



6CL8—5CL8—9CL8

TRIODE-TETRODE

6CL8
5CL8
9CL8
 ET-T1434
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DESCRIPTION AND RATING

The 6CL8 is a miniature tube which contains a sharp-cutoff tetrode and a medium- μ triode in one envelope. Intended primarily for service as a combined triode oscillator and tetrode mixer in VHF television tuners, the 6CL8 features a controlled heater-warm-up characteristic which makes it especially suited for use in television receivers that employ series-connected heaters.

Except for heater ratings, the 5CL8 and 9CL8 are identical to the 6CL8.

GENERAL

ELECTRICAL

	5CL8	6CL8	9CL8	
Cathode—Coated Unipotential				
Heater Voltage, AC or DC	4.7	6.3	9.5	Volts
Heater Current	0.6	0.45	0.3	Amperes
Heater Warm-up Time*	11	11	11	Seconds

Direct Interelectrode Capacitances

	With Shield†	Without Shield	
Tetrode Section			
Grid-Number 1 to Plate, maximum	0.016	0.028	$\mu\mu\text{f}$
Input	5.0	5.0	$\mu\mu\text{f}$
Output	3.0	2.0	$\mu\mu\text{f}$
Triode Section			
Grid to Plate	1.8	1.8	$\mu\mu\text{f}$
Input	2.7	2.7	$\mu\mu\text{f}$
Output	1.2	0.4	$\mu\mu\text{f}$
Heater to Cathode, Each Section, approximate	2.5†	2.5	$\mu\mu\text{f}$

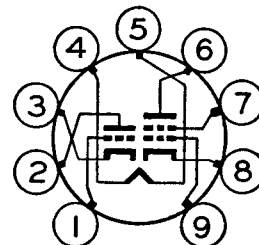
MECHANICAL

Mounting Position—Any
 Envelope—T-6½, Glass
 Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES	Tetrode Section	Triode Section	
Plate Voltage	300	300	Volts
Screen-Supply Voltage	300	...	Volts
Screen Voltage—See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	2.8	2.7	Watts
Screen Dissipation	0.5	...	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	0.25	0.5	Megohms
With Cathode Bias	1.0	1.0	Megohms

BASING DIAGRAM

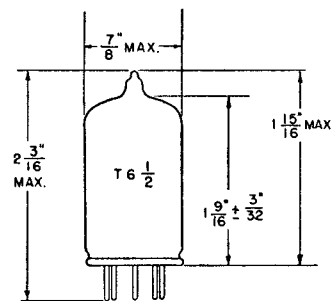


RETMA 9FX

TERMINAL CONNECTIONS

- Pin 1—Triode Grid
- Pin 2—Triode Plate
- Pin 3—Triode Cathode
- Pin 4—Heater
- Pin 5—Heater
- Pin 6—Tetrode Plate
- Pin 7—Tetrode Grid Number 2 (Screen)
- Pin 8—Tetrode Cathode
- Pin 9—Tetrode Grid Number 1

PHYSICAL DIMENSIONS



RETMA 6-2

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

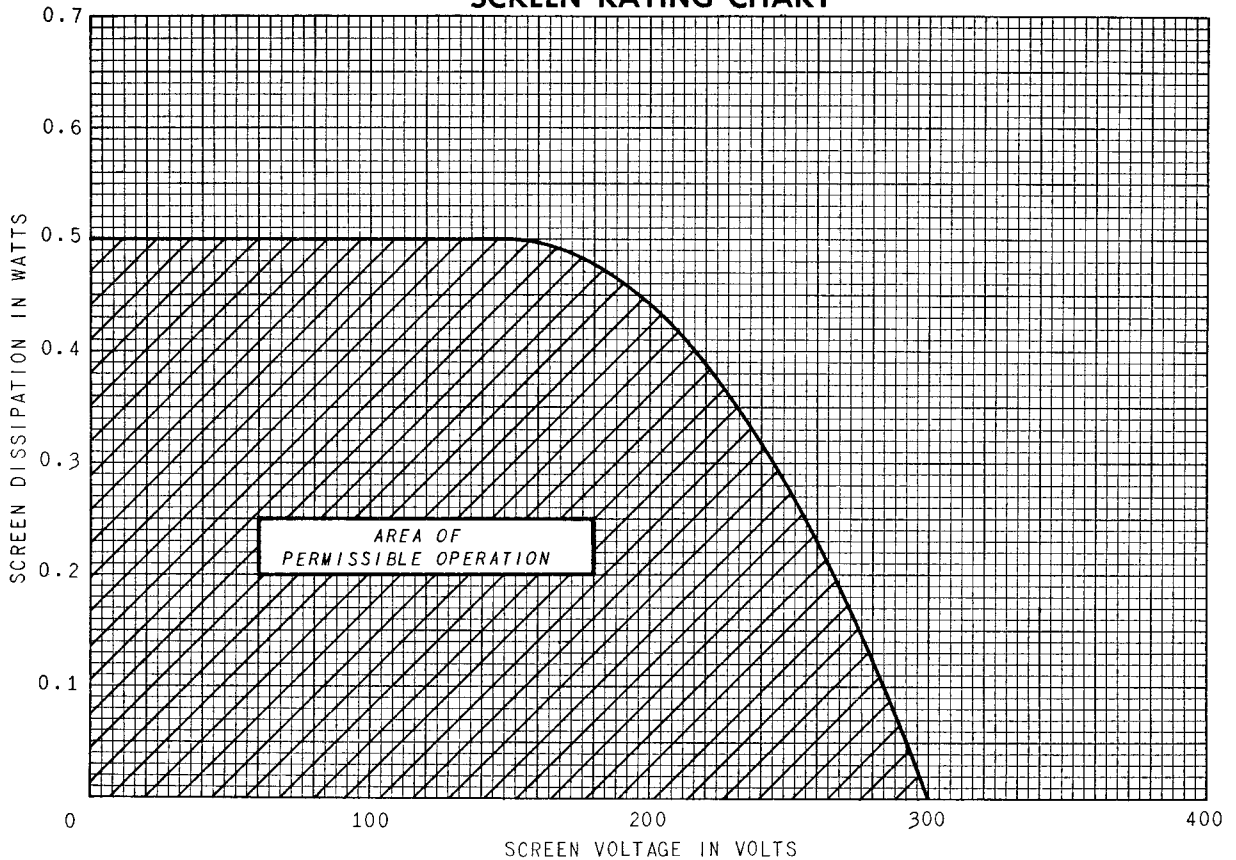
	Tetrode Section	Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	.....	Volts
Grid-Number 1 Voltage	-1.0	.....	Volts
Cathode-Bias Resistor .....	.....	56	Ohms
Amplification Factor .....	.....	40	
Plate Resistance, approximate	100000	5000	Ohms
Transconductance	5800	8000	Micromhos
Plate Current	12	15	Milliamperes
Screen Current	4.0	.....	Milliamperes
Grid-Number 1 Voltage, approximate I _b = 10 Microamperes	-10	-9	Volts

* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (RETMA 315) connected to cathode of section under test unless otherwise indicated.

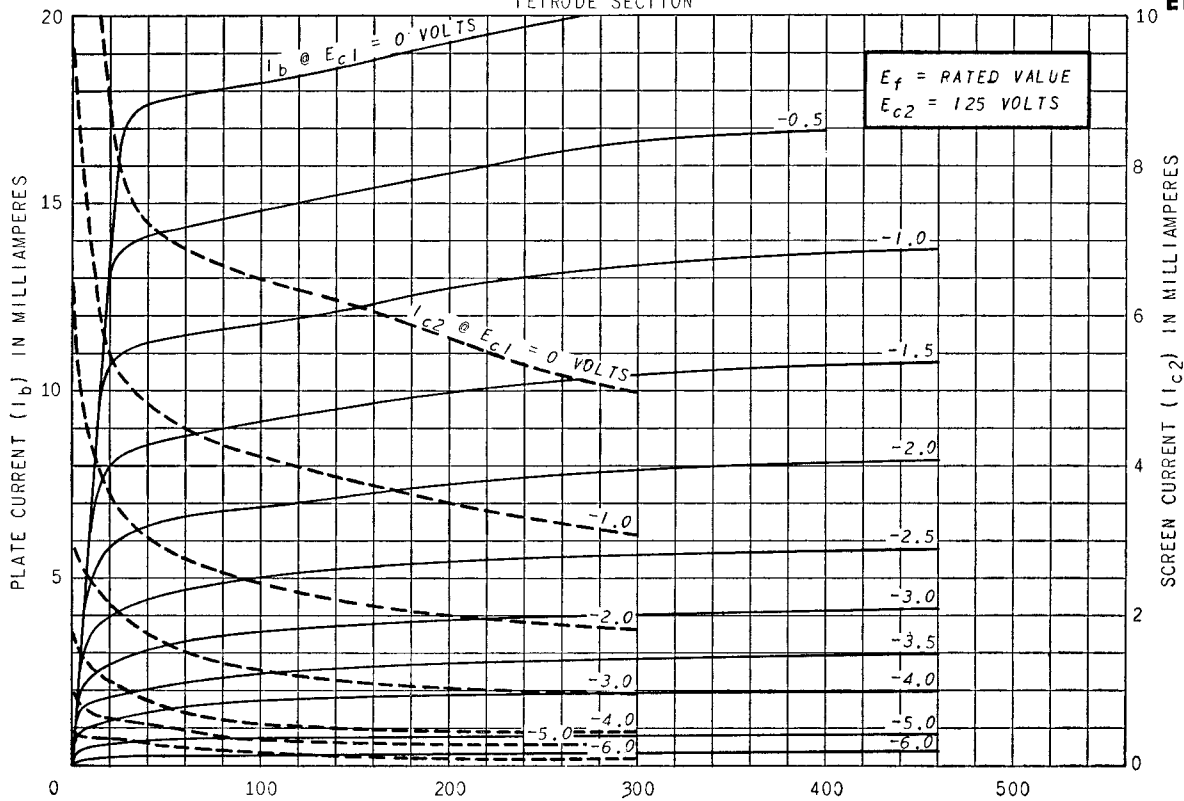
‡ With external shield (RETMA 315) connected to ground.

SCREEN RATING CHART



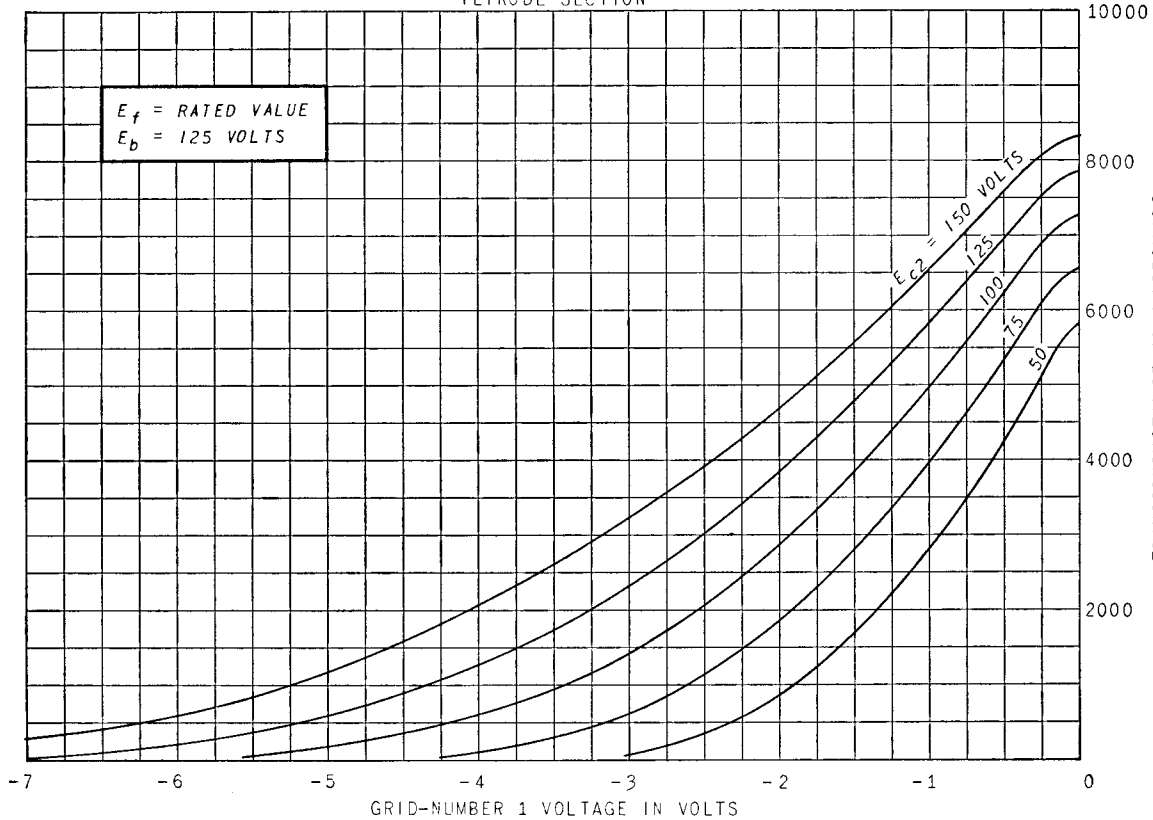
AVERAGE PLATE CHARACTERISTICS

TETRODE SECTION



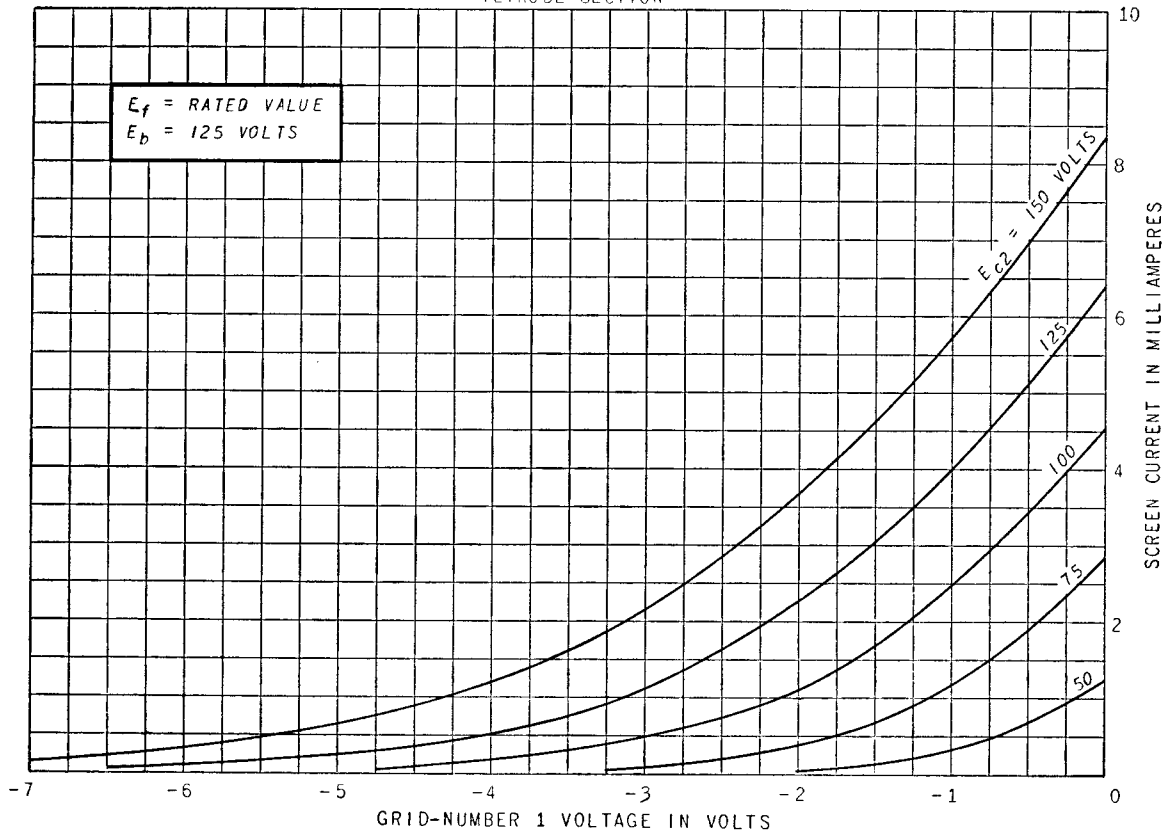
AVERAGE TRANSFER CHARACTERISTICS

TETRODE SECTION



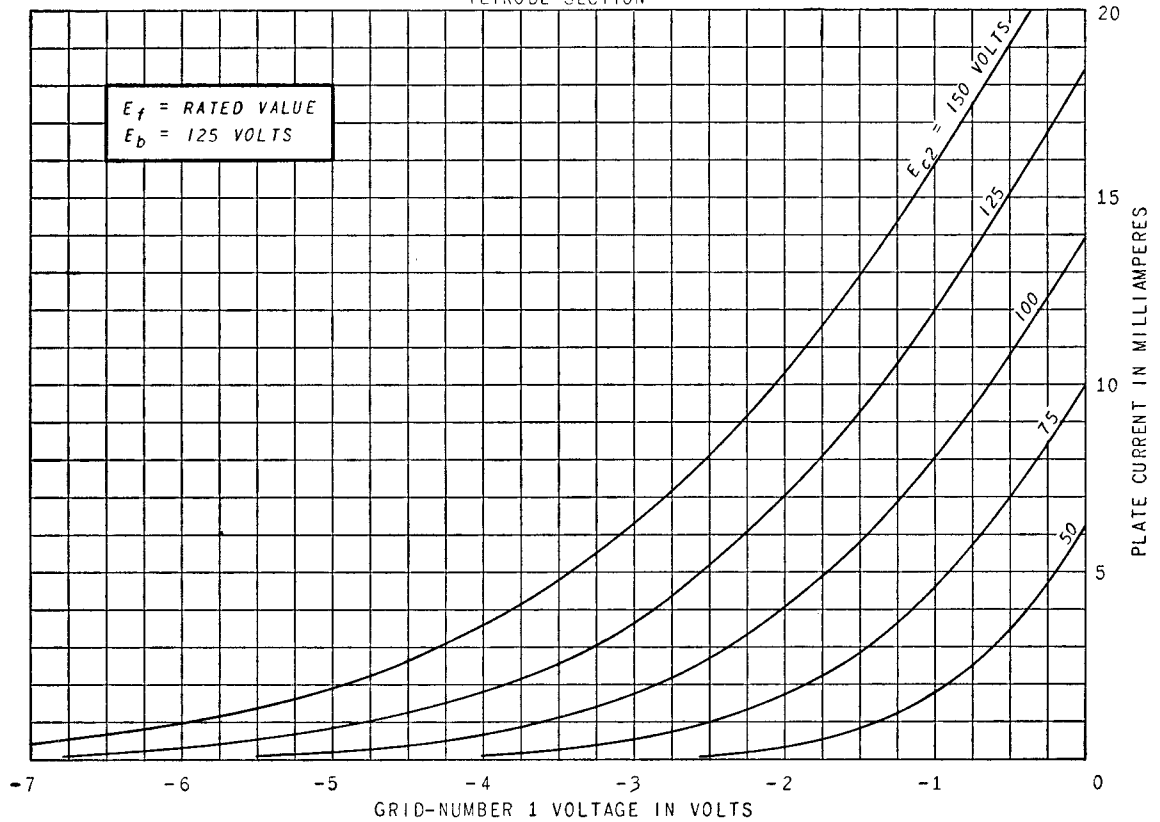
AVERAGE TRANSFER CHARACTERISTICS

TETRODE SECTION



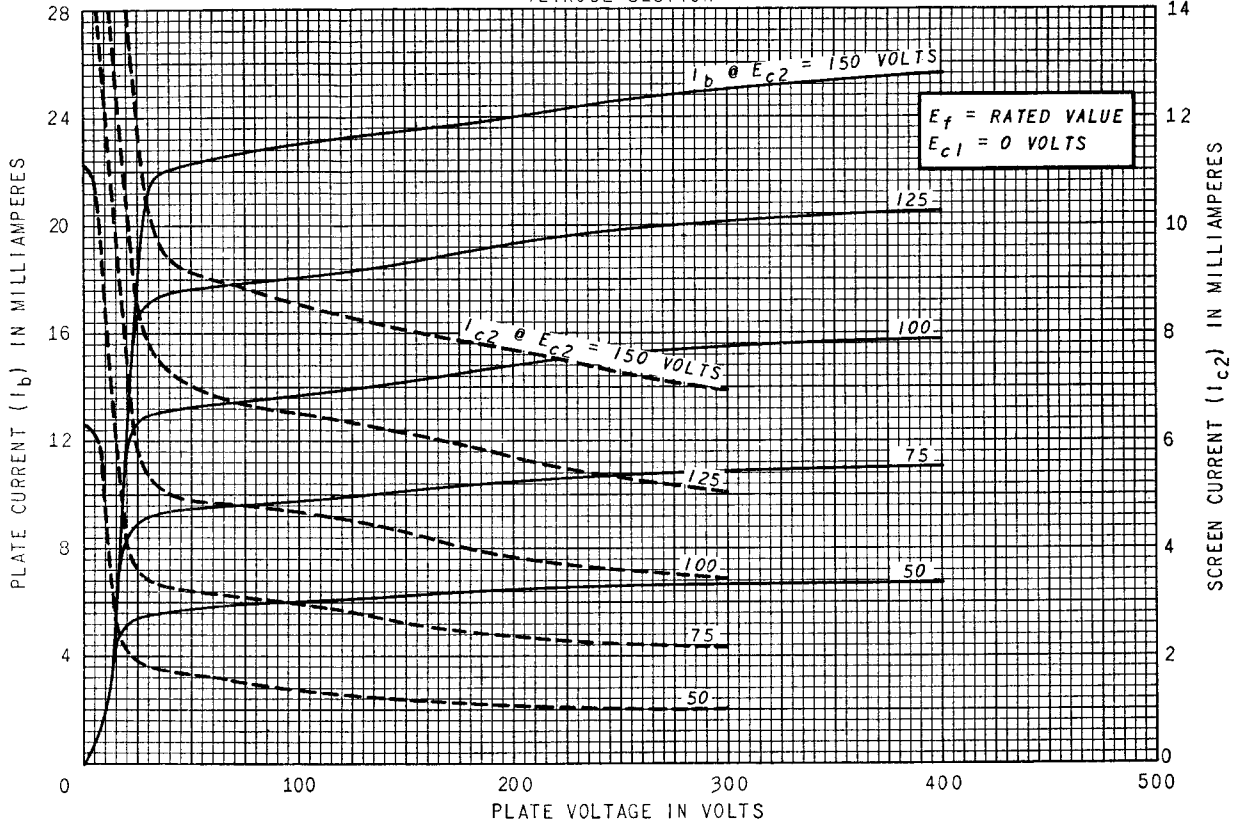
AVERAGE TRANSFER CHARACTERISTICS

TETRODE SECTION



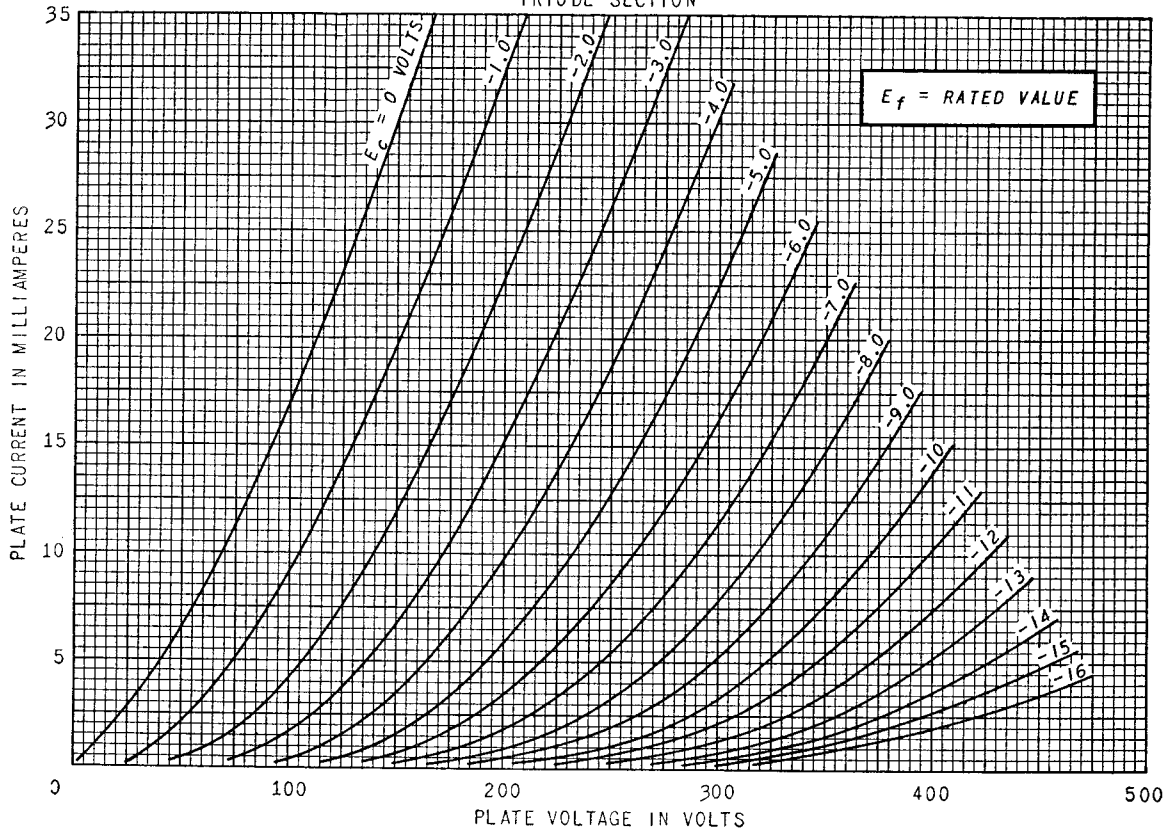
AVERAGE PLATE CHARACTERISTICS

TETRODE SECTION

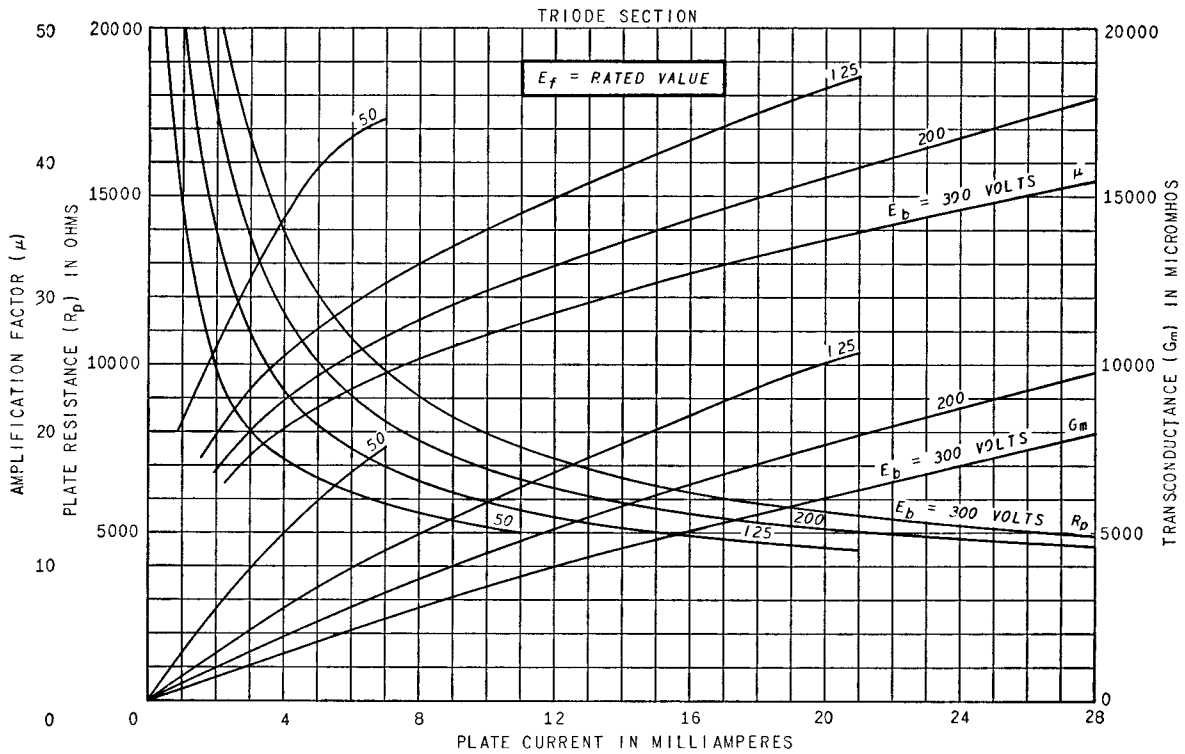
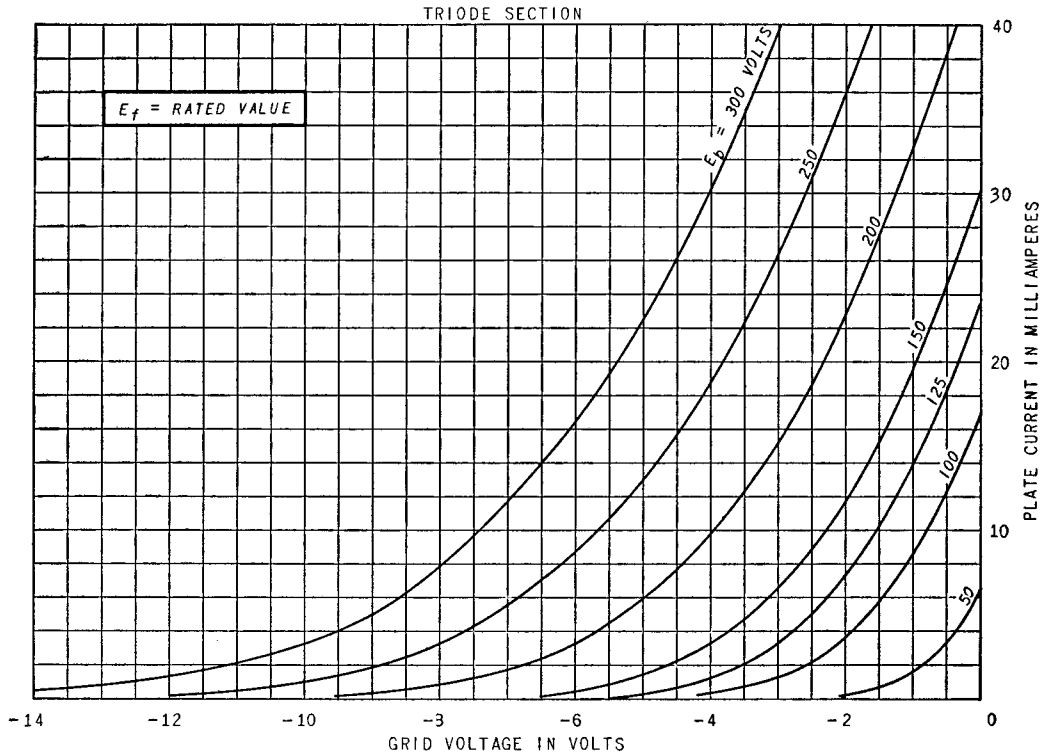


AVERAGE PLATE CHARACTERISTICS

TRIODE SECTION



AVERAGE TRANSFER CHARACTERISTICS



ELECTRONIC COMPONENTS DIVISION



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