

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

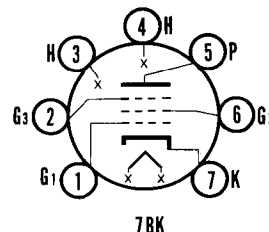
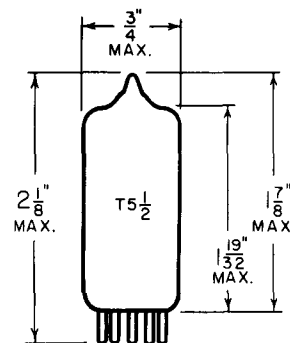
RATINGS (Design-Center Values)

	Triode Conn. ²	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

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RECEIVING TUBE OPERATIONS EMPORIUM, PA.

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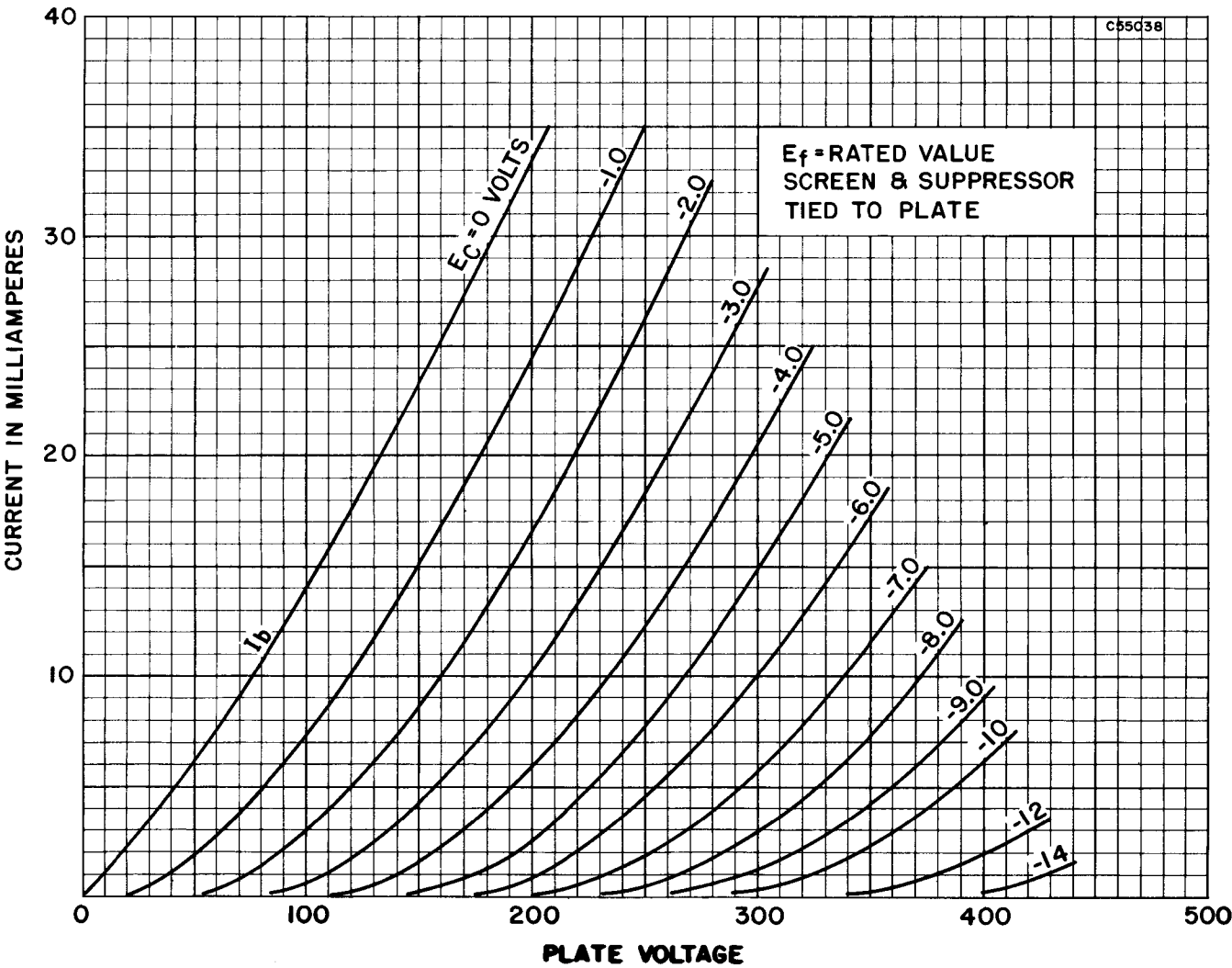
CHARACTERISTICS AND TYPICAL OPERATION

	Triode Connected ²	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 μ mhos
Amplification Factor	36			
Plate Resistance (Approx.)		0.5	1.5	1.0 Megohms
E _{c1} for I _b = 10 μ a (Approx.)		-4.2	-5.5	-6.5 Volts

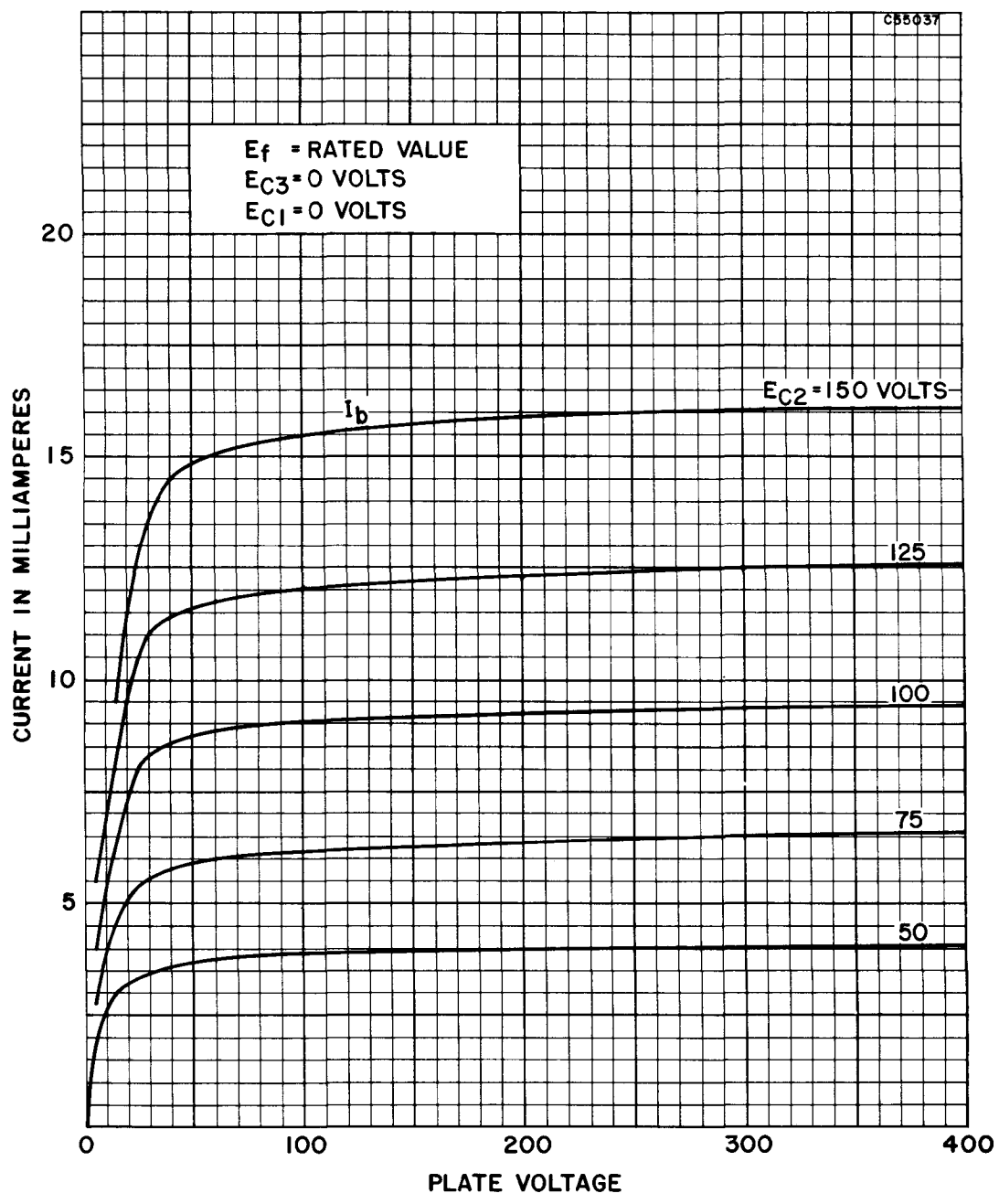
NOTES:

- 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.

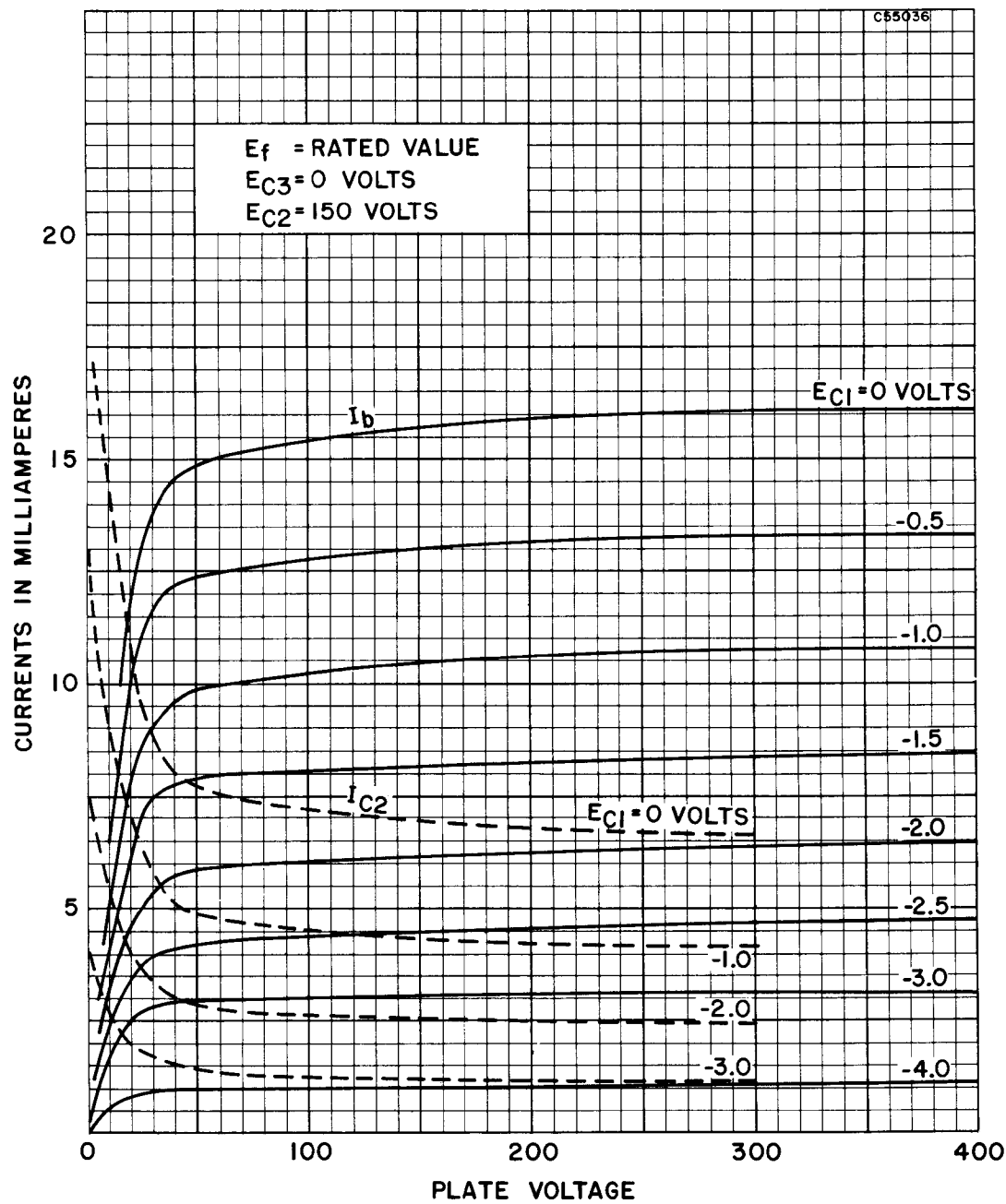
**AVERAGE PLATE CHARACTERISTICS
(Triode Connected)**



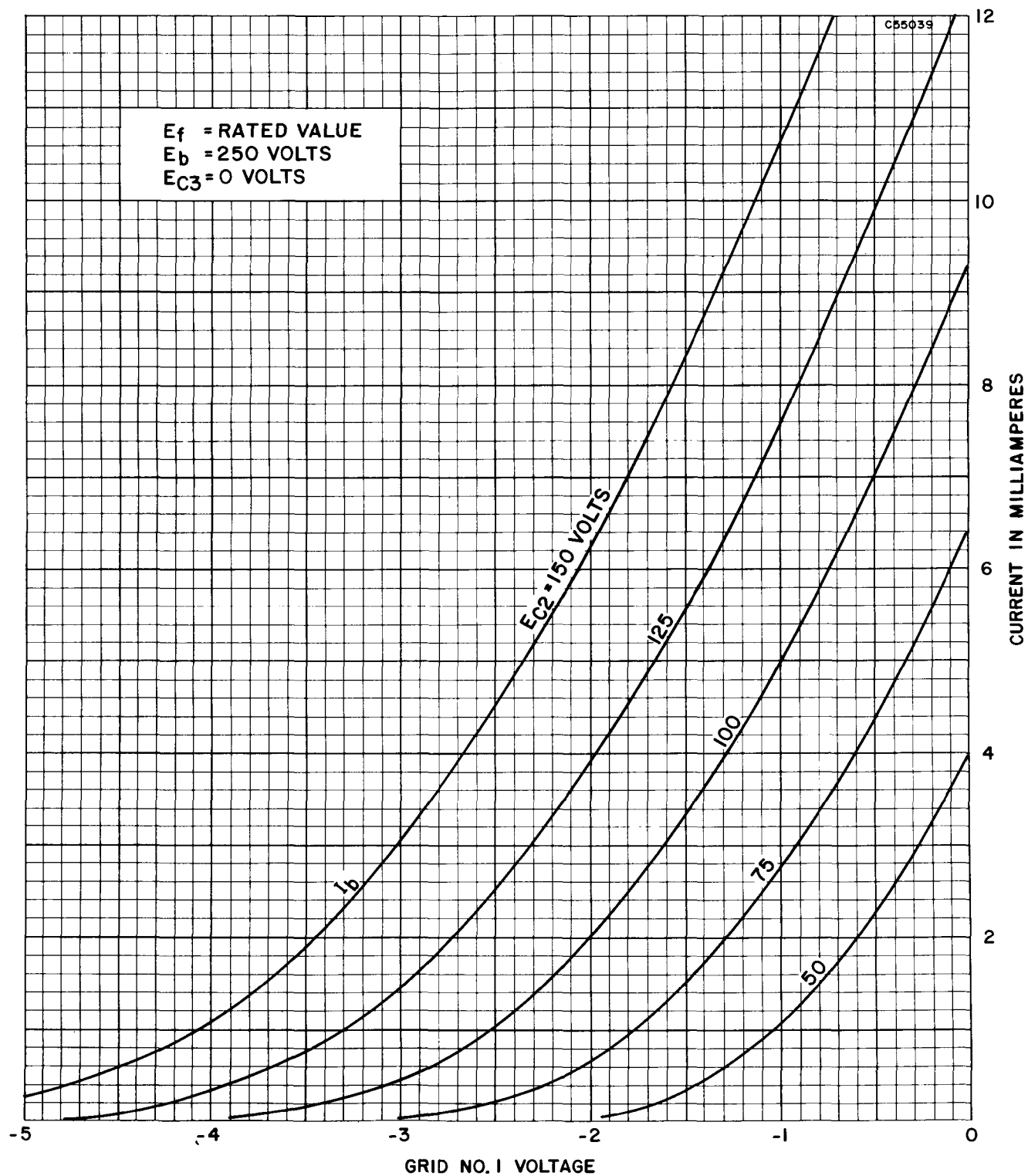
AVERAGE PLATE CHARACTERISTICS



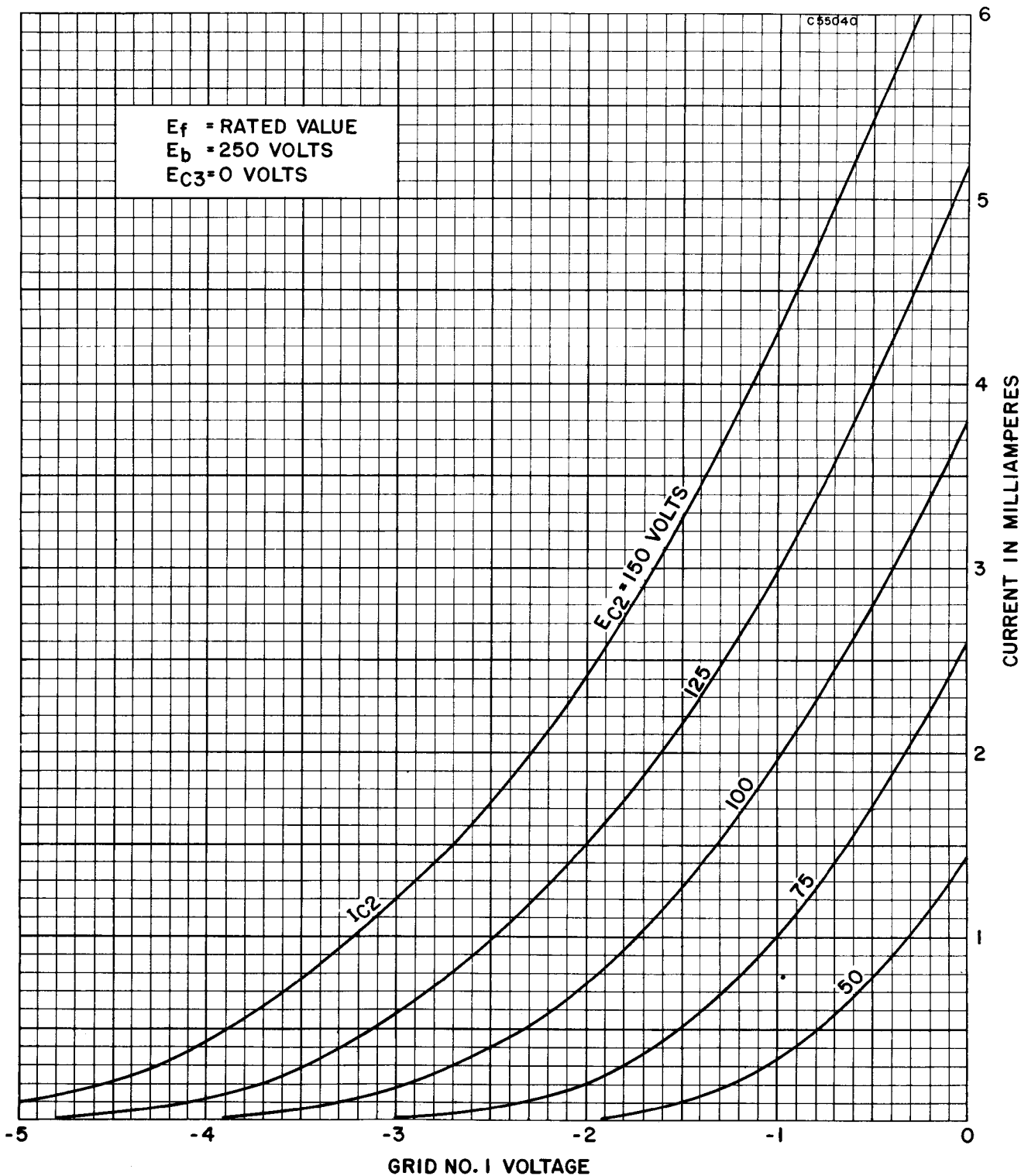
AVERAGE PLATE CHARACTERISTICS



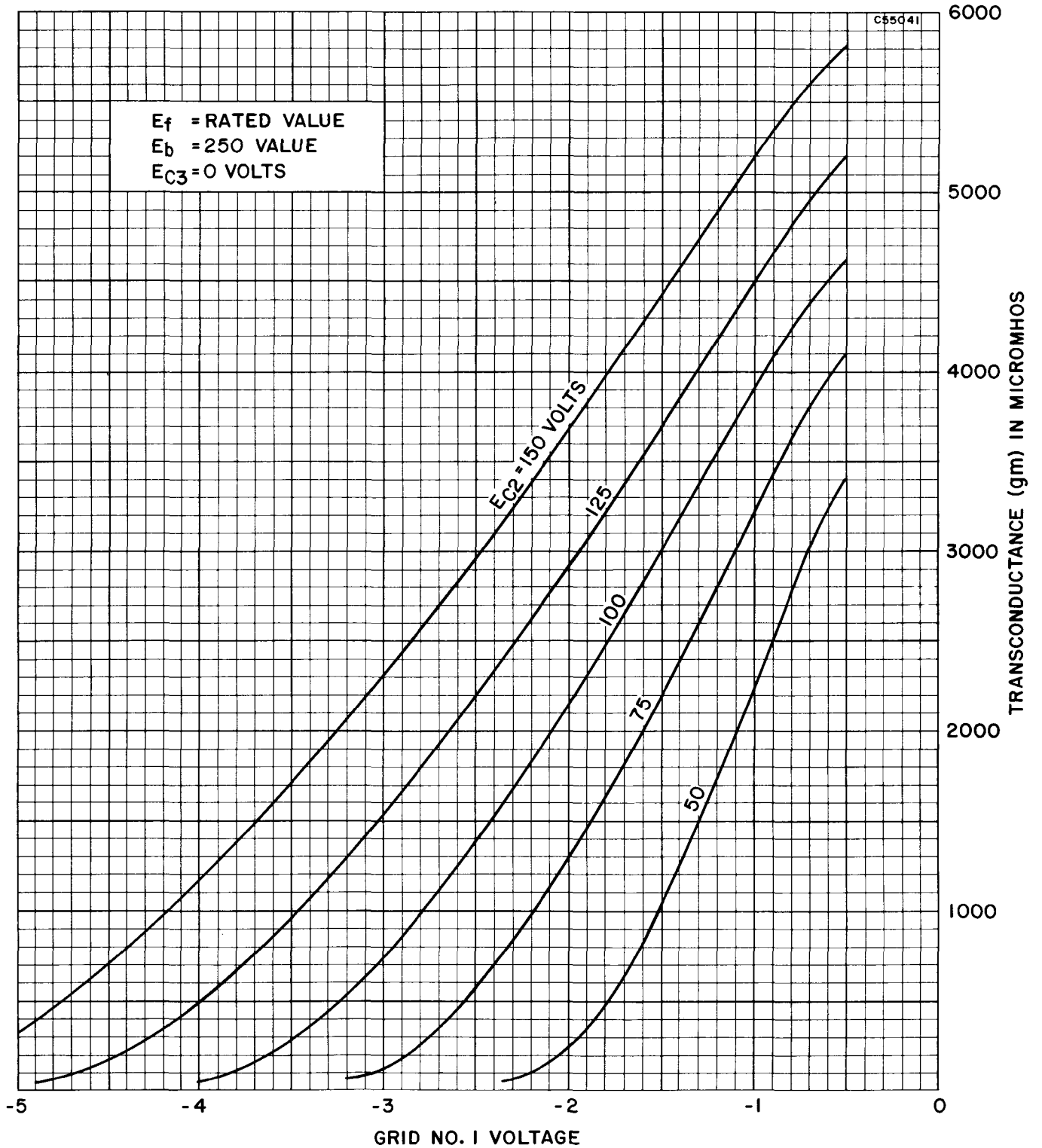
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



RATING CHART

