Electronic TUBES

6L6-GB

BEAM PENTODE

DESCRIPTION AND RATING

The 6L6-GB is a beam pentode designed primarily for use in audio-frequency power amplifier applications where relatively large power outputs are required. In addition to high power output capabilities, the tube features high power sensitivity, high efficiency, and low third and higher-order harmonic distortion.

The 6L6-GB employs a straight sided T-12 construction and may be used as a direct replacement for the 6L6, 6L6-G.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	6.3	Volts
Heater Current	0.9	Amperes
Direct Interelectrode Capacitances, approximate*		
Grid-Number 1 to Plate	0.9	$\mu\mu$f
Input	11.5	$\mu\mu$f
Output	9.5	$\mu\mu$f

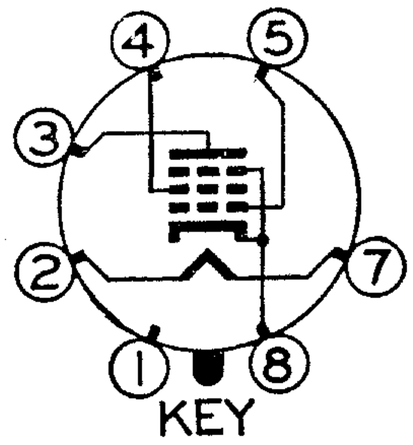
MECHANICAL

Mounting Position—Any
Envelope—T-12, Glass
Base—B7-12, Medium Shell Octal 7-Pin
or B7-111 or B7-119, Short Medium Shell Octal 7-Pin

* Without external shield.

GENERAL ELECTRIC

BASING DIAGRAM

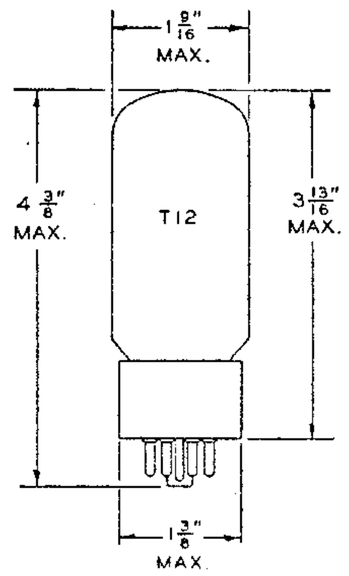


RETMA 7AC

TERMINAL CONNECTIONS

Pin 1—No Connection
Pin 2—Heater
Pin 3—Plate
Pin 4—Grid Number 2 (Screen)
Pin 5—Grid Number 1
Pin 7—Heater
Pin 8—Cathode and Beam Plates

PHYSICAL DIMENSIONS



MAXIMUM RATINGS

DESIGN-CENTER VALUES

	Triode† Connection	Pentode Connection	
Plate Voltage	275	360	Volts
Screen Voltage	...	270	Volts
Plate Dissipation	19	19	Watts
Screen Dissipation	...	2.5	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode	180	180	Volts
Heater Negative with Respect to Cathode	180	180	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	0.1	0.1	Megohms
With Cathode Bias	0.5	0.5	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

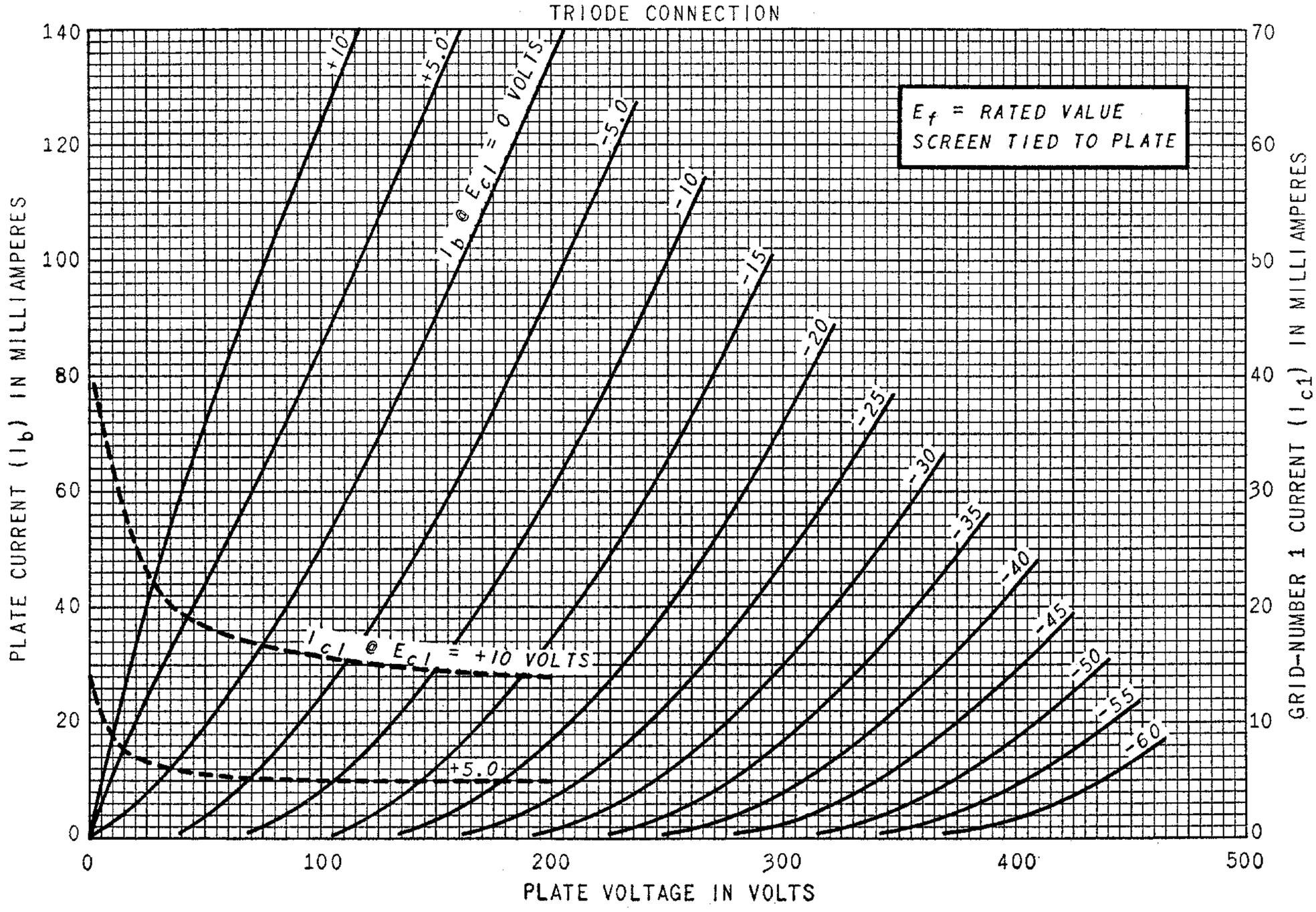
	Triode† Connection		Pentode Connection		
Plate Voltage	250	250	300	350	Volts
Screen Voltage	...	250	200	250	Volts
Grid-Number 1 Voltage	−20	−14	−12.5	−18	Volts
Peak AF Grid-Number 1 Voltage	20	14	12.5	18	Volts
Amplification Factor	8	...	...	...	Volts
Plate Resistance, approximate	1700	22500	35000	33000	Ohms
Transconductance	4700	6000	5300	5200	Micromhos
Zero-Signal Plate Current	40	72	48	54	Milliamperes
Maximum-Signal Plate Current	44	79	55	66	Milliamperes
Zero-Signal Screen Current	...	5.0	2.5	2.5	Milliamperes
Maximum-Signal Screen Current	...	7.3	4.7	7.0	Milliamperes
Load Resistance	5000	2500	4500	4200	Ohms
Total Harmonic Distortion, approximate	5	10	11	15	Percent
Maximum-Signal Power Output	1.4	6.5	6.5	10.8	Watts

PUSH-PULL AMPLIFIER, VALUES FOR TWO TUBES

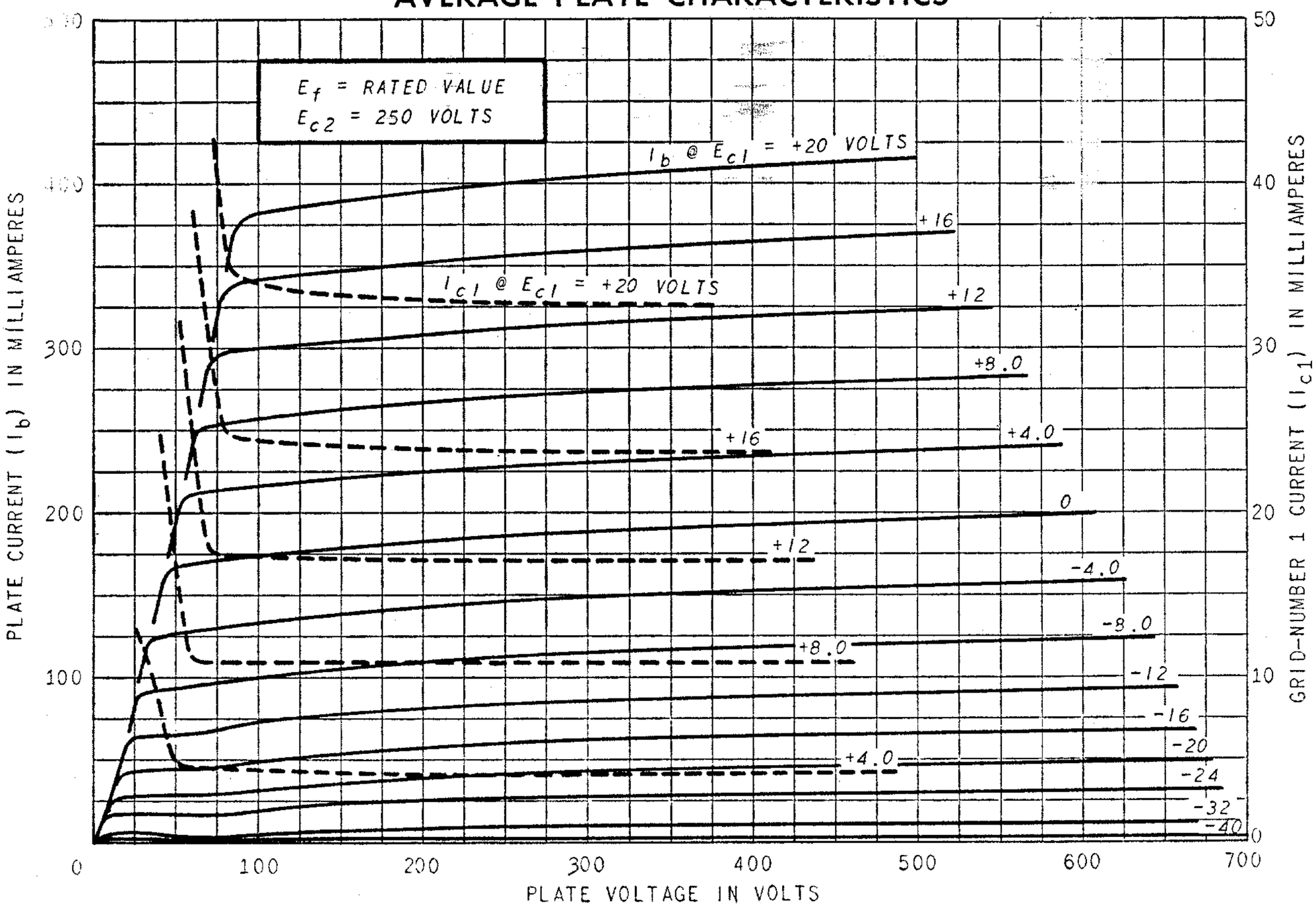
	Class A_1		Class AB_1		Class AB_2		
Plate Voltage	250	270	360	360	360	360	Volts
Screen Voltage	250	270	270	270	225	270	Volts
Grid-Number 1 Voltage	−16	−17.5	−22.5	−22.5	−18	−22.5	Volts
Peak AF Grid-to-Grid Voltage	32	35	45	45	52	72	Volts
Zero-Signal Plate Current	120	134	88	88	78	88	Milliamperes
Maximum-Signal Plate Current	140	155	132	140	142	205	Milliamperes
Zero-Signal Screen Current	10	11	5.0	5.0	3.5	5.0	Milliamperes
Maximum-Signal Screen Current	16	17	15	11	11	16	Milliamperes
Effective Load Resistance	5000	5000	6600	3800	6000	3800	Ohms
Total Harmonic Distortion, approximate	2	2	2	2	2	2	Percent
Maximum-Signal Power Output	14.5	17.5	26.5	18	31	47	Watts

† With screen connected to plate.

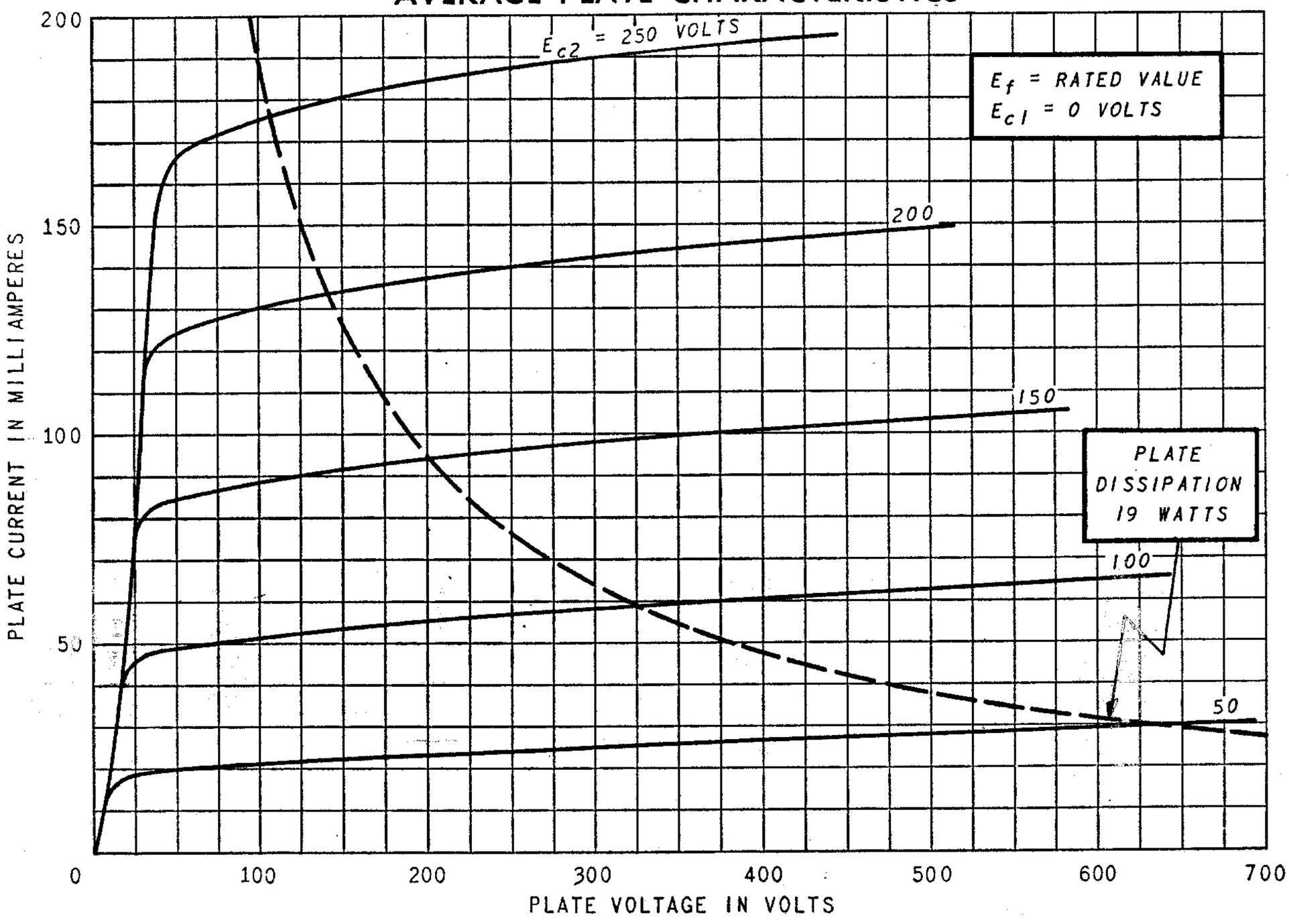
AVERAGE PLATE CHARACTERISTICS



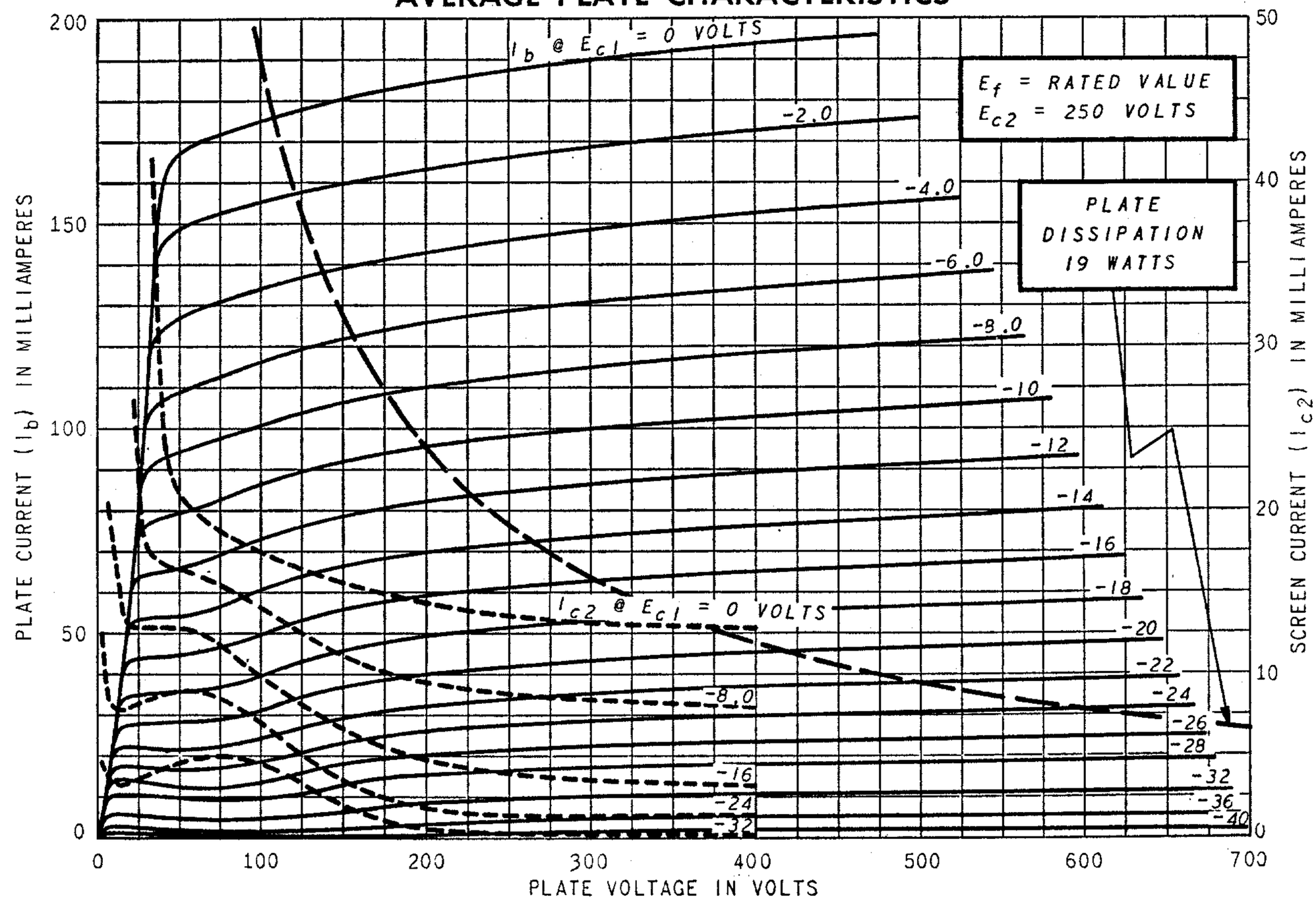
AVERAGE PLATE CHARACTERISTICS



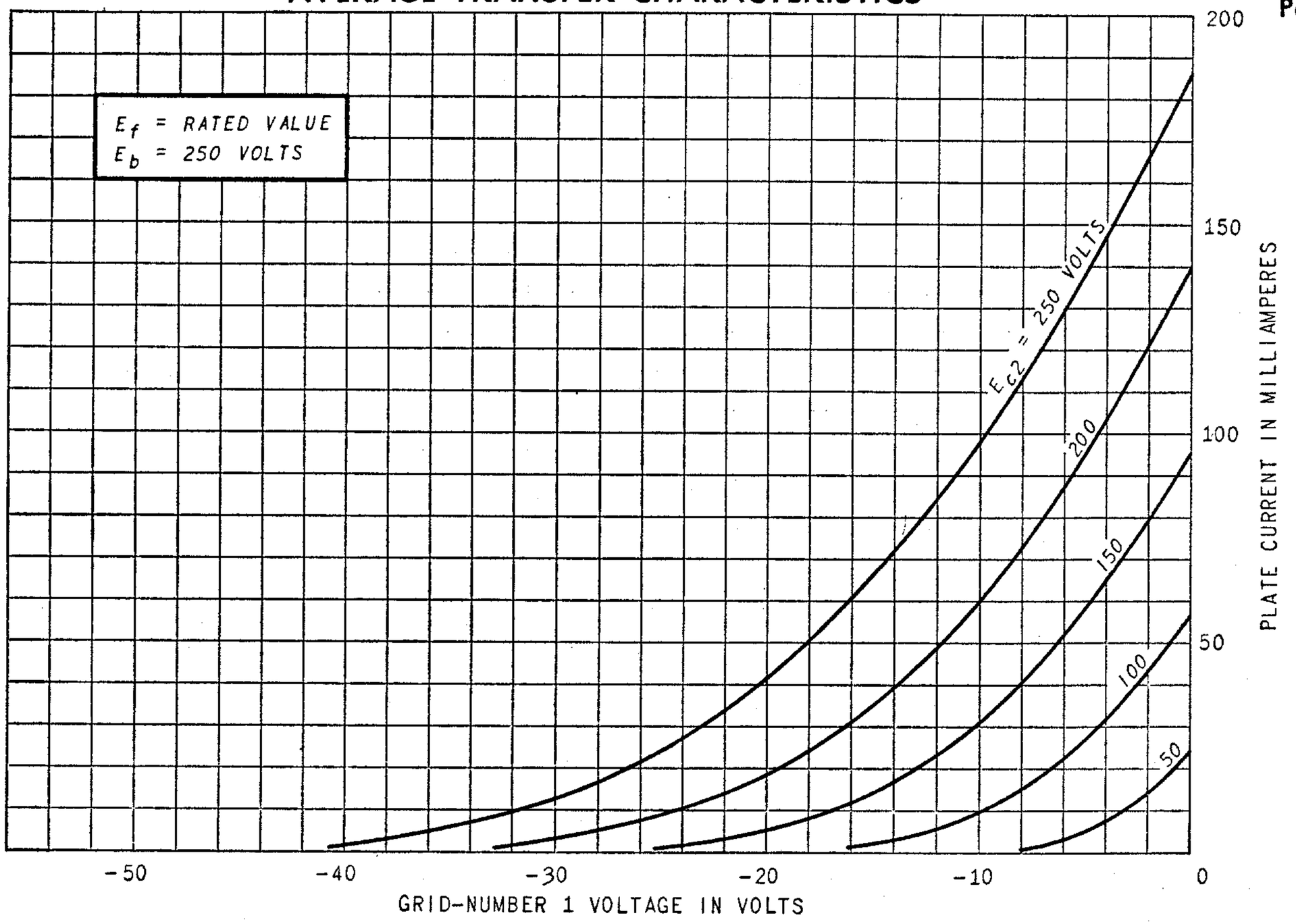
AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



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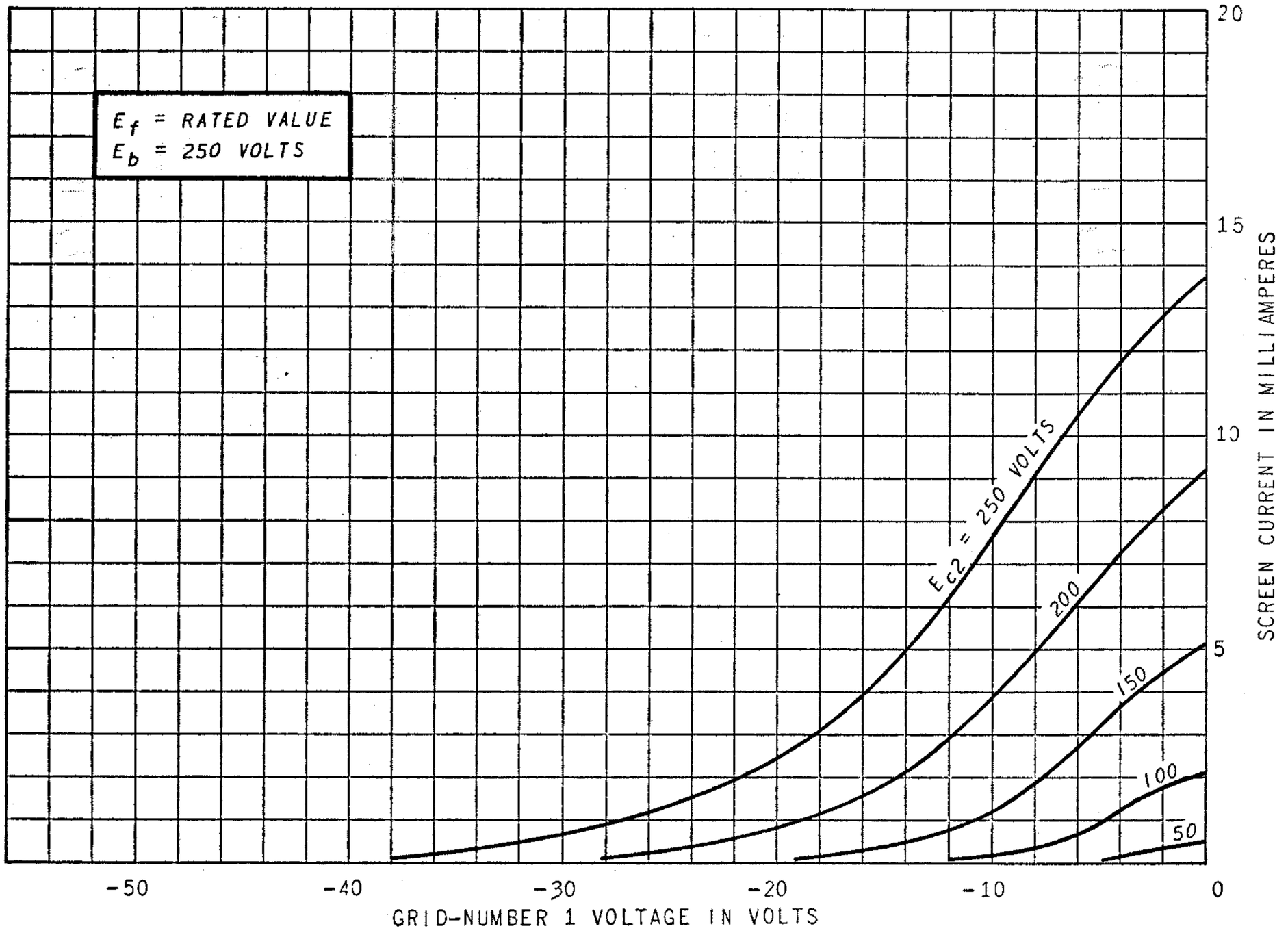
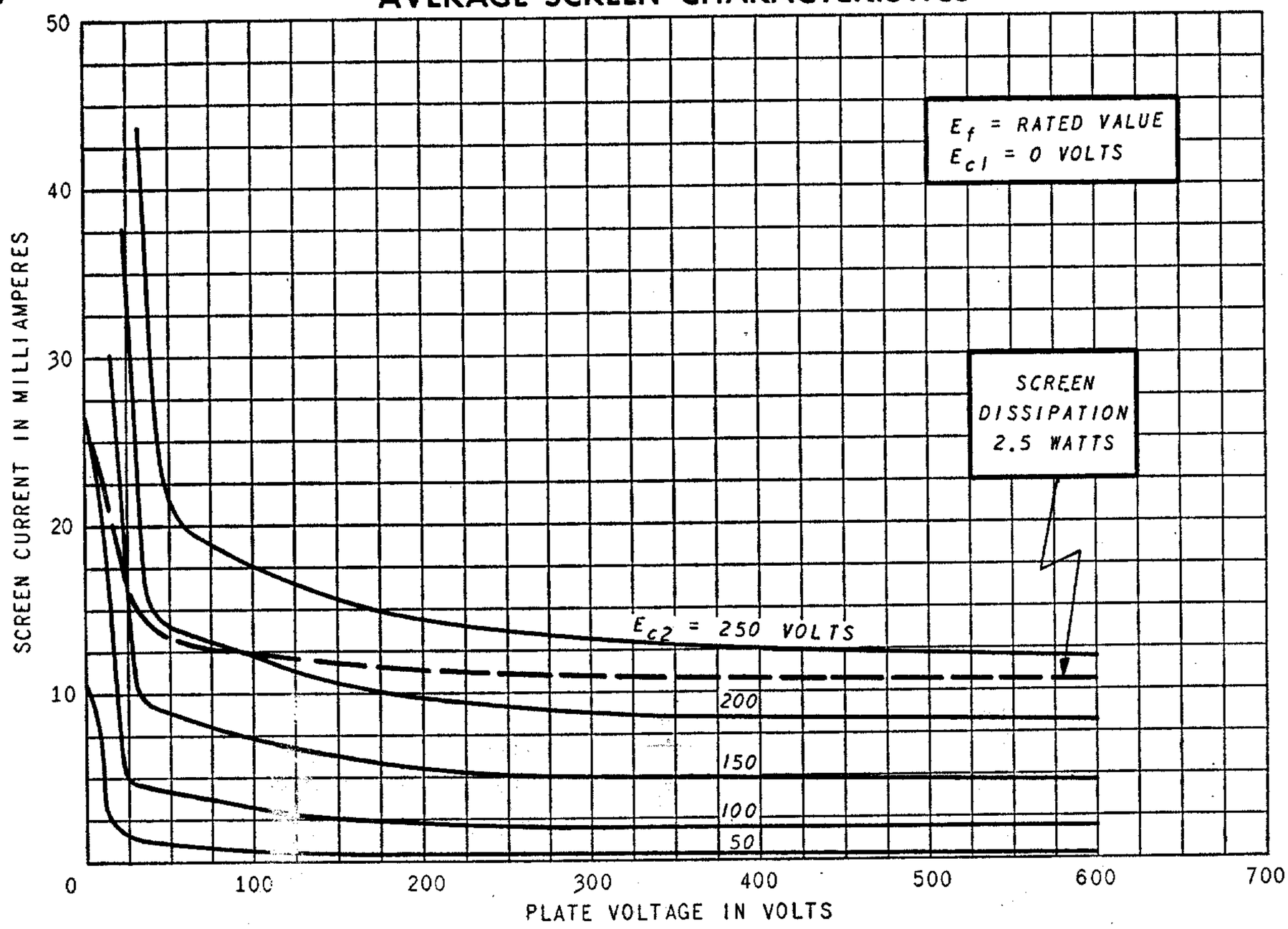
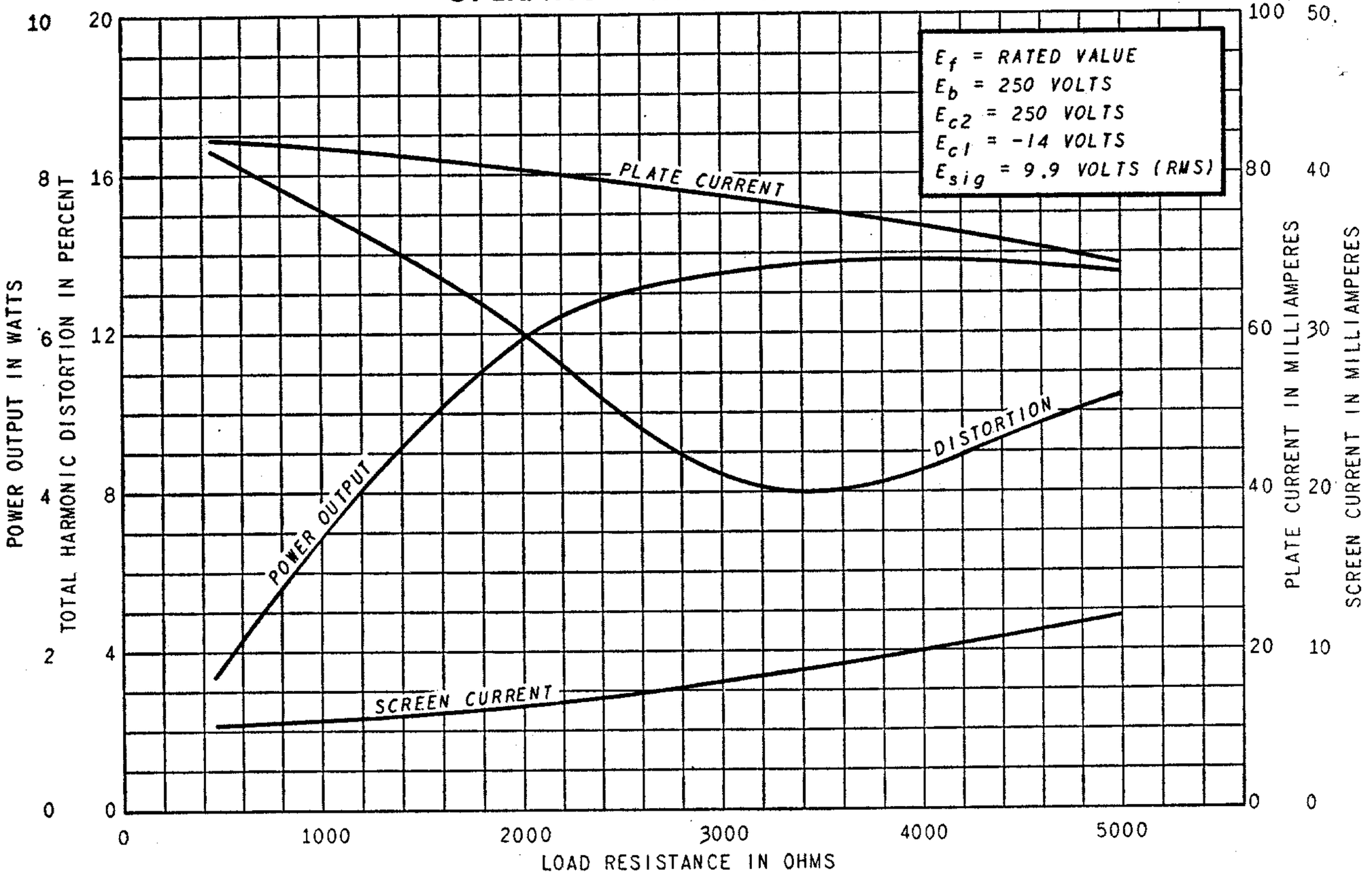


AVERAGE SCREEN CHARACTERISTICS



OPERATION CHARACTERISTICS



TUBE DEPARTMENT

GENERAL ELECTRIC

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