Electronic TUBES

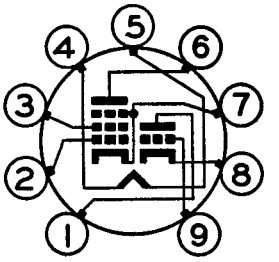
6GH8—5GH8
TRIODE-PENTODE

DESCRIPTION AND RATING

The 6GH8 is a miniature tube which contains a sharp-cutoff pentode and a medium-mu triode in one envelope. Each section has a separate cathode and is electrically independent. The pentode section is intended primarily for service as an oscillator in the horizontal deflection system of television receivers.

Except for heater characteristics, the 5GH8 is identical to the 6GH8.

BASING DIAGRAM



EIA 9AE

TERMINAL CONNECTIONS

Pin 1—Triode Plate
Pin 2—Pentode Grid Number 1
Pin 3—Pentode Grid Number 2 (Screen)
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Plate
Pin 7—Pentode Cathode, Grid Number 3, and Internal Shield
Pin 8—Triode Cathode
Pin 9—Triode Grid

GENERAL

ELECTRICAL

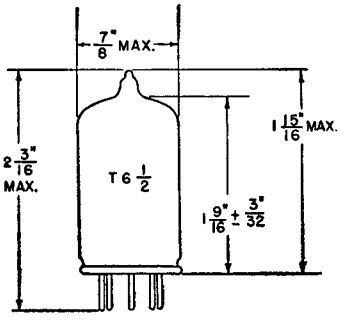
	5GH8	6GH8	
Cathode—Coated Unipotential			
Heater Voltage, AC or DC	4.7	6.3	Volts
Heater Current	0.6	0.45	Amperes
Heater Warm-up Time*	11	11	Seconds

Direct Interelectrode Capacitances	With Shield†	Without Shield	
Pentode Section			
Grid-Number 1 to Plate, maximum	0.01	0.02	μμf
Input	5.5	5.5	μμf
Output	3.4	2.6	μμf
Triode Section			
Grid to Plate	1.7	1.7	μμf
Input	3.6	3.4	μμf
Output	1.1	0.3	μμf
Heater to Cathode, Each Section§	3.0	3.0	μμf

MECHANICAL

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

PHYSICAL DIMENSIONS



EIA 6-2

GENERAL ELECTRIC

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES	5GH8	6GH8	
Allowable Heater Current	0.56 to 0.64	0.42 to 0.48	Amperes

	Pentode Section (Horizontal Oscillator Service¶)	Triode Section	
DC Plate Voltage	350	330	Volts
Screen Supply Voltage	330	....	Volts
Screen Voltage—See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Peak Negative DC Grid-Number 1 Voltage	175	....	Volts
Plate Dissipation	2.5	2.5	Watts
Screen Dissipation	0.55	....	Watts
DC Cathode Current	20	....	Milliamperes
Peak Cathode Current	300	....	Milliamperes
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	2.2	2.2	Megohms
With Cathode Bias	2.2	2.2	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditons applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS	Pentode Section	Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	....	Volts
Grid-Number 1 Voltage	−1.0	−1.0	Volts
Amplification Factor	....	46	
Plate Resistance, approximate	200000	5400	Ohms
Transconductance	7500	8500	Micromhos
Plate Current	12	13.5	Milliamperes
Screen Current	4.0	....	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 10 Microamperes	−8	−8	Volts

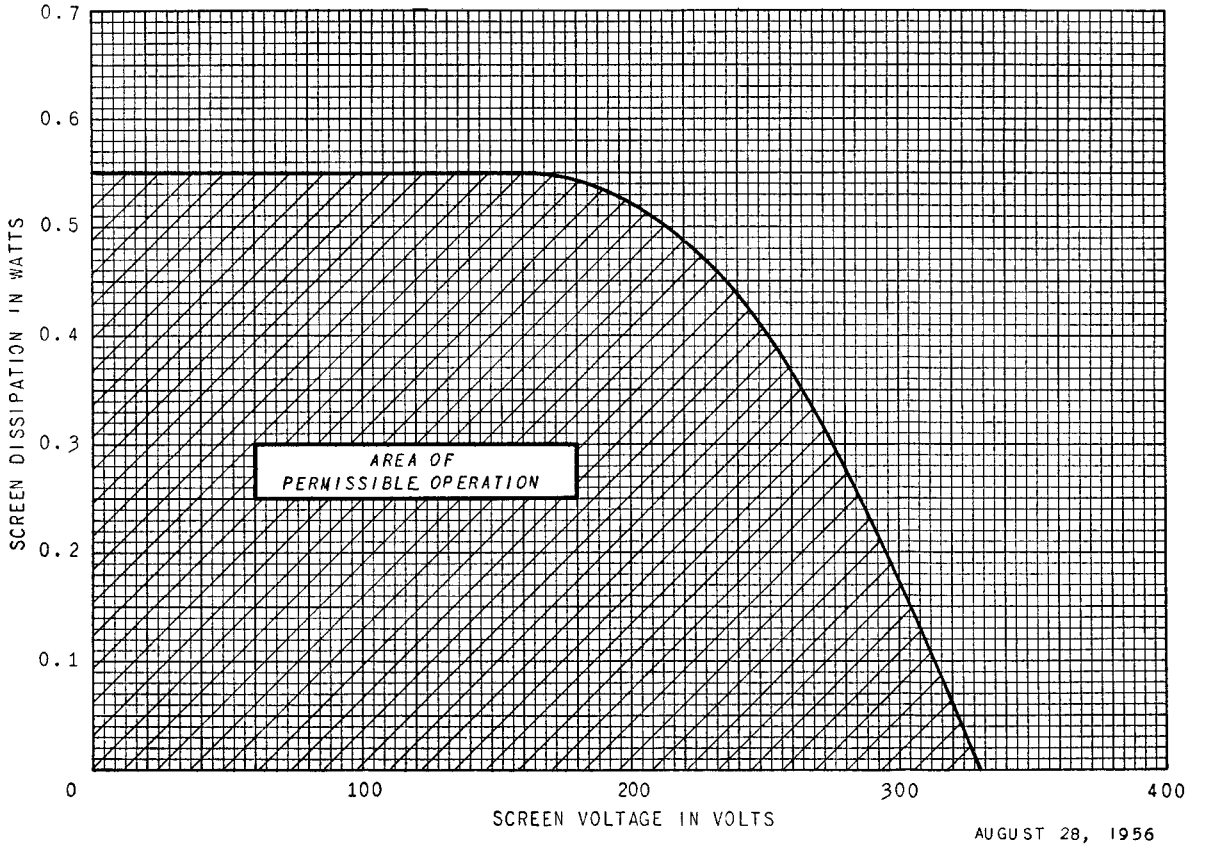
* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

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

§ With external shield (EIA 315) connected to ground.

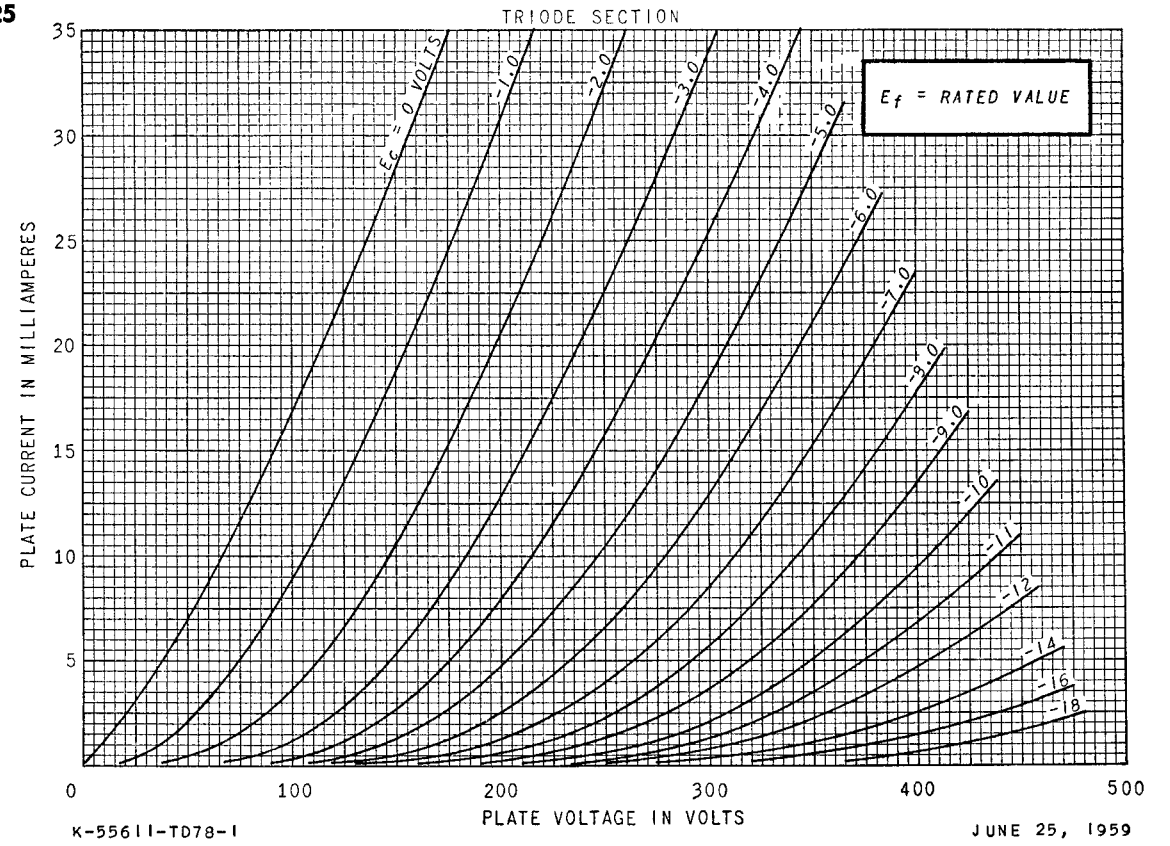
¶ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

SCREEN RATING CHART



AVERAGE PLATE CHARACTERISTICS

TRIODE SECTION



K-5561I-TD78-1

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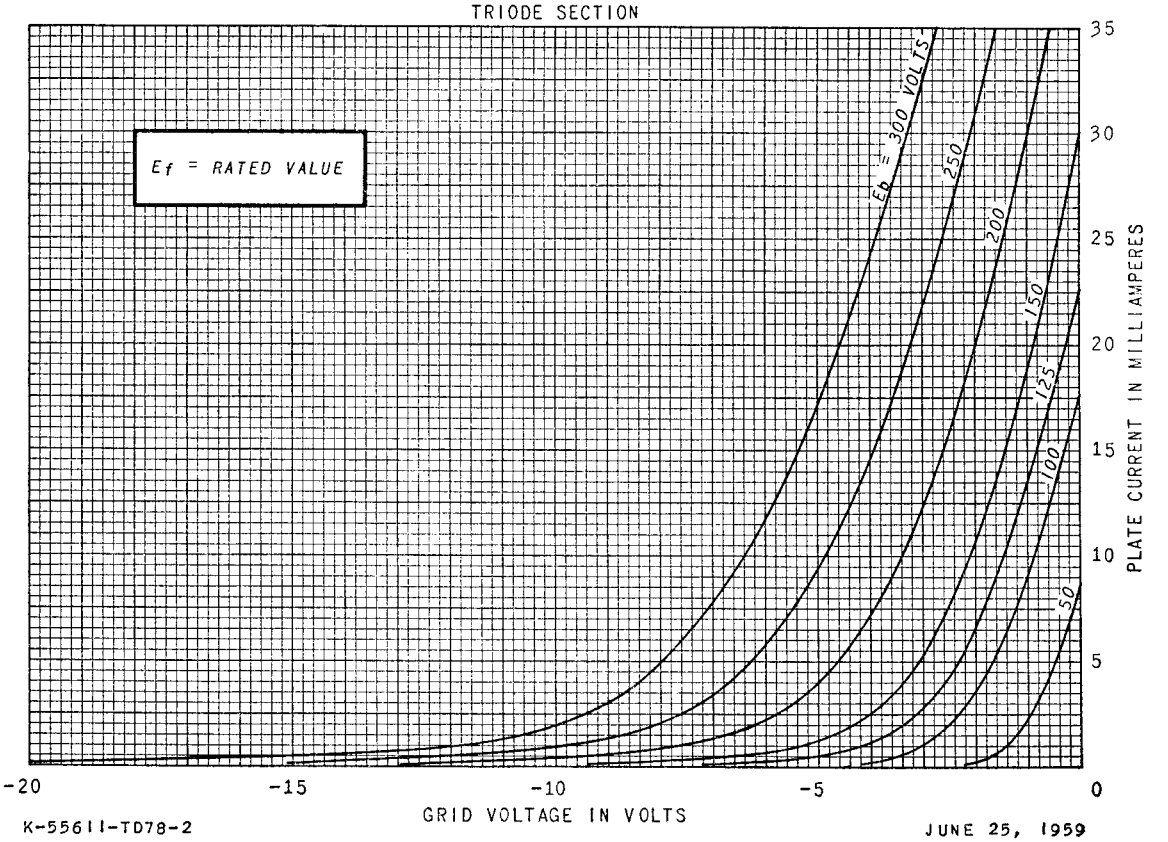
AVERAGE TRANSFER CHARACTERISTICS

TRIODE SECTION



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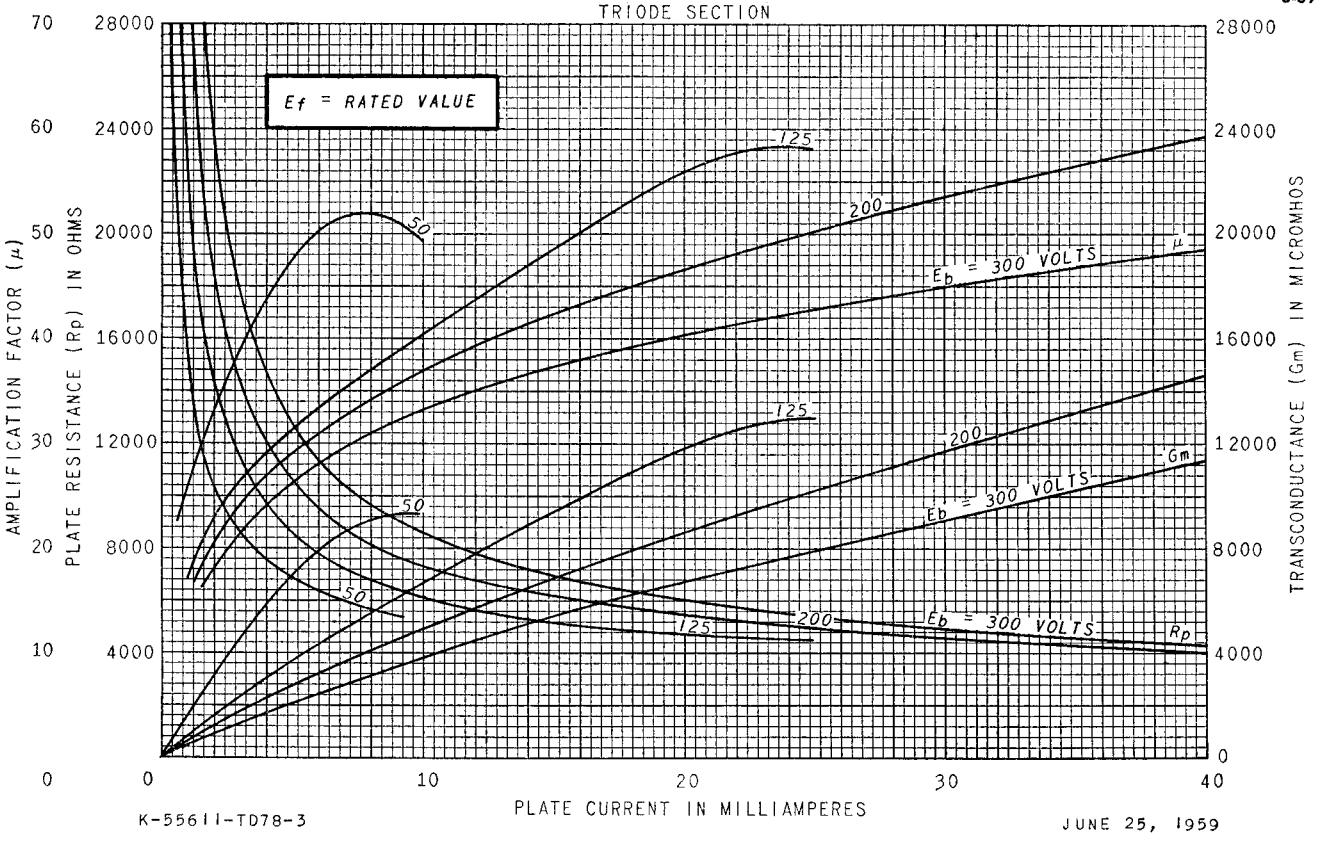
JUNE 25, 1959

AVERAGE CHARACTERISTICS

TRIODE SECTION

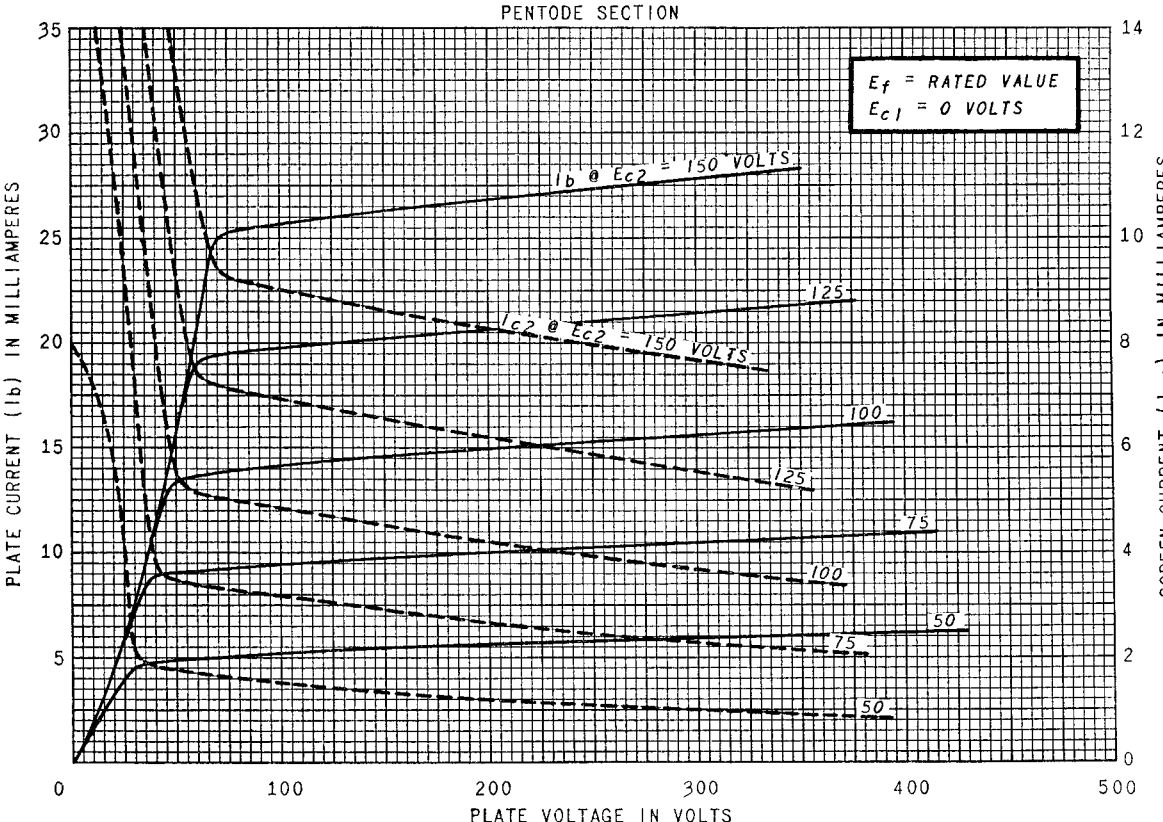


K-55611-TD78-3

JUNE 25, 1959

AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



K-55611-TD78-4

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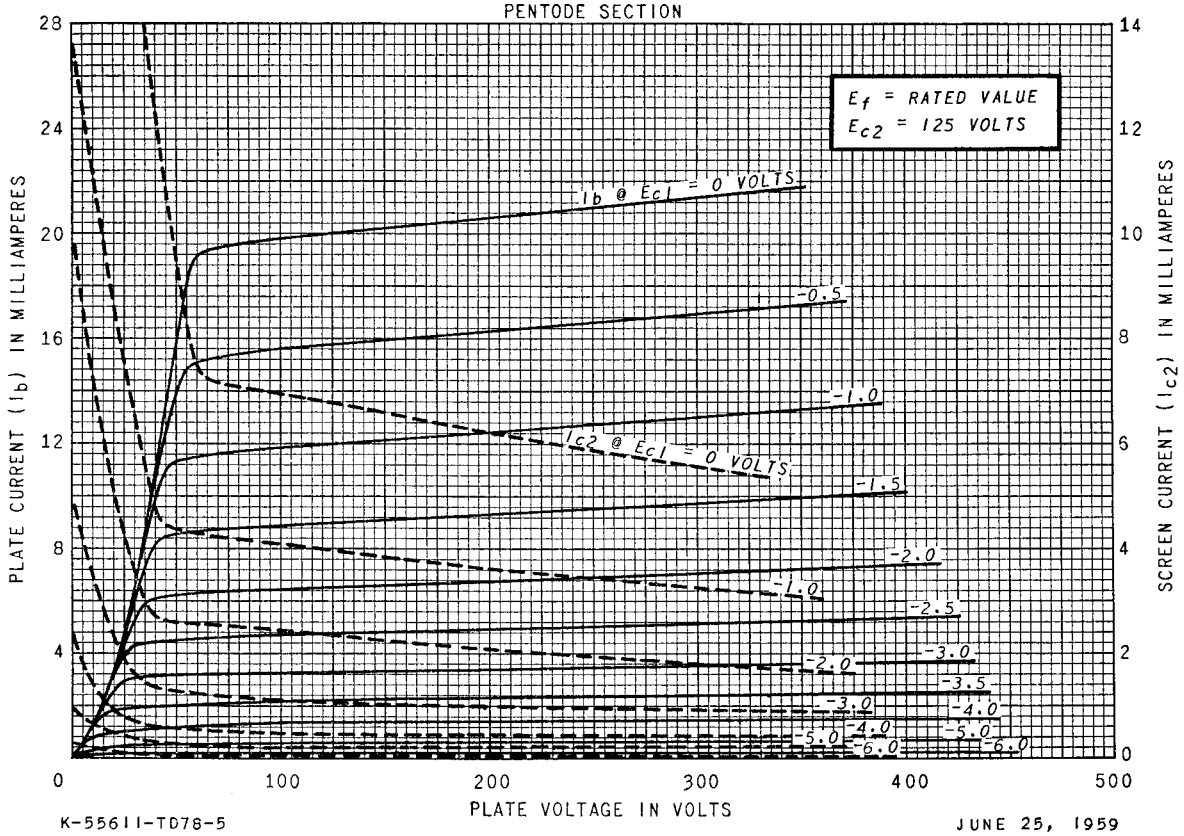
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION

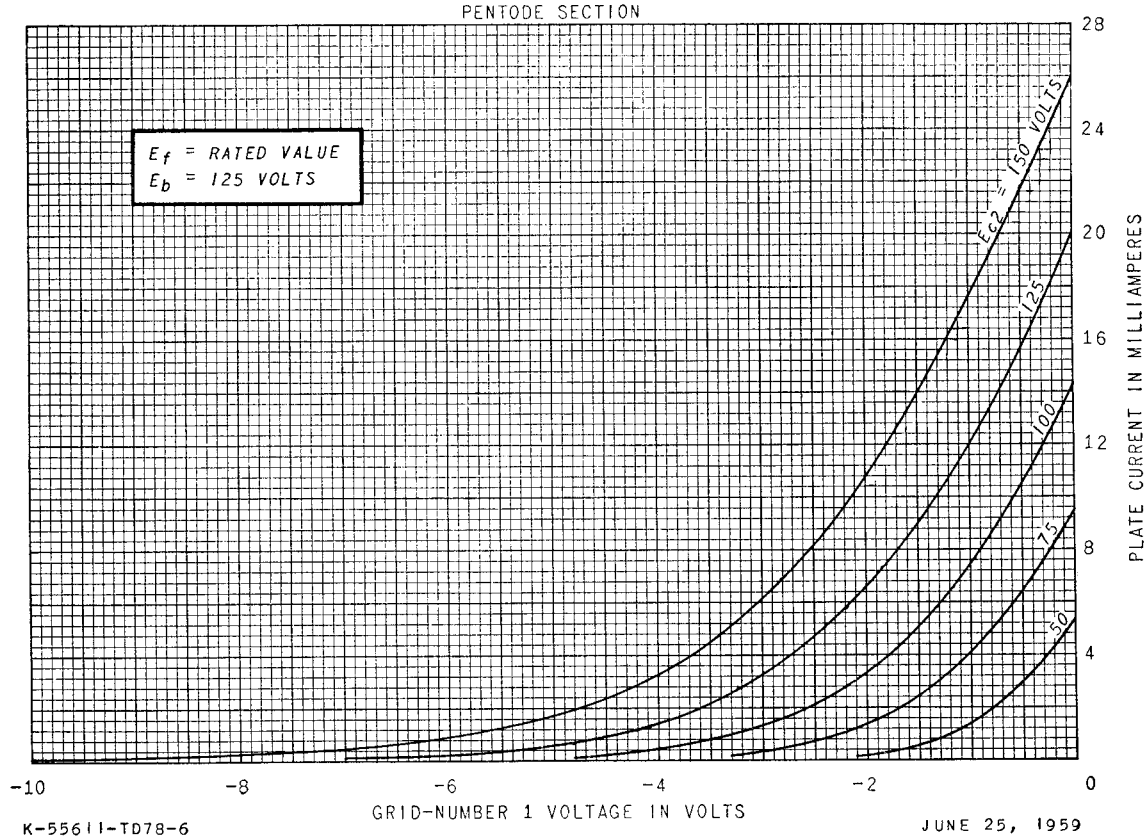


K-55611-TD78-5

JUNE 25, 1959

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

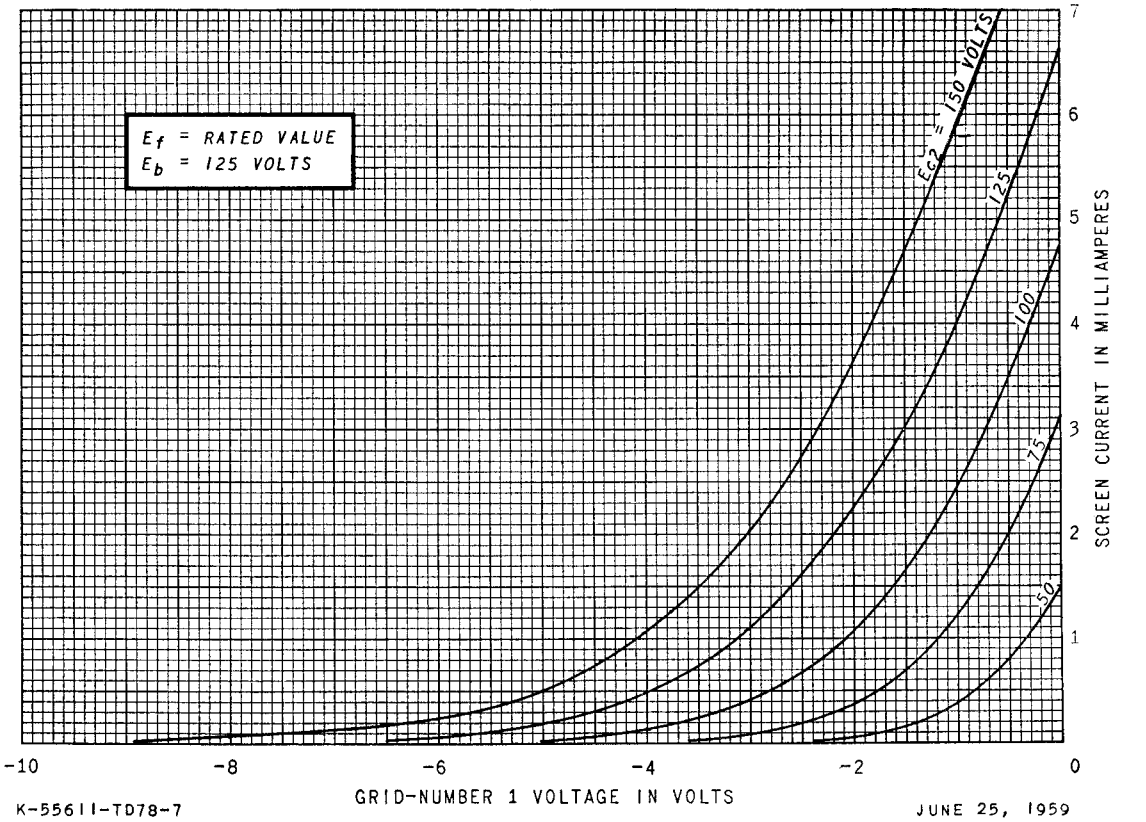


K-55611-TD78-6

JUNE 25, 1959

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

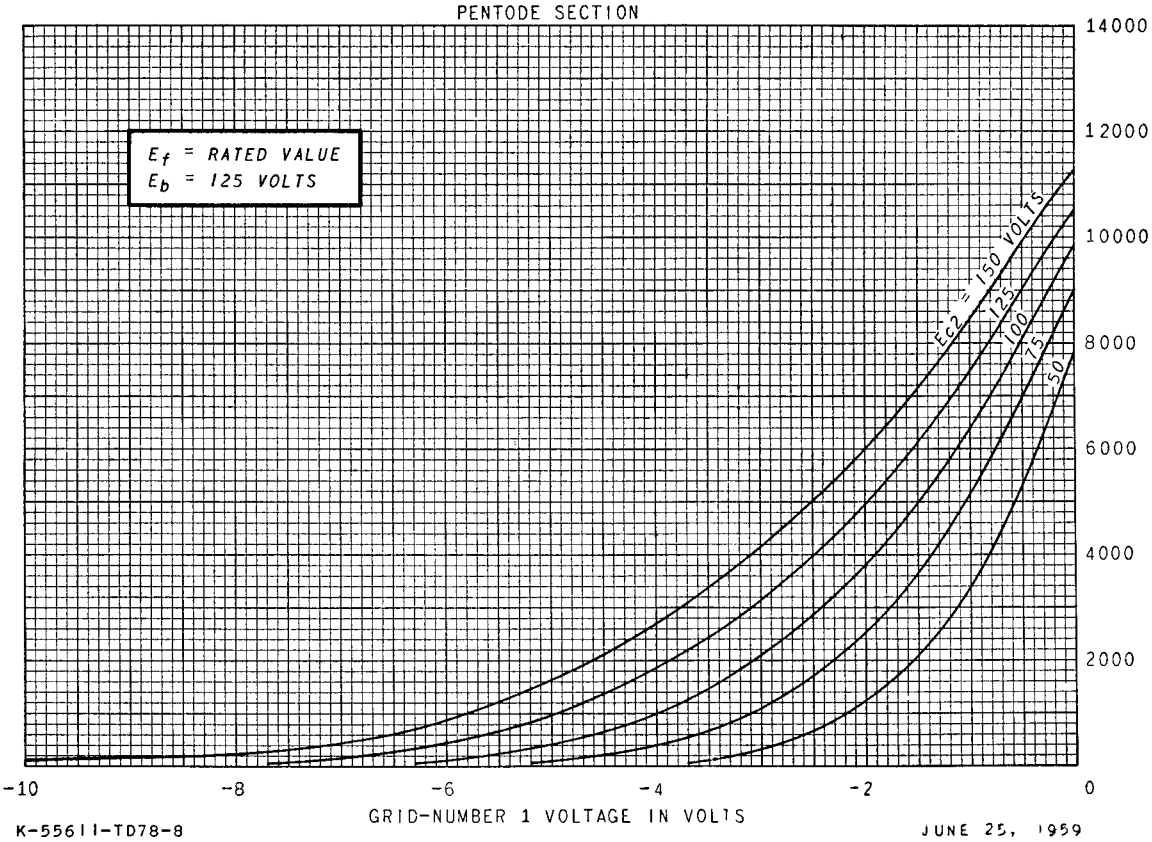


K-55611-TD78-7

JUNE 25, 1959

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



K-55611-TD78-8

JUNE 25, 1959