

6AG9

Compactron Triode-Pentode

The 6AG9 is a compactron containing a sharp-cutoff, high-transconductance, frame-grid pentode and a triode. The pentode is intended for video amplifier service and the triode for AGC amplifier service 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† 0.82 Amperes

Direct Interelectrode Capacitances‡

Pentode Section

Grid-Number 1 to Plate:

(Pg1 to Pp) 0.16 pf

Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.) 17 pf

Output: Pp to (h + Pk + Pg2 + Pg3 + i.s.) 6.5 pf

Triode Section

Grid to Plate: (Tg to Tp) 2.8 pf

Input: Tg to (h + Tk + i.s.) 3.6 pf

Output: Tp to (h + Tk + i.s.) 2.2 pf

MECHANICAL

Operating Position - Any

Envelope - T-9, Glass

Base - E12, 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

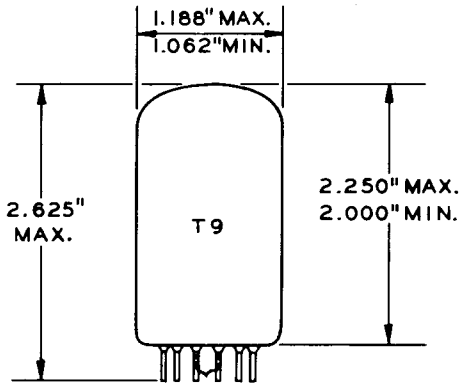
MAXIMUM RATINGS

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.

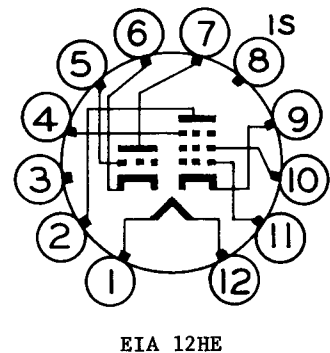
PHYSICAL DIMENSIONS



TERMINAL CONNECTIONS

- Pin 1 - Heater
- Pin 2 - Pentode Plate
- Pin 3 - No Connection
- Pin 4 - Pentode Grid Number 3 (Suppressor)
- Pin 5 - Triode Grid
- Pin 6 - Triode Cathode
- Pin 7 - Triode Plate
- Pin 8 - Internal Shield
- Pin 9 - Pentode Cathode
- Pin 10 - Pentode Grid Number 2 (Screen)
- Pin 11 - Pentode Grid Number 1
- Pin 12 - Heater

BASING DIAGRAM



MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES	Pentode Section	Triode Section	
Plate Voltage	330	330	Volts
Screen Voltage	200	---	Volts
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	10	1.1	Watts
Screen Dissipation	1.5	---	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	0.1	0.5	Megohms
With Cathode Bias	0.25	1.0	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS	Pentode Section	Triode Section		
Plate Voltage	55	250	150	Volts
Screen Voltage	125	150	---	Volts
Grid-Number 1 Voltage	0	---	---	Volts
Cathode-Bias Resistor	---	56	350	Ohms
Amplification Factor	---	---	39	
Plate Resistance, approximate	---	40000	8500	Ohms
Transconductance	---	30000	4600	Micromhos
Plate Current	56	28	6.2	Milliamperes
Screen Current	21	5.6	---	Milliamperes
Grid-Number 1 Voltage, approximate				
I _b = 20 Microamperes	---	---	-7	Volts
Grid-Number 1 Voltage, approximate				
I _b = 100 Microamperes	---	-5.4	---	Volts

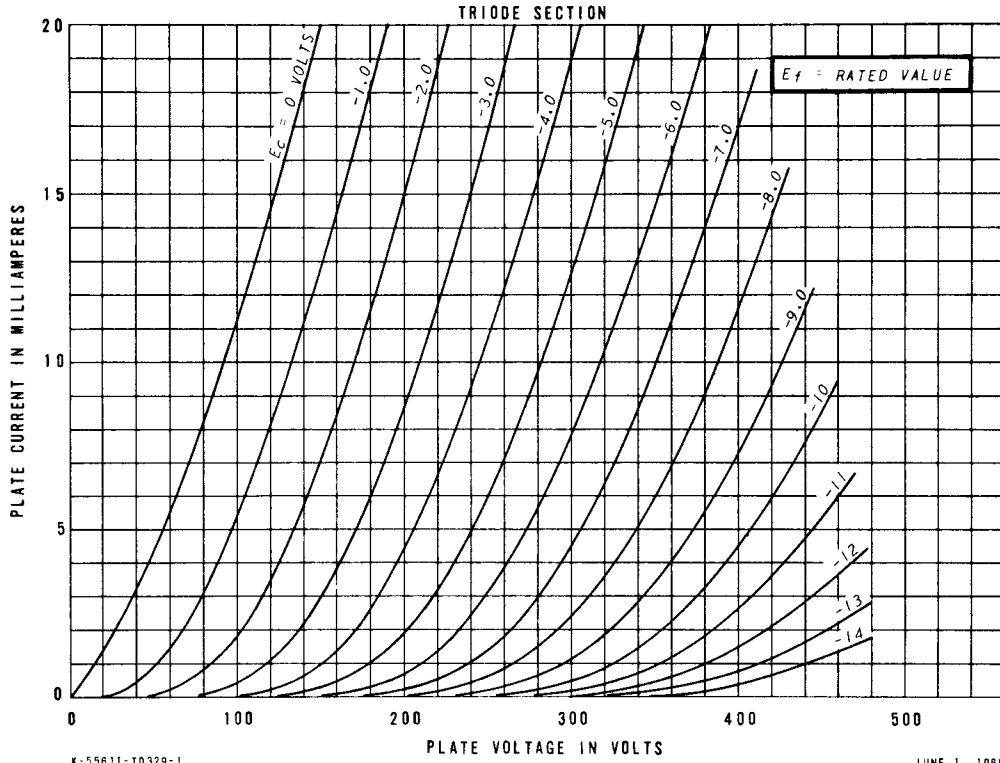
NOTES

- * 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.

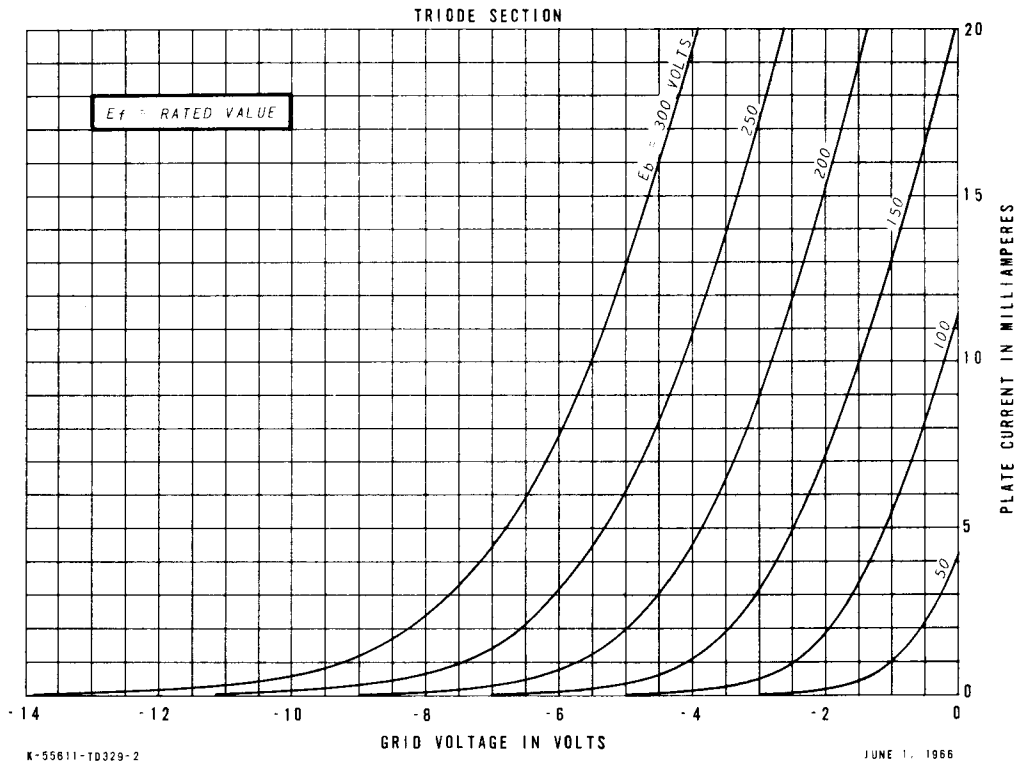
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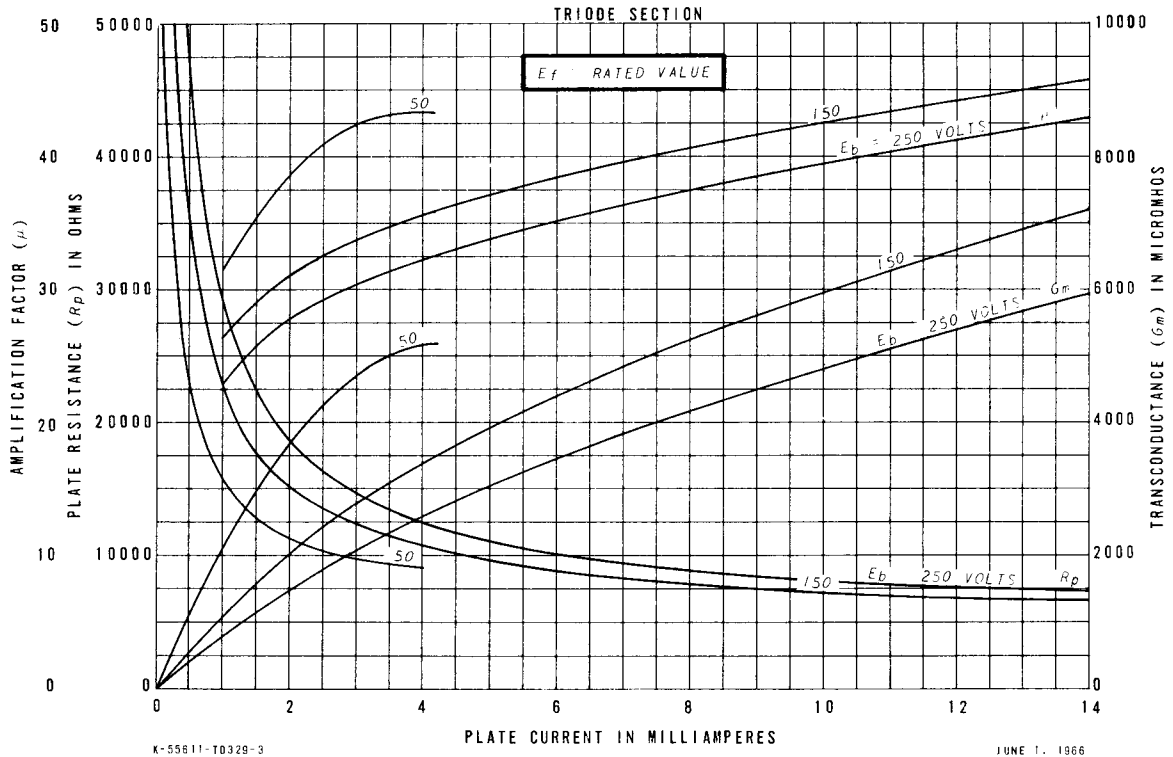
AVERAGE PLATE CHARACTERISTICS



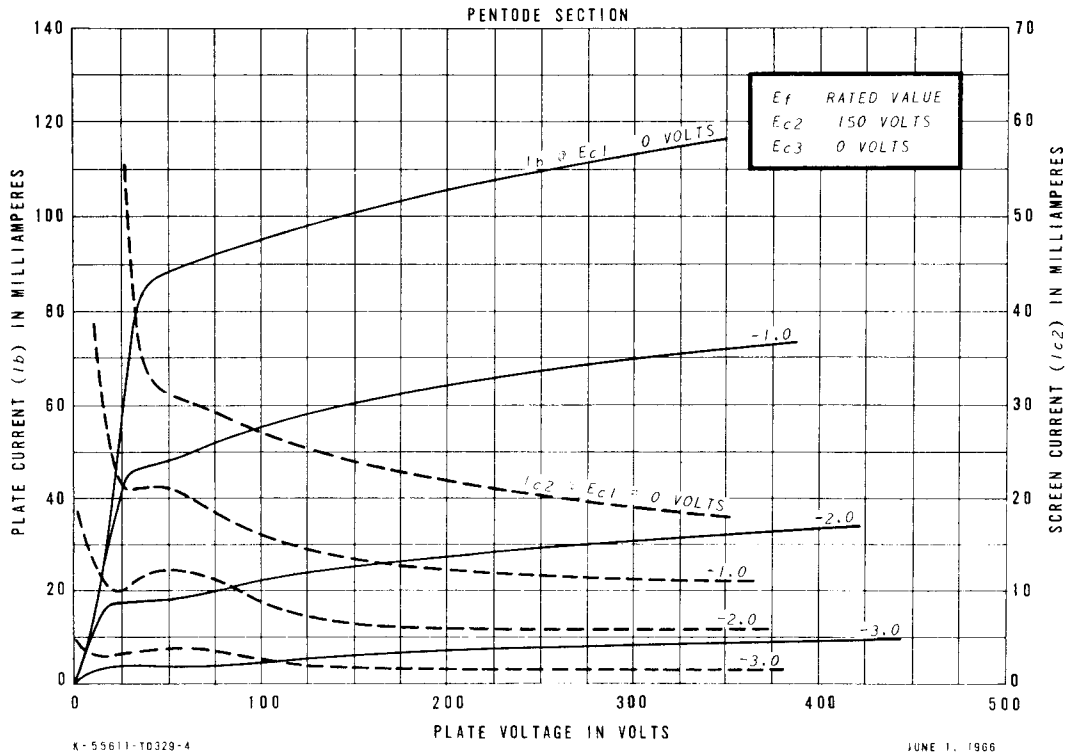
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS

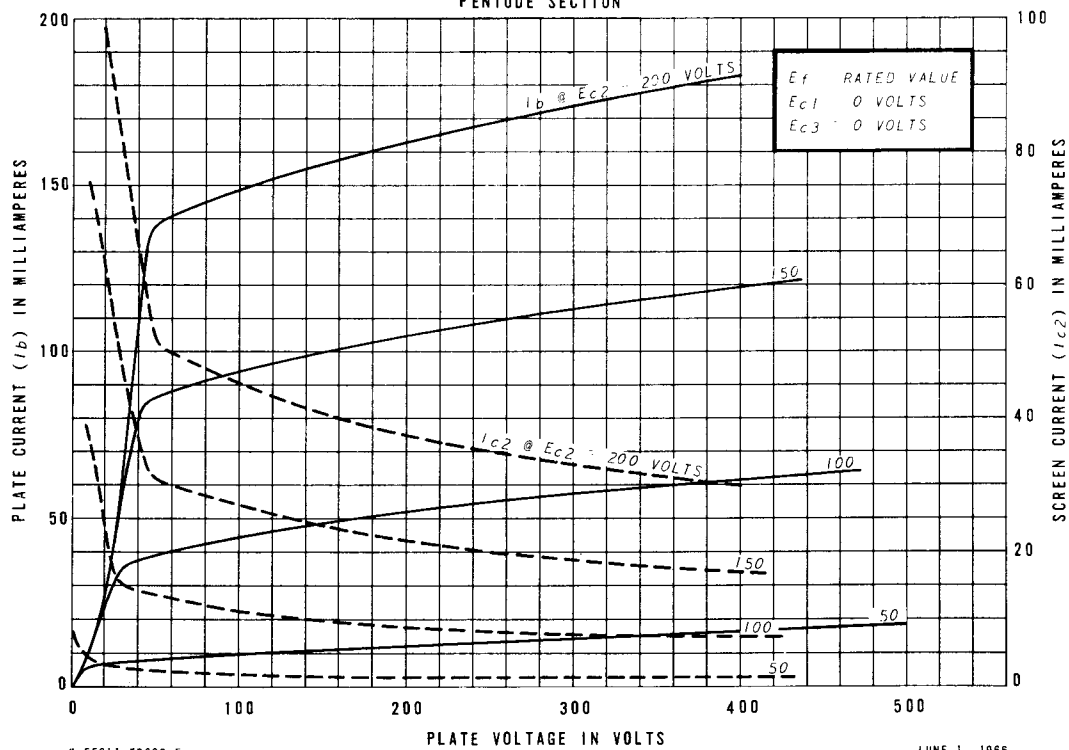


AVERAGE PLATE CHARACTERISTICS



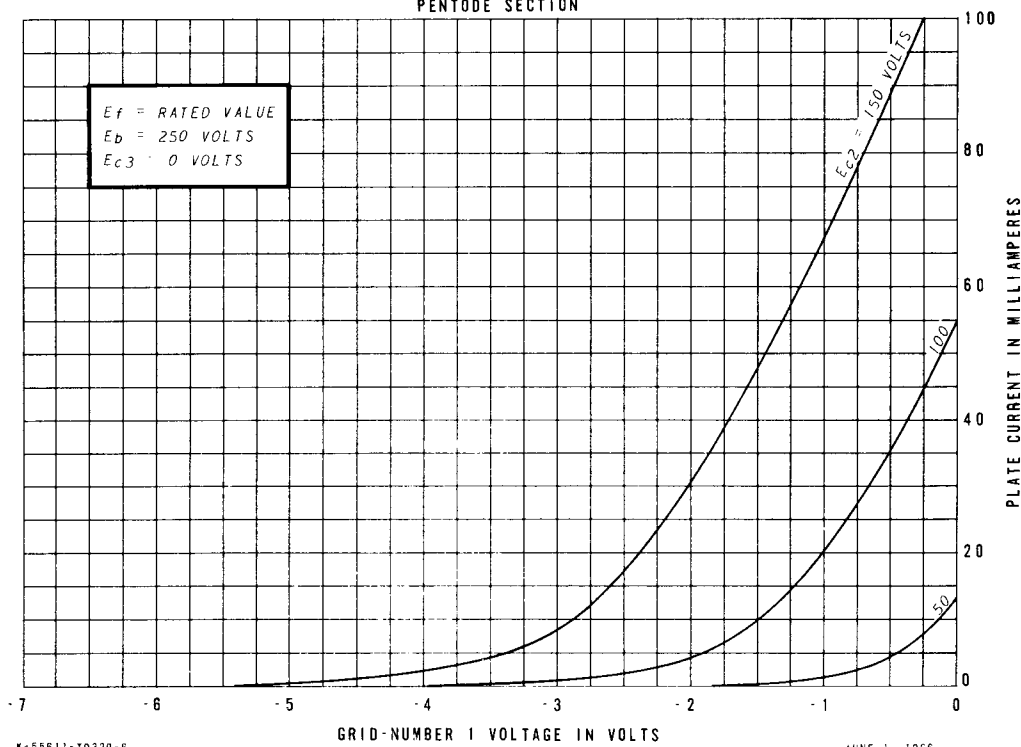
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



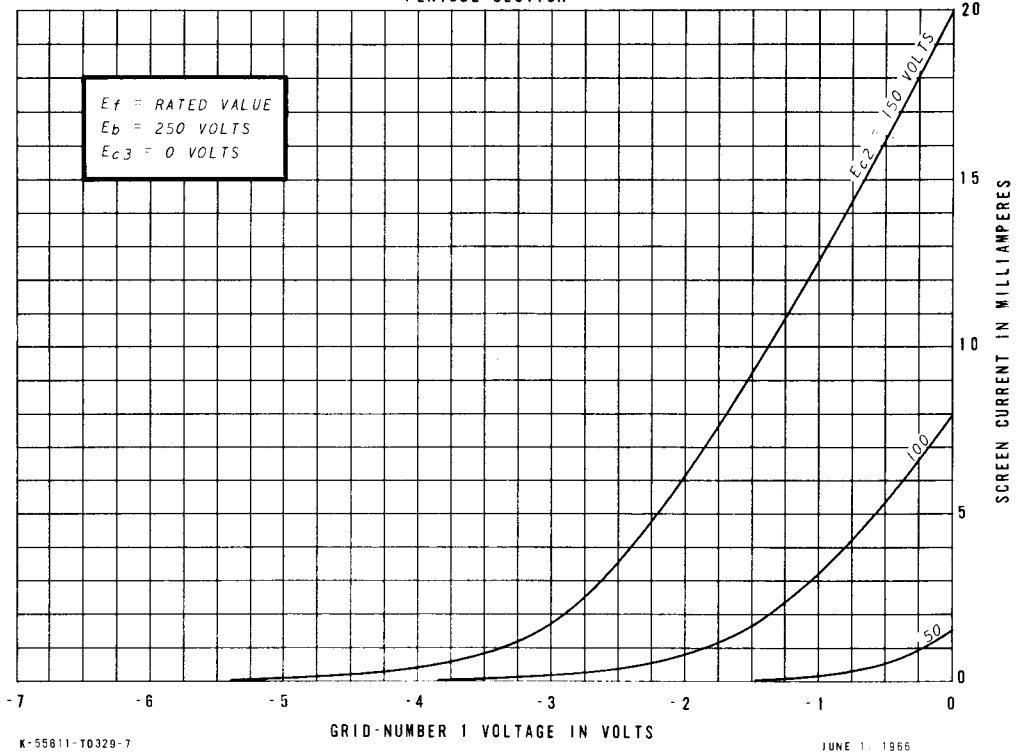
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



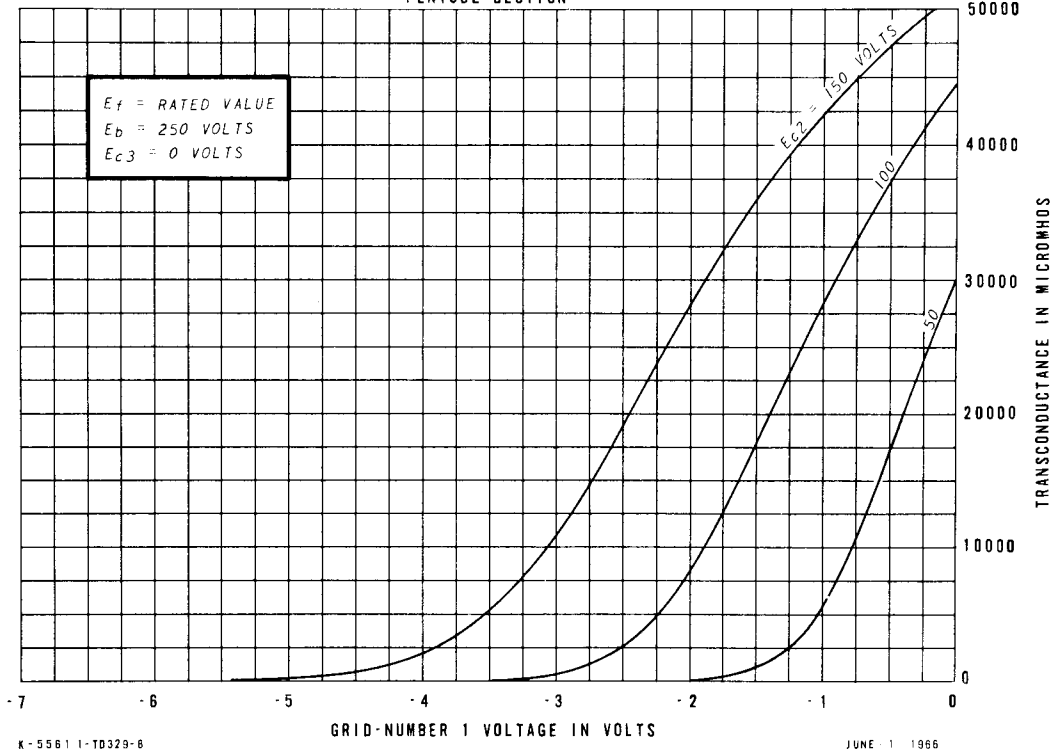
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



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PENTODE SECTION



TUBE DEPARTMENT



Owensboro, Kentucky