

## TWIN TRIODE

### DESCRIPTION AND RATING

The 7025 is a miniature, high- $\mu$ , twin triode primarily designed for use in low-level stages of high-gain audio-frequency amplifiers. Use of the 7025 in this application is advantageous because of its low hum output.

### GENERAL

#### ELECTRICAL

Cathode - Coated Unipotential

	Series*	Parallel†	
Heater Voltage, AC or DC . . .	12.6±1.3‡	6.3±0.6‡	Volts
Heater Current† . . . . .	0.15§	0.3¶	Amperes
Direct Interelectrode Capacitances			

	Section 1		Section 2	
	With Shield #	Without Shield	With Shield #	Without Shield

Grid to Plate: (g to p)	1.7	1.7	1.7	1.7	pf
Input: g to (h + k)	1.8	1.6	1.8	1.6	pf
Output: p to (h + k)	1.9	0.46	1.9	0.34	pf

#### MECHANICAL

Operating Position - Any  
Envelope - T-6 1/2, Glass  
Base - E9-1, Small Button 9-Pin  
Outline Drawing - EIA 6-2  
Maximum Diameter. . . 0.875 Inches  
Maximum Over-all Length 2.188 Inches  
Maximum Seated Height . 1.938 Inches

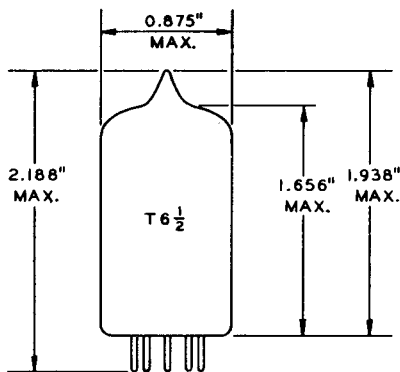
### MAXIMUM RATINGS

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

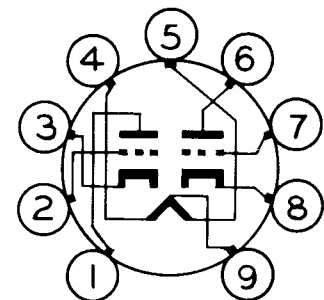


EIA 6-2

#### TERMINAL CONNECTIONS

- Pin 1 - Plate (Section 2)
- Pin 2 - Grid (Section 2)
- Pin 3 - Cathode (Section 2)
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Plate (Section 1)
- Pin 7 - Grid (Section 1)
- Pin 8 - Cathode (Section 1)
- Pin 9 - Heater Center-Tap

#### BASING DIAGRAM



EIA 9A

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express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

**MAXIMUM RATINGS (Cont'd)****DESIGN-MAXIMUM VALUES, EACH SECTION**

Plate Voltage . . . . .	330	Volts
Positive DC Grid Voltage . . . . .	0	Volts
Negative DC Grid Voltage . . . . .	55	Volts
Plate Dissipation, Each Plate . . . . .	1.2	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component . . . . .	100	Volts
Total DC and Peak . . . . .	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak . . . . .	200	Volts

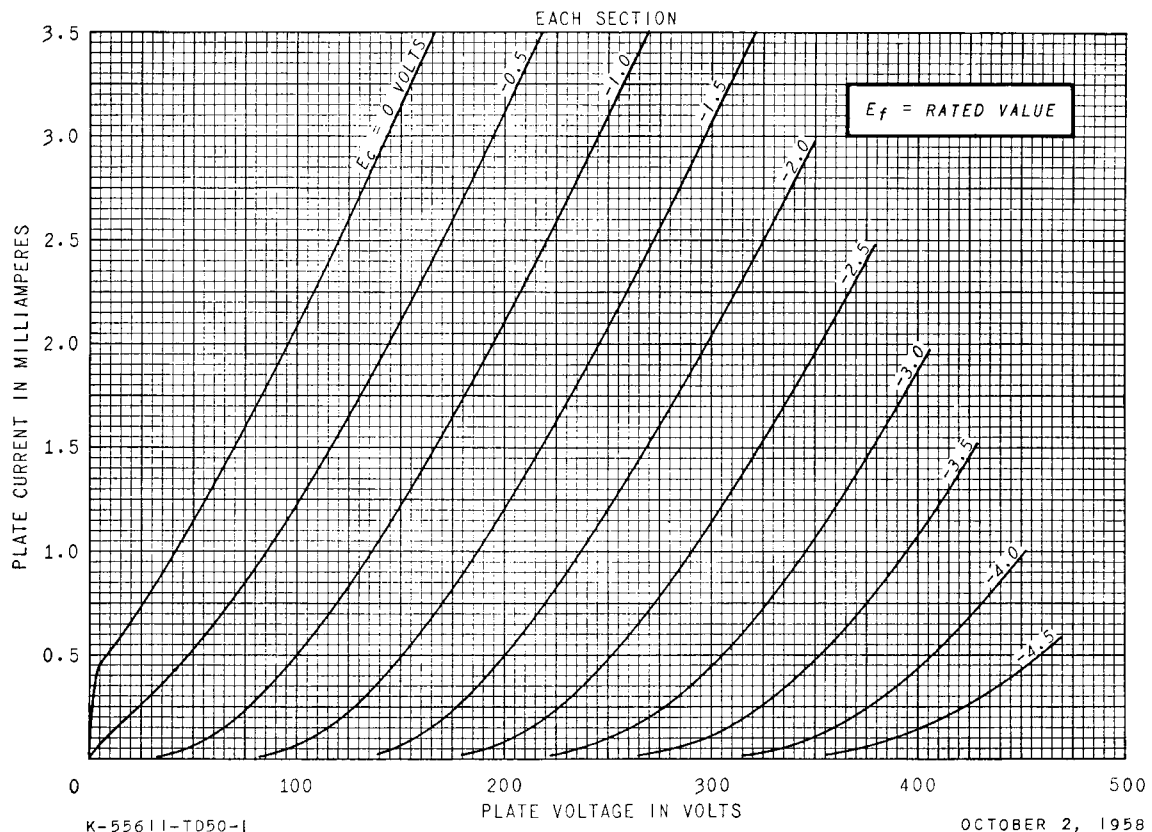
**CHARACTERISTICS AND TYPICAL OPERATION****CLASS A<sub>1</sub> AMPLIFIER, EACH SECTION**

Plate Voltage . . . . .	100	250	Volts
Grid Voltage . . . . .	-1.0	-2.0	Volts
Amplification Factor . . . . .	100	100	
Plate Resistance, approximate . . . . .	80000	62500	Ohms
Transconductance . . . . .	1250	1600	Micromhos
Plate Current . . . . .	0.5	1.2	Milliamperes
Equivalent Noise and Hum Voltage, Each Section, average, true RMS $\Delta$ . . . . .	---	1.8	Microvolts
Equivalent Noise and Hum Voltage, Each Section, maximum, true RMS $\epsilon$ . . . . .	---	7.0	Microvolts

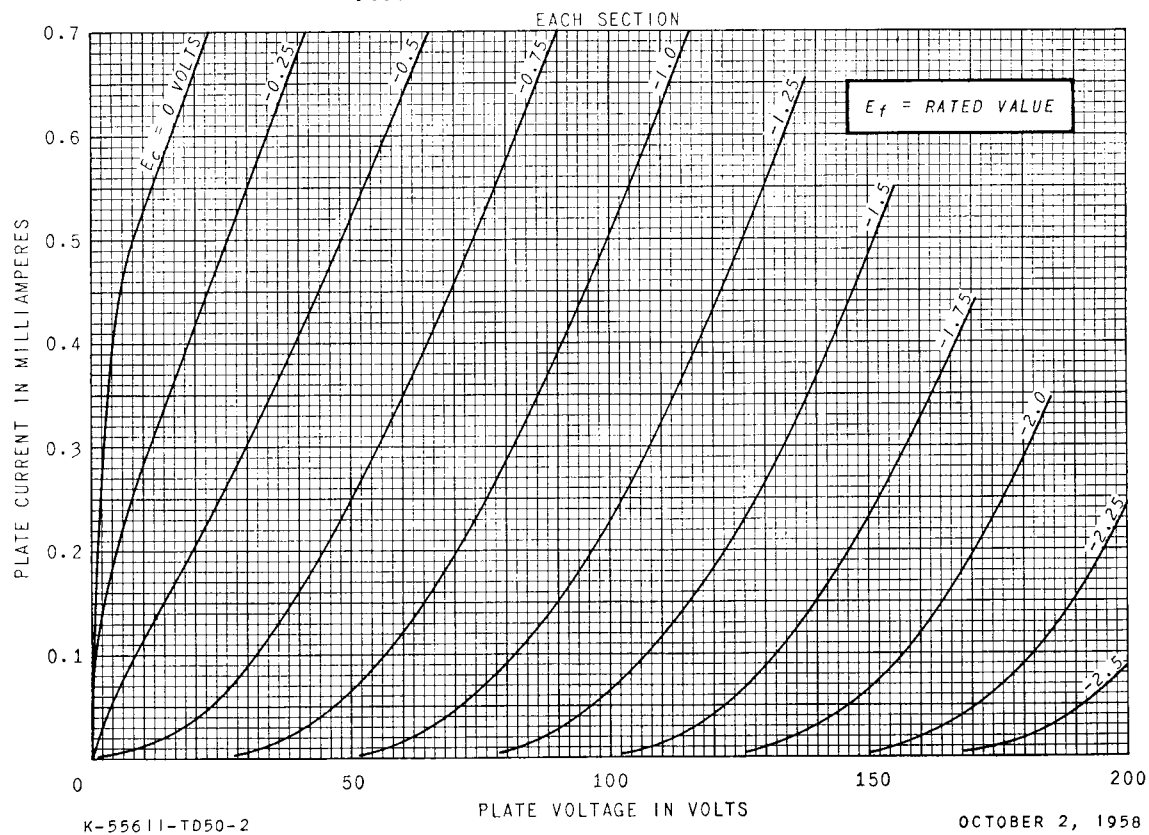
**NOTES**

- \* Operated with the two sections of the heater connected in series.
- † Operated with the two sections of the heater connected in parallel.
- ‡ 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  $E_f = 12.6$  volts
- ¶ Heater current of a bogey tube at  $E_f = 6.3$  volts.
- # With external shield (EIA 315) connected to cathode.
- $\Delta$  Referred to grid and measured under the following conditions:  
 $E_f = 6.3$  volts AC (parallel connection), CT of heater transformer grounded;  $E_{bb} = 250$  volts;  
 $R_b = 100,000$  ohms;  $R_k = 2700$  ohms, bypassed with  $100\mu\text{f}$ ;  $R_g = 0$  ohms; Amplifier frequency range = 25 to 10,000 cps.
- $\epsilon$  Referred to grid and measured under the following conditions:  
 $E_f = 6.3$  volts AC (parallel connection), CT of heater transformer grounded;  $E_{bb} = 250$  volts;  
 $R_b = 100,000$  ohms;  $R_k = 2700$  ohms, unbypassed;  $R_g = 50,000$  ohms; Amplifier frequency range = 25 to 10,000 cps.

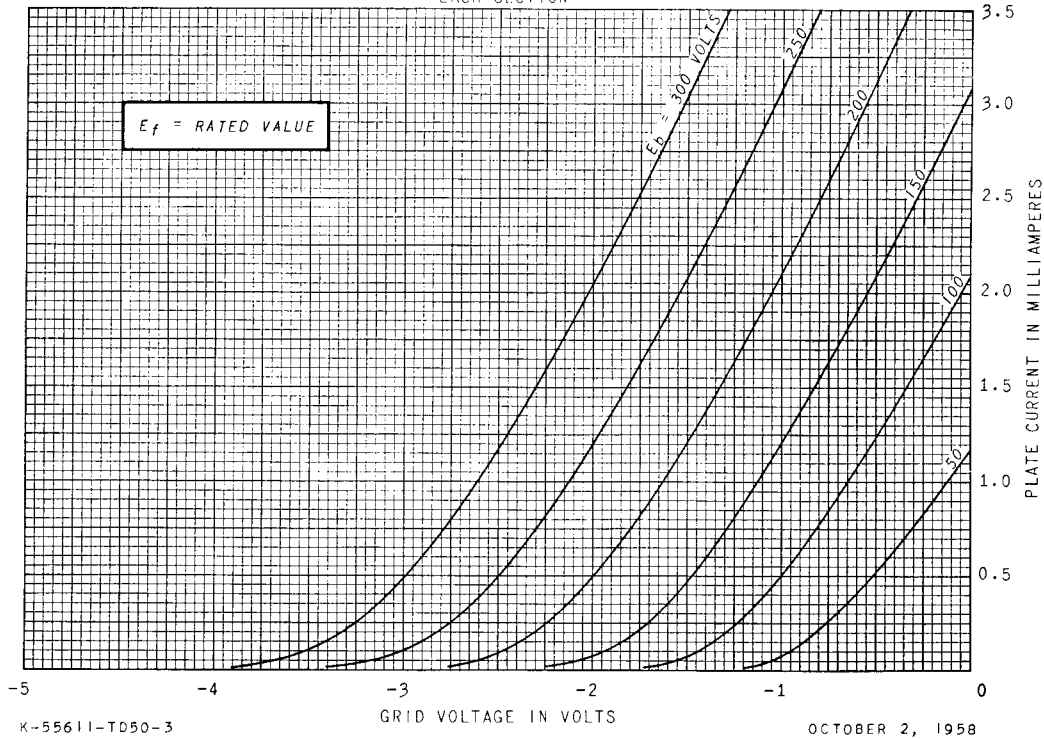
### AVERAGE PLATE CHARACTERISTICS



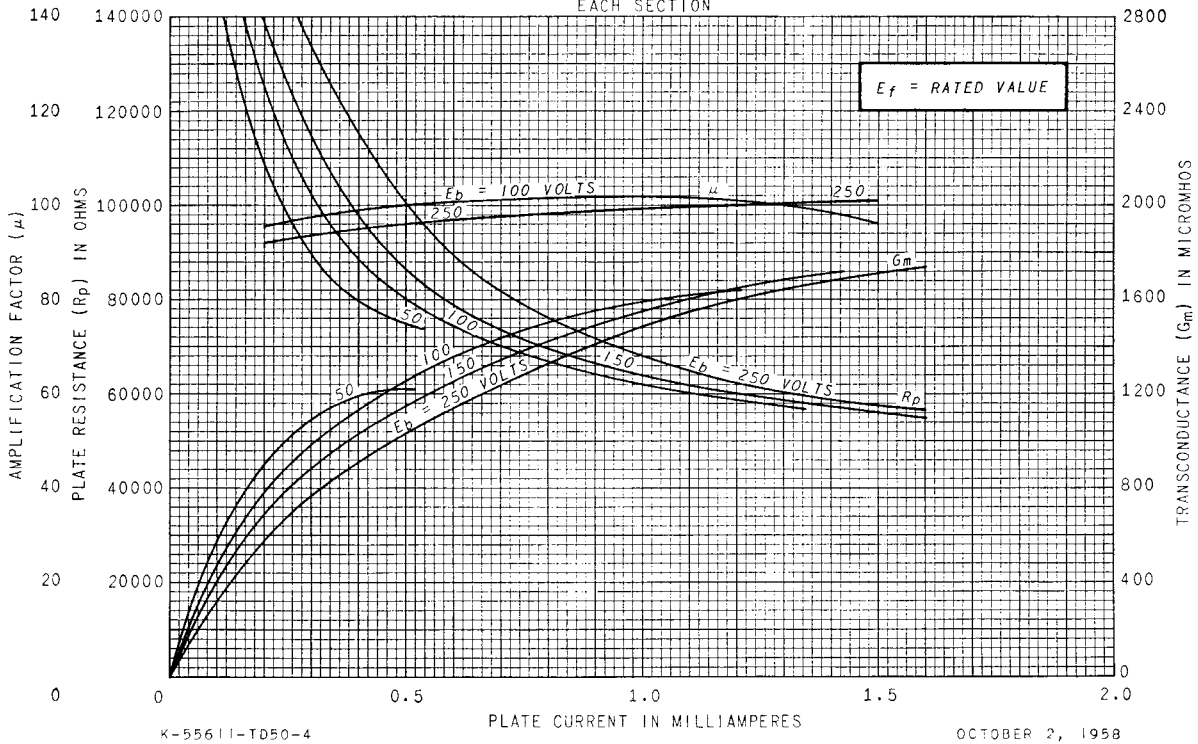
### AVERAGE PLATE CHARACTERISTICS



**AVERAGE TRANSFER CHARACTERISTICS**  
EACH SECTION



**AVERAGE CHARACTERISTICS**  
EACH SECTION



RECEIVING TUBE DEPARTMENT  
**GENERAL ELECTRIC**  
Owensboro, Kentucky