

MECHANICAL DATA

Bulb	T-6 $\frac{1}{2}$
Base	E9-1, Miniature Button 9-Pin
Outline	6-2
Basing	9EG
Cathode	Coated Unipotential
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

	5BE8	6BE8
Heater Voltage (A C or D C)	4.7	6.3 Volts
Heater Current	600	450 Ma
Heater Warm-up Time ¹	11	Seconds
Heater-Cathode Voltage (Design Center Values)		
Heater Negative with Respect to Cathode Total D C and Peak	200	200 Volts Max.
Heater Positive with Respect to Cathode D C	100	100 Volts Max.
Total D C and Peak	200	200 Volts Max.

DIRECT INTERELECTRODE CAPACITANCES (Approx.)

Triode

Grid to Plate (g to p)	1.8 μ f
Input: g to (k + pentode g ₃ + I.S. + h)	2.8 μ f
Output: p to (k + pentode g ₃ + I.S. + h)	1.5 μ f

Pentode

Grid to Plate (g ₁ to p)	0.040 μ f Max.
Input: g ₁ to (k + g ₂ + h)	4.4 μ f
Output: p to (k + g ₂ + g ₃ + triode k + I.S. + h)	2.6 μ f
Plate to (k + g ₂ + h)	0.30 μ f

Coupling

Triode Grid to Pentode Plate	0.010 μ f
Pentode Grid No. 1 to Triode Plate	0.009 μ f
Triode Plate to Pentode Plate	0.065 μ f

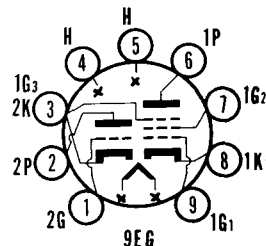
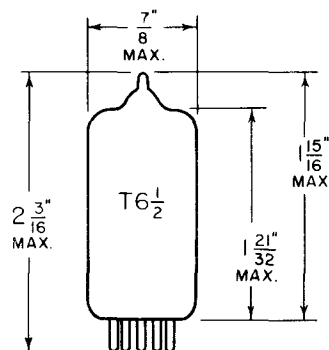
RATINGS (Design Center Values)

	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	2.5	2.8 Watts Max.
Grid No. 2 Dissipation		0.5 Watt Max.
Positive Grid No. 1 Voltage	0	0 Volts Max.
Grid No. 1 Circuit Resistance ²		
Fixed Bias	0.5	0.25 Megohm Max.
Self Bias	1.0	1.0 Megohm Max.

QUICK REFERENCE DATA

The Sylvania Type 6BE8 is a miniature, medium mu triode and sharp cutoff pentode intended for use as a vhf oscillator mixer. The basing is unique in that the pentode No. 3 grid and internal shield are connected to the triode cathode.

The 5BE8 employs controlled heater warm-up time for service in series string television receivers. Except for heater current and voltage the 5BE8 is identical to the 6BE8.



SYLVANIA ELECTRIC
PRODUCTS INC.

RADIO TUBE DIVISION
EMPORIUM, PA.

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA

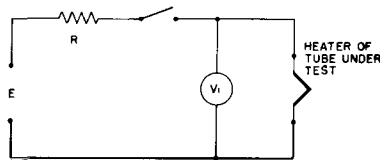
OCTOBER 1955
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CHARACTERISTICS AND TYPICAL OPERATION

Class A ₁ Amplifier ³	Triode	Pentode
Plate Voltage	150	250 Volts
Grid No. 2 Voltage		110 Volts
Grid No. 1 Voltage	0	0 Volts
Cathode Bias Resistor	56	68 Ohms
Amplification Factor	40	
Plate Resistance (approx.)	.005	0.4 Megohm
Transconductance	8500	5200 μ mhos
Plate Current	18	10 Ma
Grid No. 2 Current		3.5 Ma
Grid No. 1 Voltage (approx.) for I _b = 10 μ a	-12	-10 Volts

NOTES:

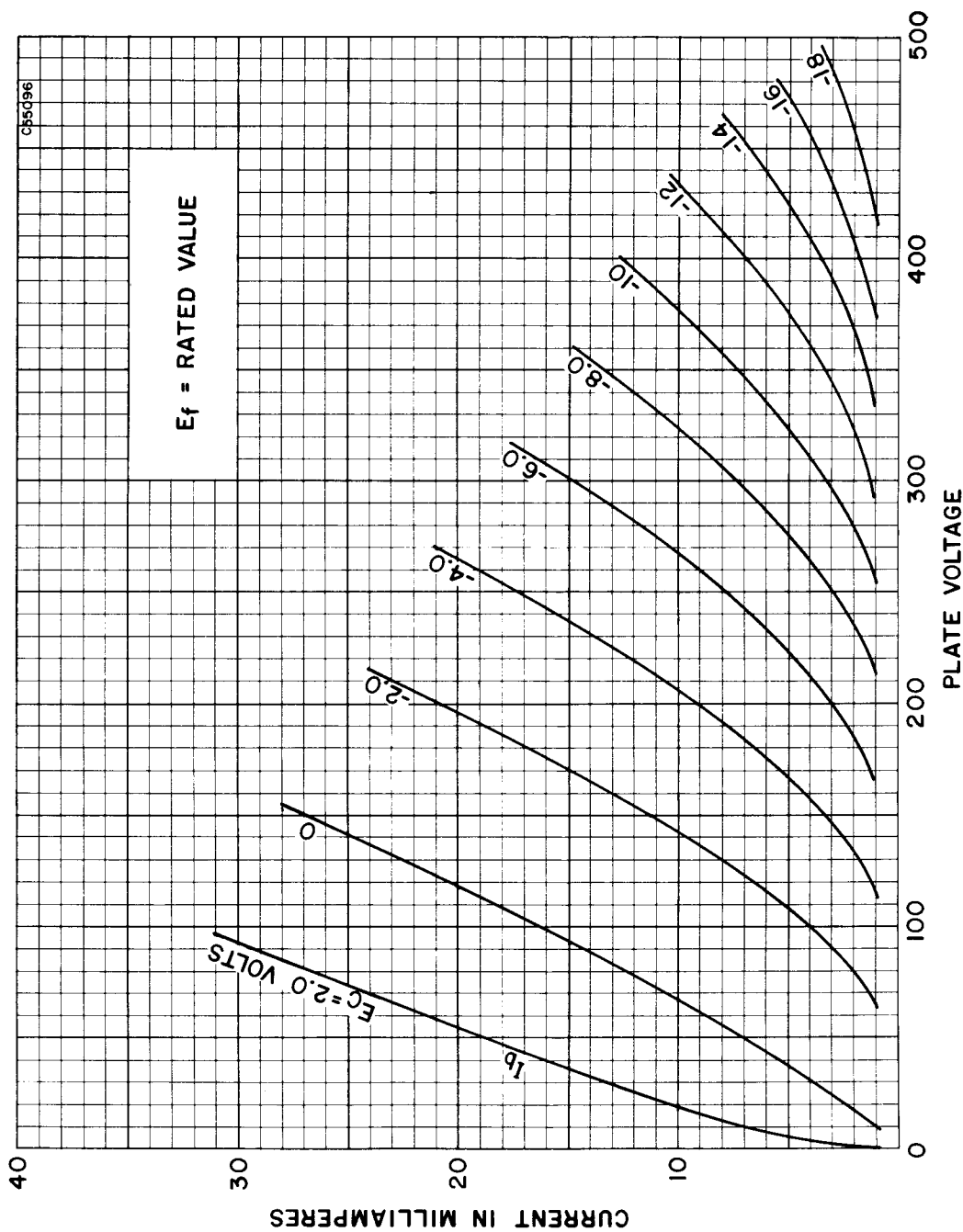
1. *Heater Warm-up Time* is defined as the time required in the circuit shown below for the voltage across the heater terminals to increase from zero to the heater test voltage (V1). The conditions used in conjunction with the test circuit depend upon the rated heater voltage and current of the tube under test. For this type: E = 18.8 Volts, R = 23.6 Ohms, V1 = 3.75 Volts.



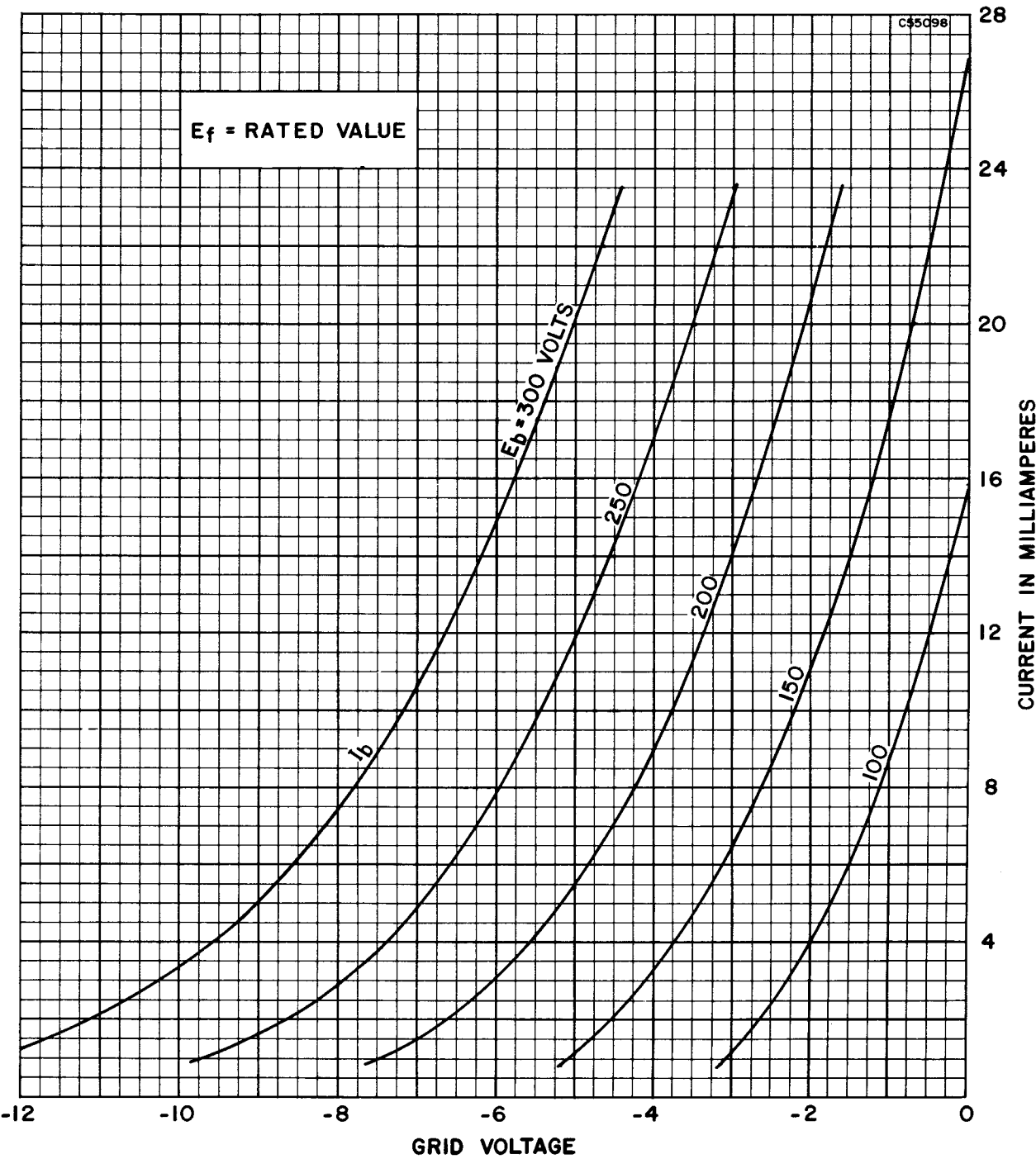
E — Applied Voltage, RMS or DC
R — Total Series Resistance
V1 — Heater Test Voltage, RMS or DC
(80% Rated Heater Voltage)

2. If either unit is operating at maximum rated conditions, Grid No. 1 Circuit Resistance for both units shall not exceed the stated values.
3. When reading characteristics of the pentode section all triode elements shall be at ground potential. Thus, because of internal connections to Pin No. 3, the pentode suppressor will also be at ground.

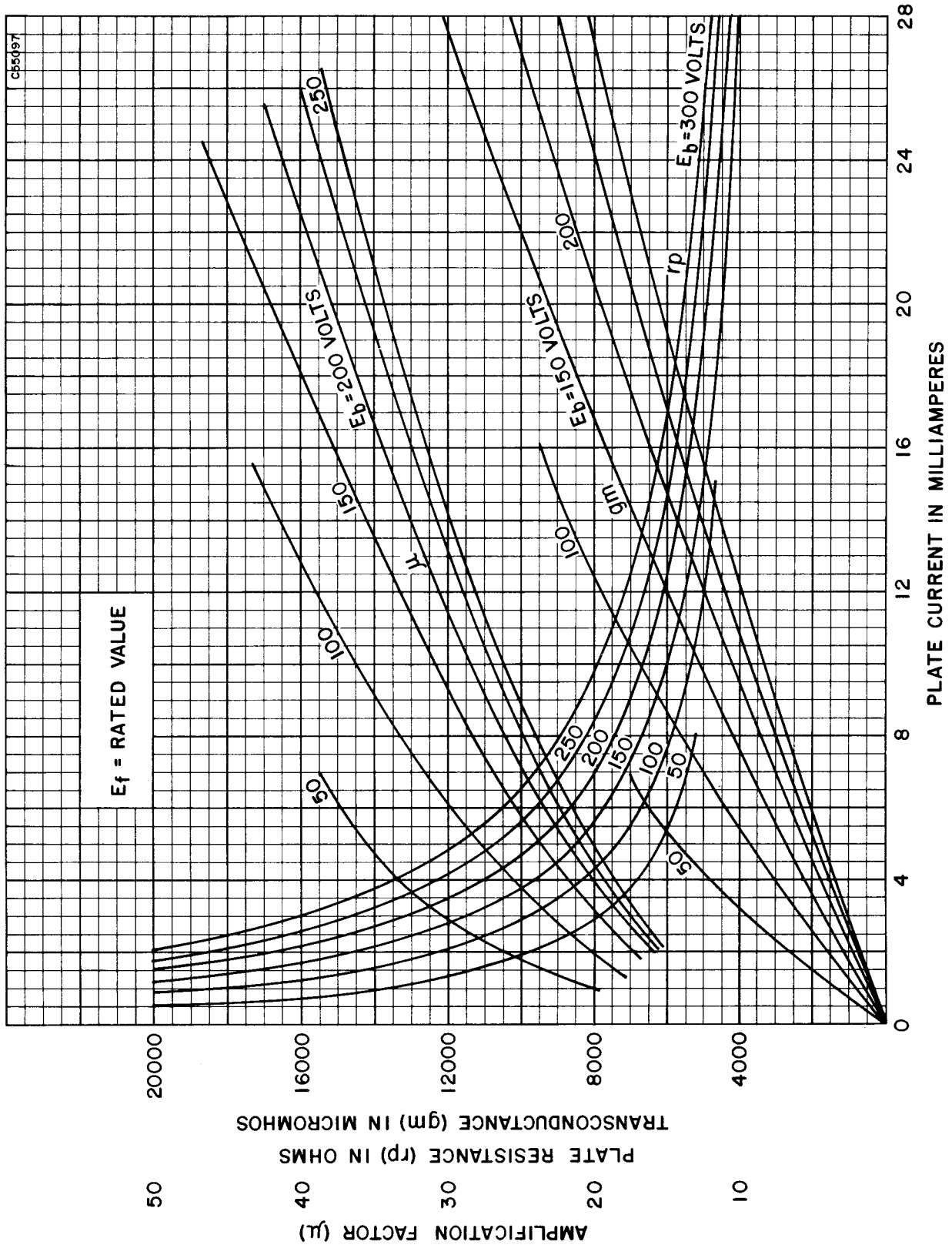
AVERAGE PLATE CHARACTERISTICS
(TRIODE SECTION)



AVERAGE TRANSFER CHARACTERISTICS
(TRIODE SECTION)



AVERAGE CHARACTERISTICS
(TRIODE SECTION)



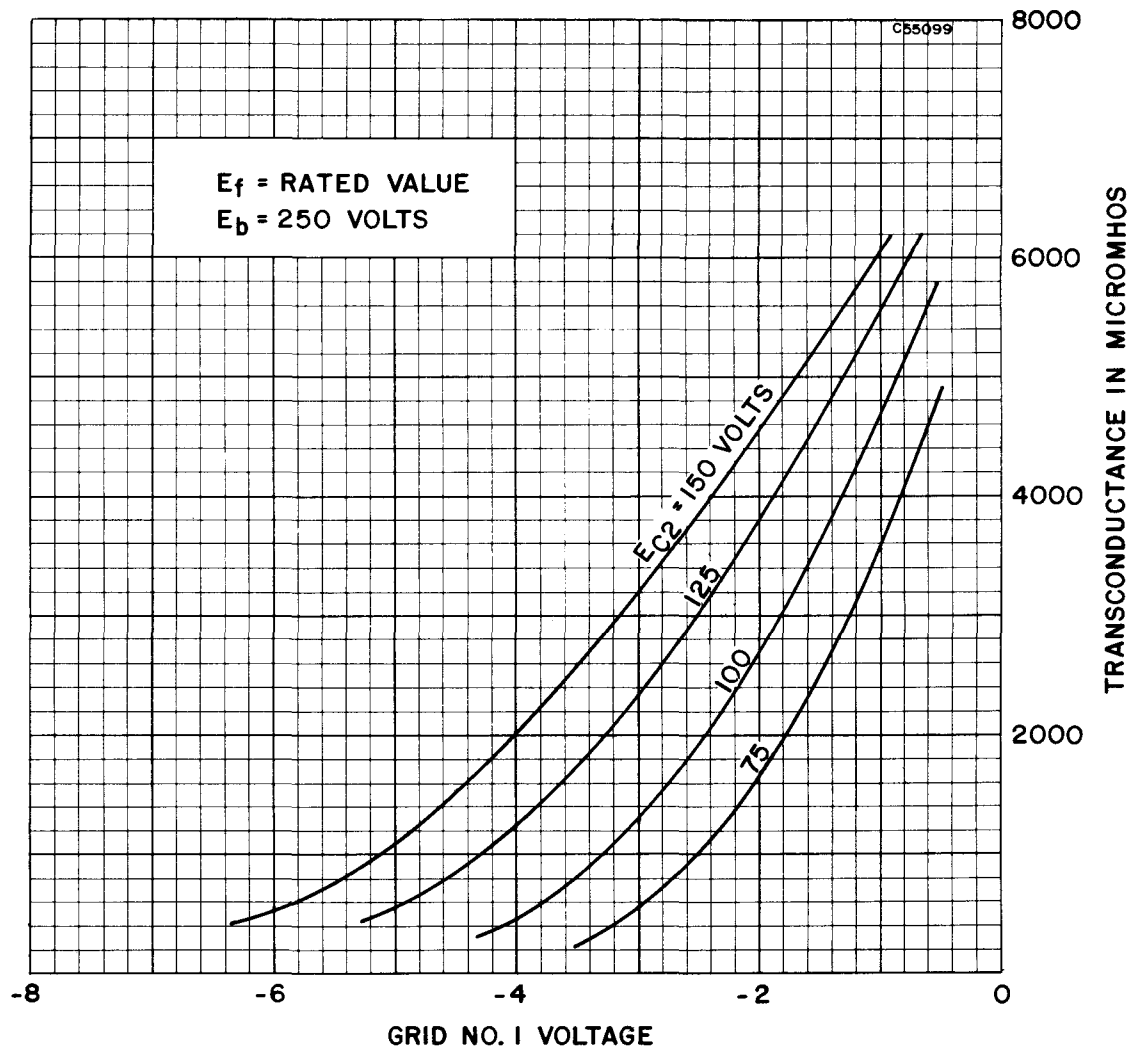
Graph showing Plate (I_b) or Screen Grid (I_{c2}) current in milliamperes versus Plate Voltage in volts for a 6X4 tube. The graph includes curves for E_f = RATED VALUE and E_{c2} = 110 VOLTS, with E_{c3} = 0 VOLTS. The curves are labeled I_b (solid line) and I_{c2} (dashed line).

Legend:

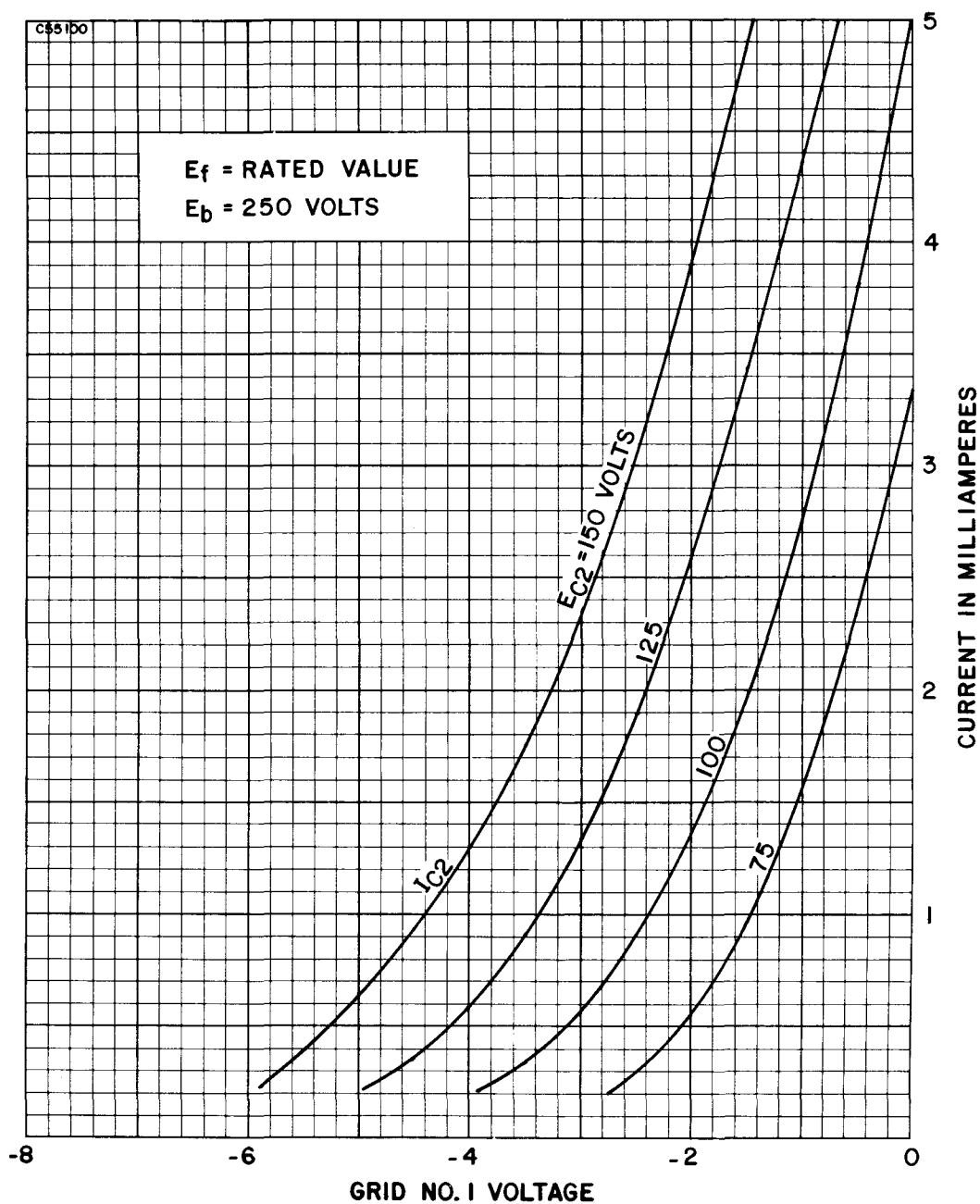
- E_f = RATED VALUE
- E_{c2} = 110 VOLTS
- E_{c3} = 0 VOLTS
- I_b
- - I_{c2}

Curves are labeled with E_c values: 0, -0.5, -1.0, -1.5, -2.0, -2.5, -3.0, -4.0.

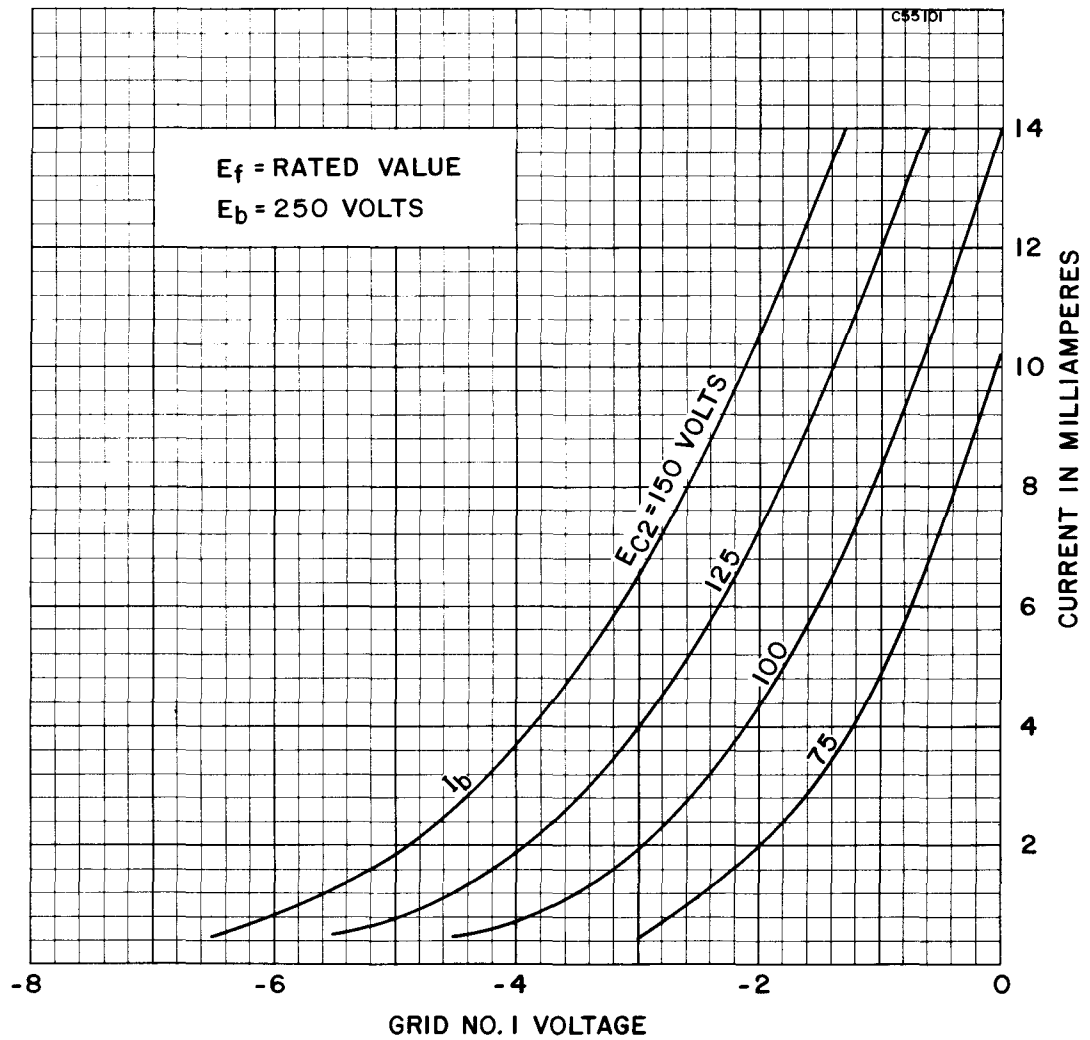
AVERAGE TRANSFER CHARACTERISTICS
(PENTODE SECTION)



AVERAGE TRANSFER CHARACTERISTICS
(PENTODE SECTION)



AVERAGE TRANSFER CHARACTERISTICS
(PENTODE SECTION)



6BE8

5BE8

RATING CURVE

