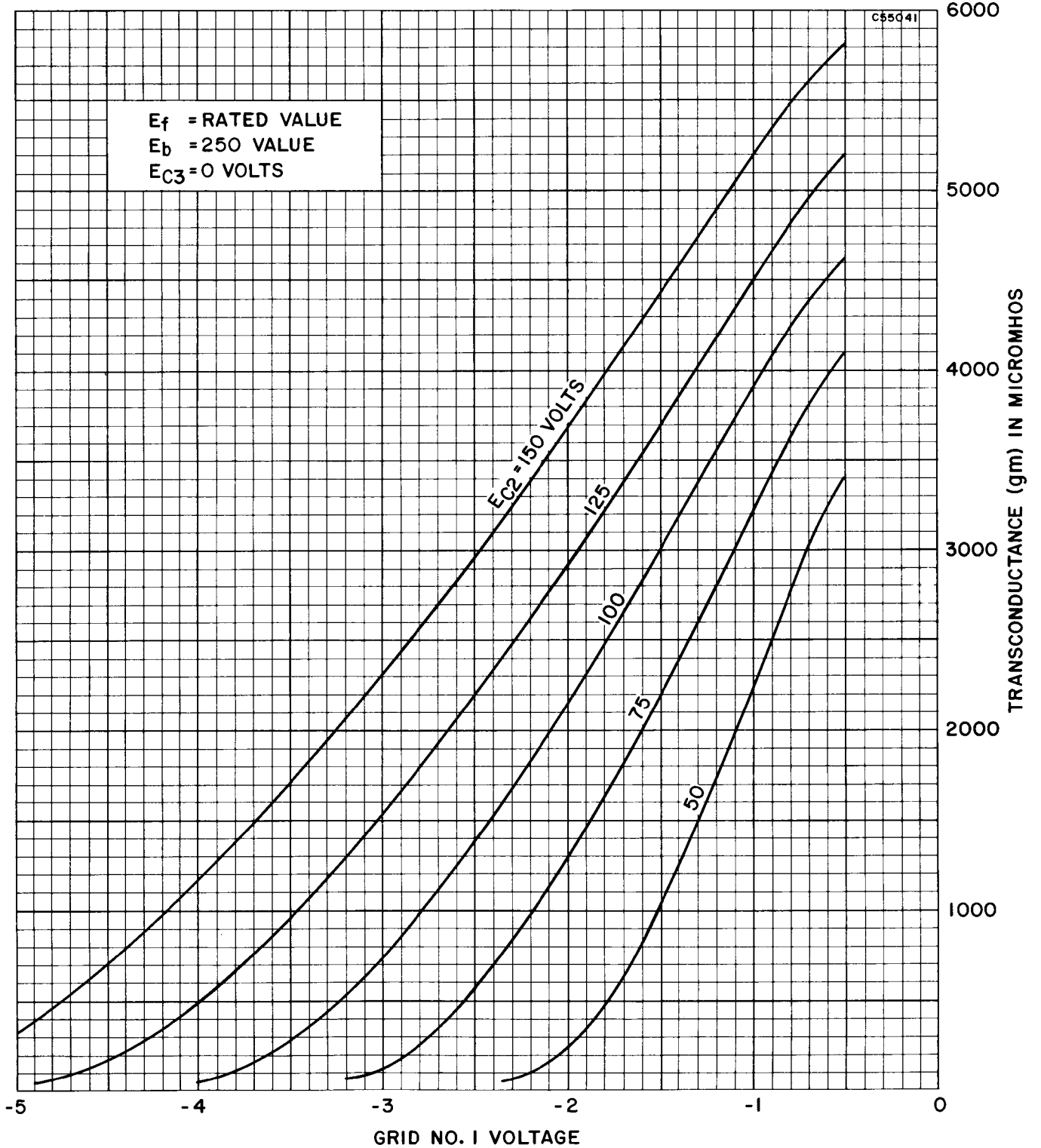
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



RATING CHART

