



**ELECTRONIC
INNOVATIONS**
IN ACTION

TUBES

—PRODUCT INFORMATION—

Page 1

12-70

6AH9

Compactron Triode-Pentode

■ COLOR TV TYPE

■ FRAME-GRID VIDEO PENTODE

■ 10 WATTS PLATE DISSIPATION

■ MULTI-FUNCTION

■ 21000 MICROMHOS

■ MEDIUM-MU TRIODE

The 6AH9 is a compactron containing a medium-mu triode and a sharp-cutoff, frame-grid pentode. The pentode is designed primarily for video amplifier service and the triode for color blanker or general purpose applications in color television receivers

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*.....6.3 ± 0.6 Volts

Heater Current.....0.9 Amperes

Direct Interelectrode Capacitances♦

Pentode Section

Grid-Number 1 to Plate: (Pg1 to Pp).....0.15 pf

Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.).....15 pf

Output: Pp to (h + Pk + Pg2 + Pg3 + i.s.).....6.0 pf

Triode Section

Grid to Plate: (Tg to Tp).....3.7 pf

Input: Tg to (h + Tk).....2.4 pf

Output: Tp to (h + Tk).....0.4 pf

MECHANICAL

Operating Position - Any

Envelope - T-9, Glass

Base - E12-70, Button 12-Pin

Outline Drawing - EIA 9-59

Maximum Diameter.....1.188 Inches

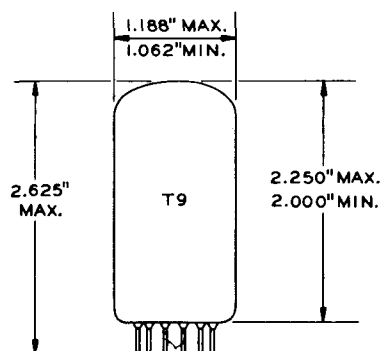
Minimum Diameter.....1.062 Inches

Maximum Over-all Length.....2.625 Inches

Maximum Seated Height.....2.250 Inches

Minimum Seated Height.....2.000 Inches

PHYSICAL DIMENSIONS



EIA 9-59

TERMINAL CONNECTIONS

Pin 1 - Heater

Pin 2 - Triode Grid

Pin 3 - Triode Plate

Pin 4 - Triode Cathode

Pin 5 - Pentode Grid Number 1

Pin 6 - Pentode Grid Number 1

Pin 7 - Pentode Cathode

Pin 8 - Pentode Grid Number 2 (Screen)

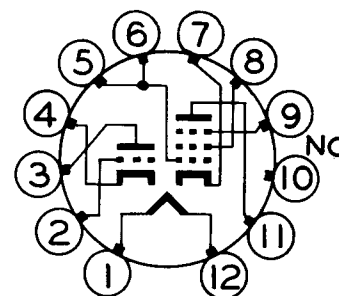
Pin 9 - Pentode Grid Number 3 (Suppressor)
and Internal Shield

Pin 10 - No Connection

Pin 11 - Pentode Plate

Pin 12 - Heater

BASING DIAGRAM



EIA 12HJ

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GENERAL ELECTRIC

Supersedes 6AH9 PI Sheet dated 10-68

MAXIMUM RATINGS**DESIGN-MAXIMUM VALUES**

	Pentode Section	Triode Section	
Plate Voltage.....	400	330	Volts
Suppressor Voltage.....	0	---	Volts
Screen Supply Voltage.....	330	---	Volts
Screen Voltage - See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage.....	0 ▲	0	Volts
Plate Dissipation.....	10	2.0	Watts
Screen Dissipation.....	1.0	---	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.....	0.1	1.0	Megohms
With Cathode Bias.....	0.25	---	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron 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, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

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, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION**AVERAGE CHARACTERISTICS**

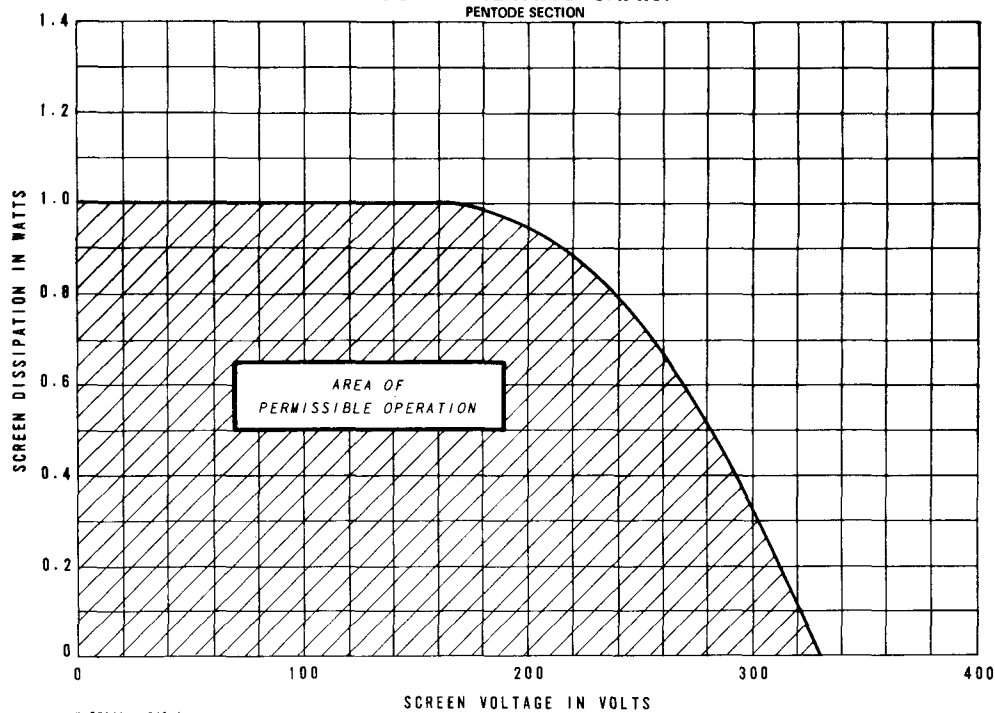
	Pentode Section	Triode Section	
Plate Voltage.....	50 250	250	Volts
Screen Voltage.....	125 150	---	Volts
Grid-Number 1 Voltage.....	0§	-9.0	Volts
Cathode-Bias Resistor.....	---	---	Ohms
Amplification Factor.....	---	20	
Plate Resistance, approximate.....	55000	7500	Ohms
Transconductance.....	21000	2750	Micromhos
Plate Current.....	76 25	8.0	Milliamperes
Screen Current.....	32 6.0	---	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 100 Microamperes.....	---	-7.2 -18	Volts

NOTES

- * The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
- Heater current of a bogey tube at $E_f = 6.3$ volts.
- ♦ Without external shield.
- ▲ Control grid to cathode spacing of the pentode section of this tube is of such low order of magnitude as to preclude the use of voltage between these elements of more than 50 volts dc or peak ac in commercial tube checkers and shorts-indicating devices, particularly where mechanical excitation of the tube is employed.
- § Applied for short interval (two seconds maximum) so as not to damage tube.

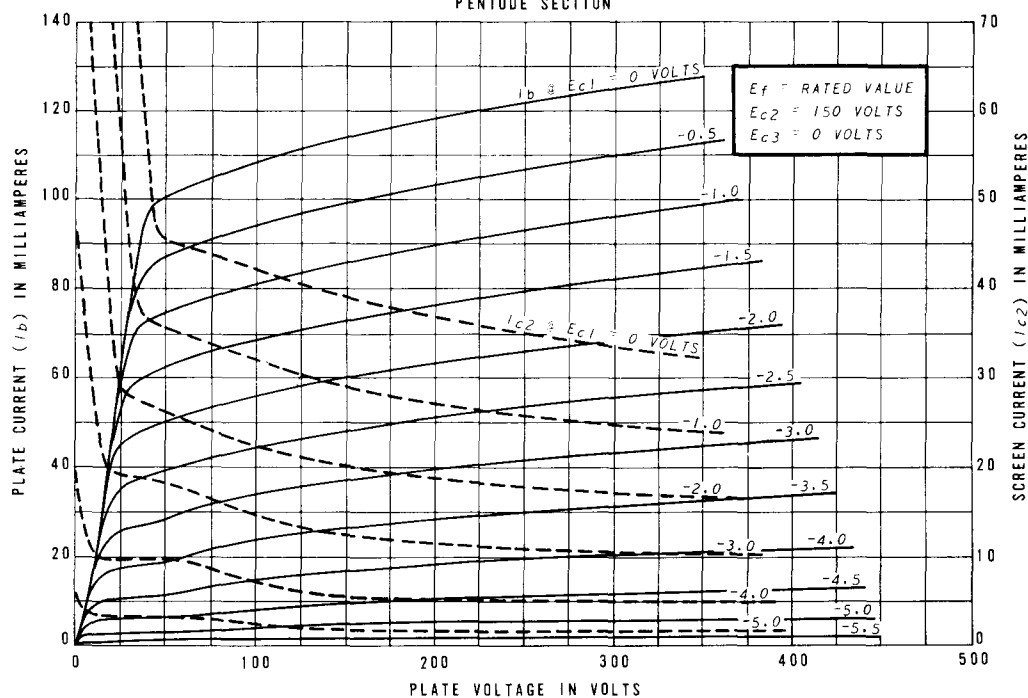
SCREEN RATING CHART

PENTODE SECTION



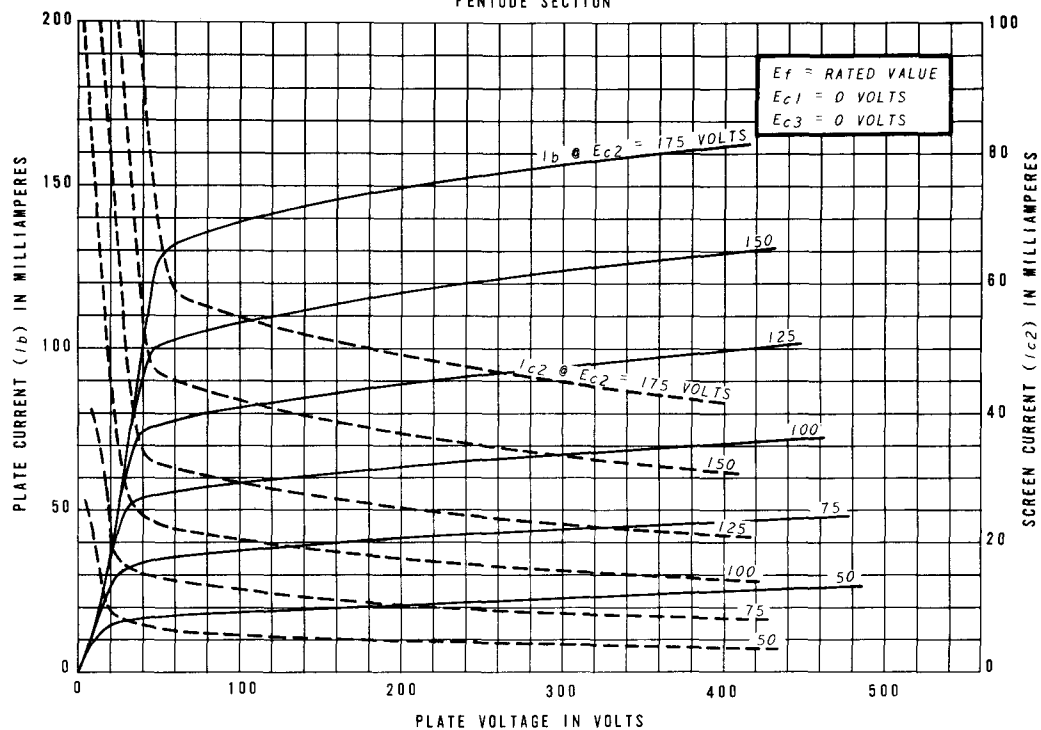
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



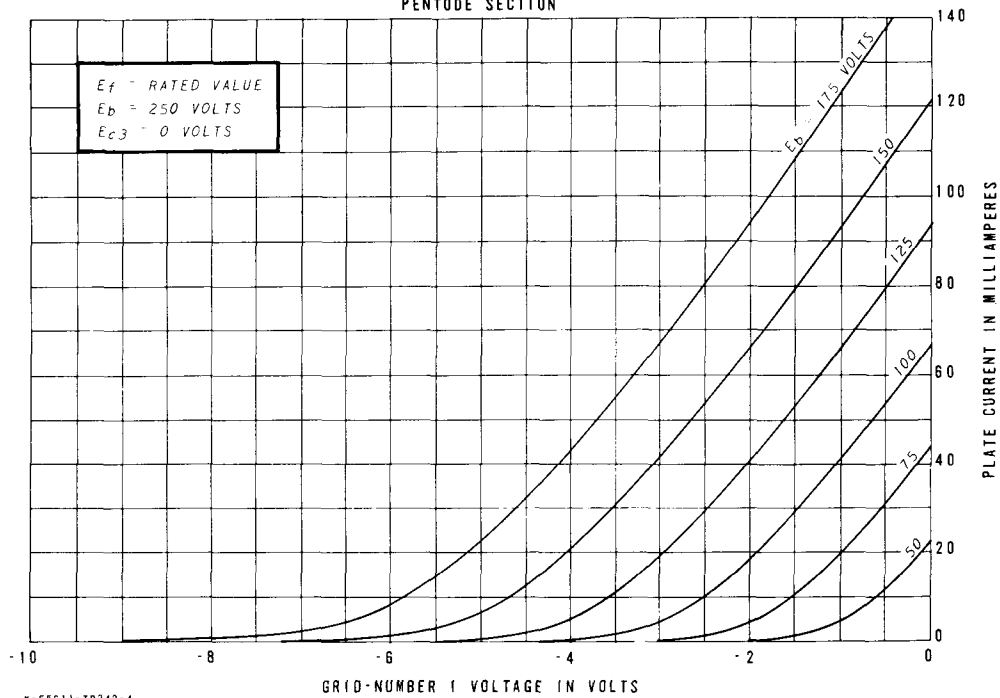
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



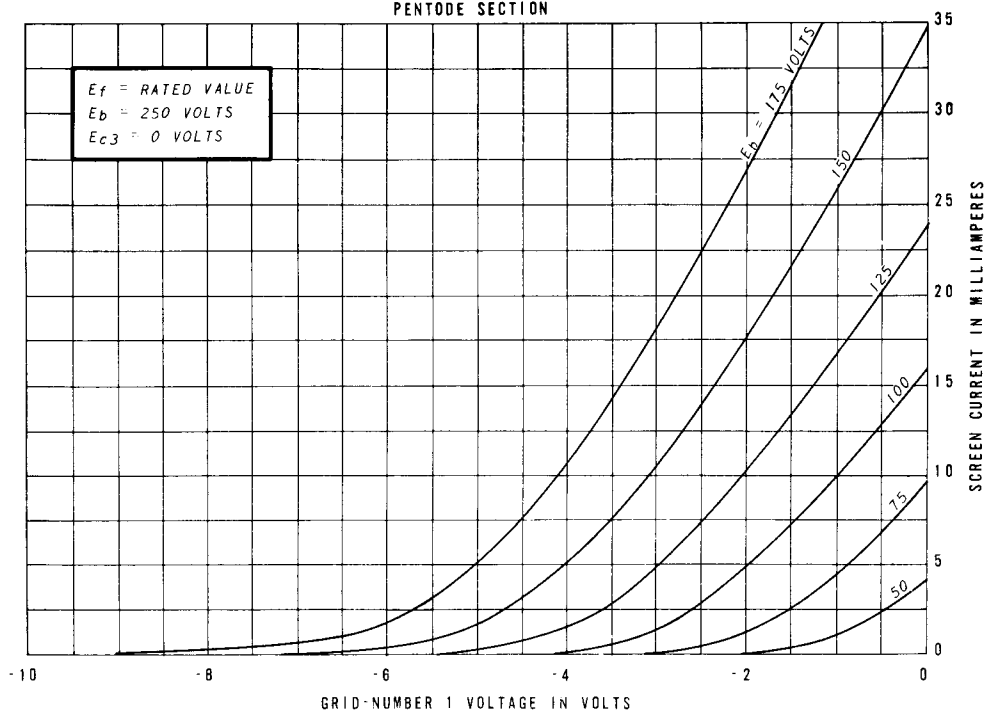
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



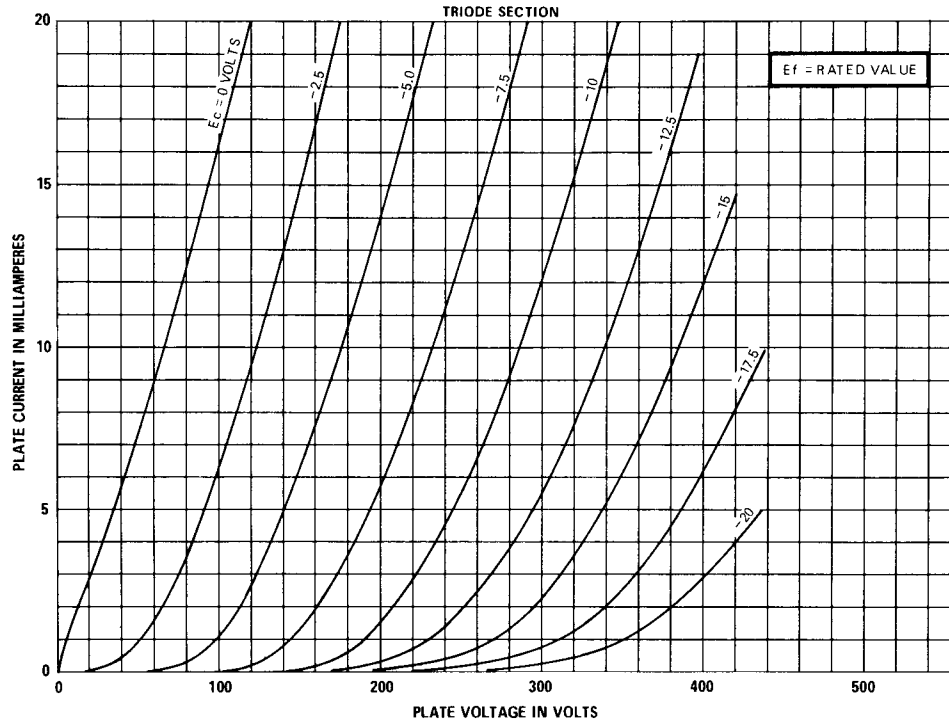
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

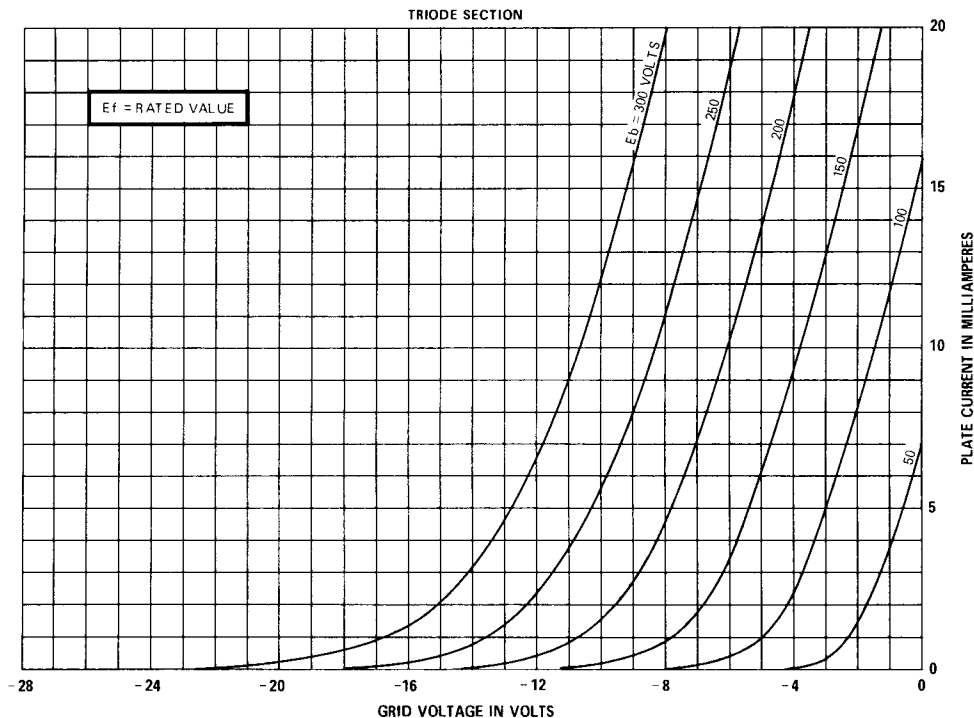


AVERAGE PLATE CHARACTERISTICS

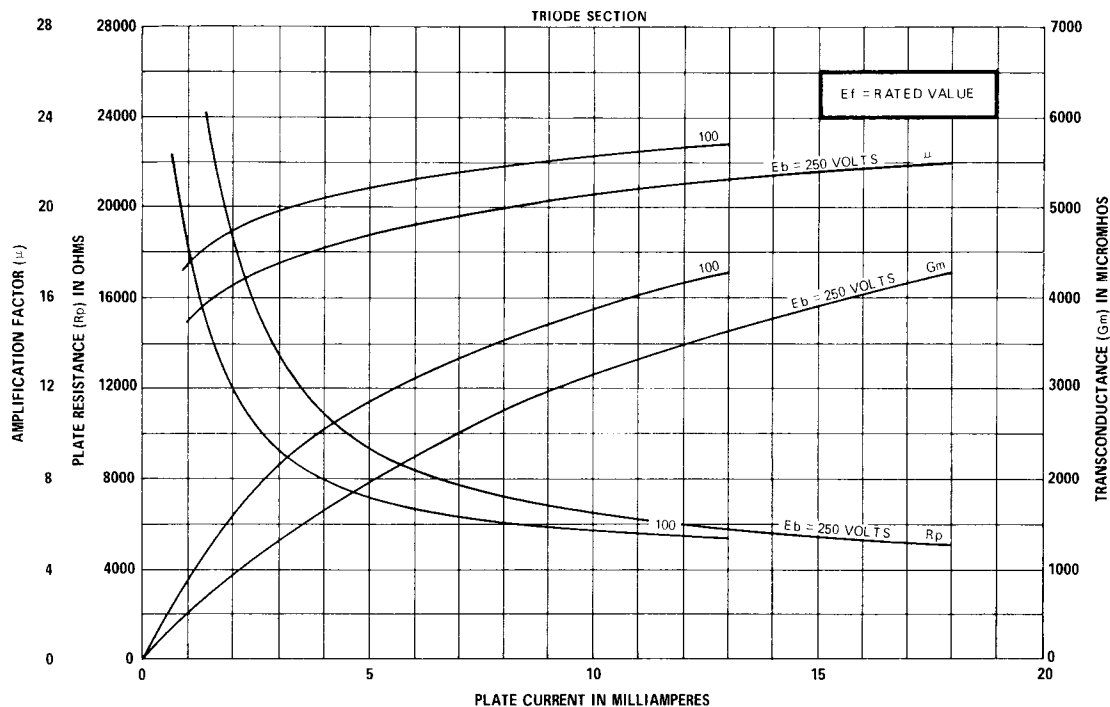
TRIODE SECTION



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS



TUBE PRODUCTS DEPARTMENT

GENERAL  **ELECTRIC**

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