



### COMPACTRON TWIN PENTODE

#### DESCRIPTION AND RATING

The 6BN11 is a compactron containing two sharp-cutoff pentodes. It is intended primarily for intermediate-frequency amplifier service in television receivers.

#### GENERAL

##### ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings.

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

Heater Current†. . . . . 0.8 Amperes

Direct Interelectrode Capacitances‡

##### Section 1

Grid-Number 1 to Plate: (1g1 to 1p) . 0.04 pf

Input: 1g1 to (h + 1k + 1g2 + 1g3 + 2g3 + i.s.) . . . . . 12 pf

Output: 1p to (h + 1k + 1g2 + 1g3 + 2g3 + i.s.) . . . . . 2.8 pf

##### Section 2

Grid-Number 1 to Plate: (2g1 to 2p) . 0.03 pf

Input: 2g1 to (h + 2k + 2g2 + 2g3 + 1g3 + i.s.) . . . . . 12 pf

Output: 2p to (h + 2k + 2g2 + 2g3 + 1g3 + i.s.) . . . . . 2.8 pf

##### Coupling

Cathode, Section 1 to Cathode,

Section 2: (1k to 2k), maximum . 0.02 pf

Grid-Number 1, Section 1 to Plate,

Section 2: (1g1 to 2p), maximum . 0.02 pf

Grid-Number 1, Section 2 to Plate,

Section 1: (2g1 to 1p), maximum . 0.003 pf

Plate, Section 1 to Plate,

Section 2: (1p to 2p), maximum . 0.01 pf

##### MECHANICAL

Operating Position - Any

Envelope - T-9, Glass

Base - E12-70, Button 12-Pin

Outline Drawing - EIA 9-58

Maximum Diameter . . . . . 1.188 Inches

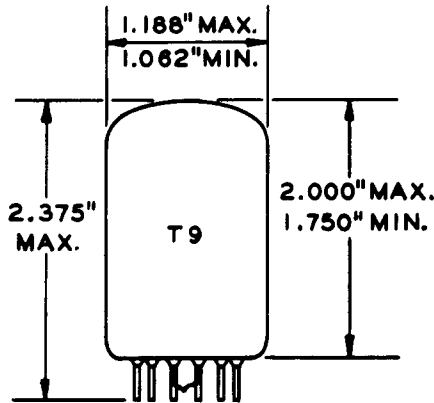
Minimum Diameter . . . . . 1.062 Inches

Maximum Over-all Length . . . . . 2.375 Inches

Maximum Seated Height. . . . . 2.000 Inches

Minimum Seated Height. . . . . 1.750 Inches

##### PHYSICAL DIMENSIONS

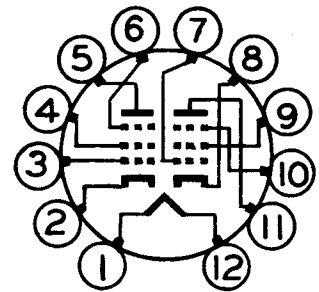


EIA 9-58

##### TERMINAL CONNECTIONS

- Pin 1 - Heater
- Pin 2 - Cathode (Section 2)
- Pin 3 - Grid Number 1 (Section 2)
- Pin 4 - Grid Number 2 (Screen) (Section 2)
- Pin 5 - Plate (Section 2)
- Pin 6 - Grid Number 3 (Suppressor) and Internal Shield (Section 2)
- Pin 7 - Grid Number 1 (Section 1)
- Pin 8 - Cathode (Section 1)
- Pin 9 - Grid Number 2 (Screen) (Section 1)
- Pin 10 - Grid Number 3 (Suppressor) and Internal Shield (Section 1)
- Pin 11 - Plate (Section 1)
- Pin 12 - Heater

##### BASING DIAGRAM



EIA 12GF

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an

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**

**DESIGN-MAXIMUM VALUES, Each Section**

Plate Voltage . . . . .	330	Volts
Screen Supply Voltage . . . . .	330	Volts
Screen Voltage - See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage . . . . .	0	Volts
Plate Dissipation . . . . .	3.1	Watts
Screen Dissipation . . . . .	0.65	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
Grid-Number 1 Circuit Resistance		
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, Each Section**

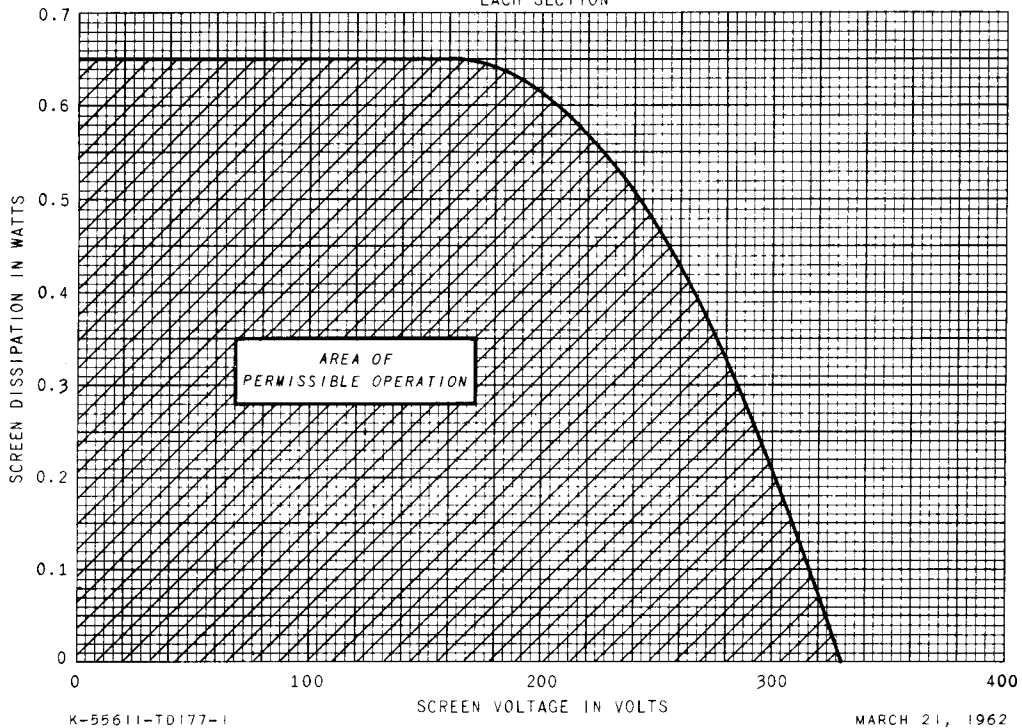
Plate Voltage . . . . .	125	Volts
Suppressor, Connected to Cathode at Socket		
Screen Voltage . . . . .	125	Volts
Cathode-Bias Resistor . . . . .	56	Ohms
Plate Resistance, approximate . . . . .	0.2	Megohms
Transconductance . . . . .	13000	Micromhos
Plate Current . . . . .	11	Milliamperes
Screen Current . . . . .	3.8	Milliamperes
Grid-Number 1 Voltage, approximate		
I <sub>b</sub> = 20 Microamperes . . . . .	-3	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<sub>f</sub> = 6.3 volts.
- § With external shield (EIA 309) connected to cathode of section under test unless otherwise indicated.
- ¶ With external shield (EIA 309) connected to ground.

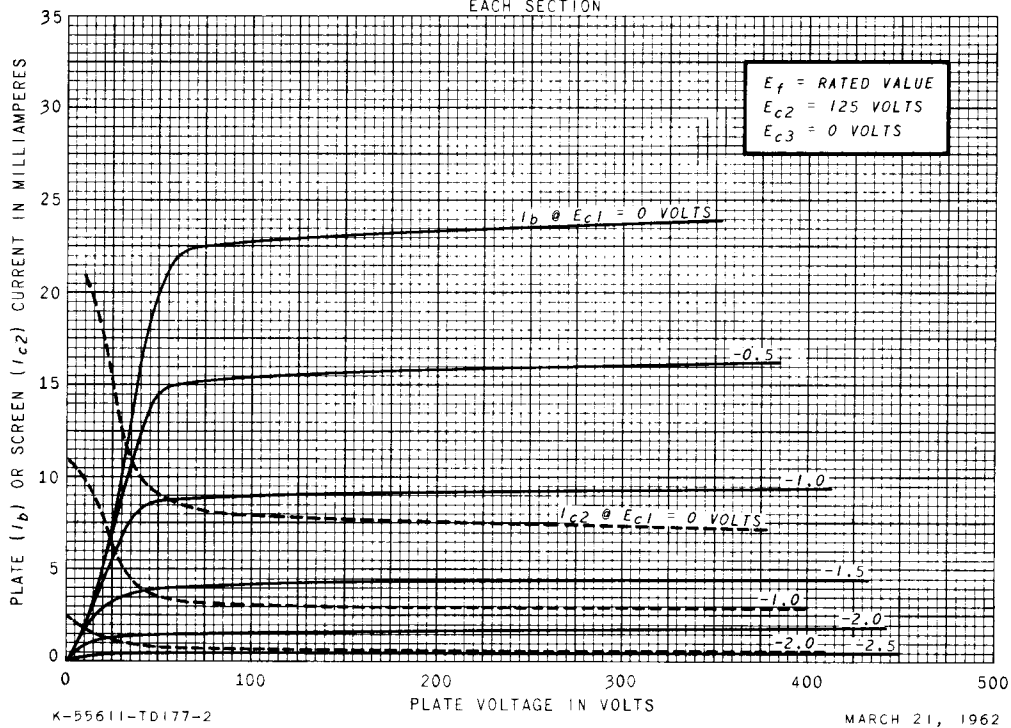
**SCREEN RATING CHART**

EACH SECTION



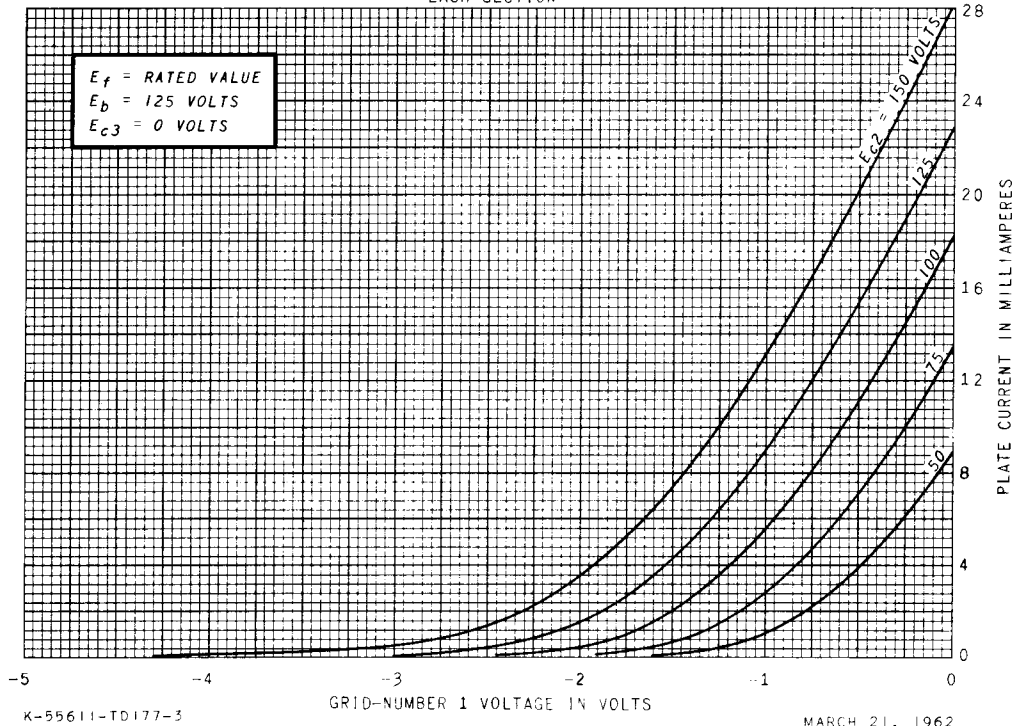
**AVERAGE PLATE CHARACTERISTICS**

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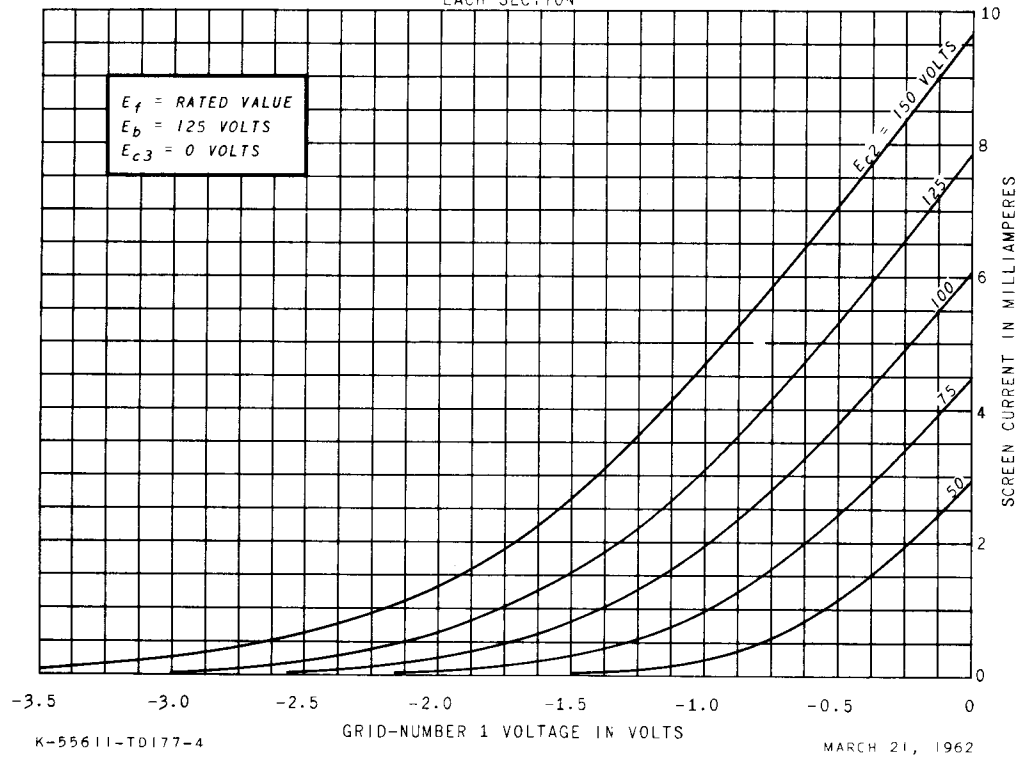
### AVERAGE TRANSFER CHARACTERISTICS

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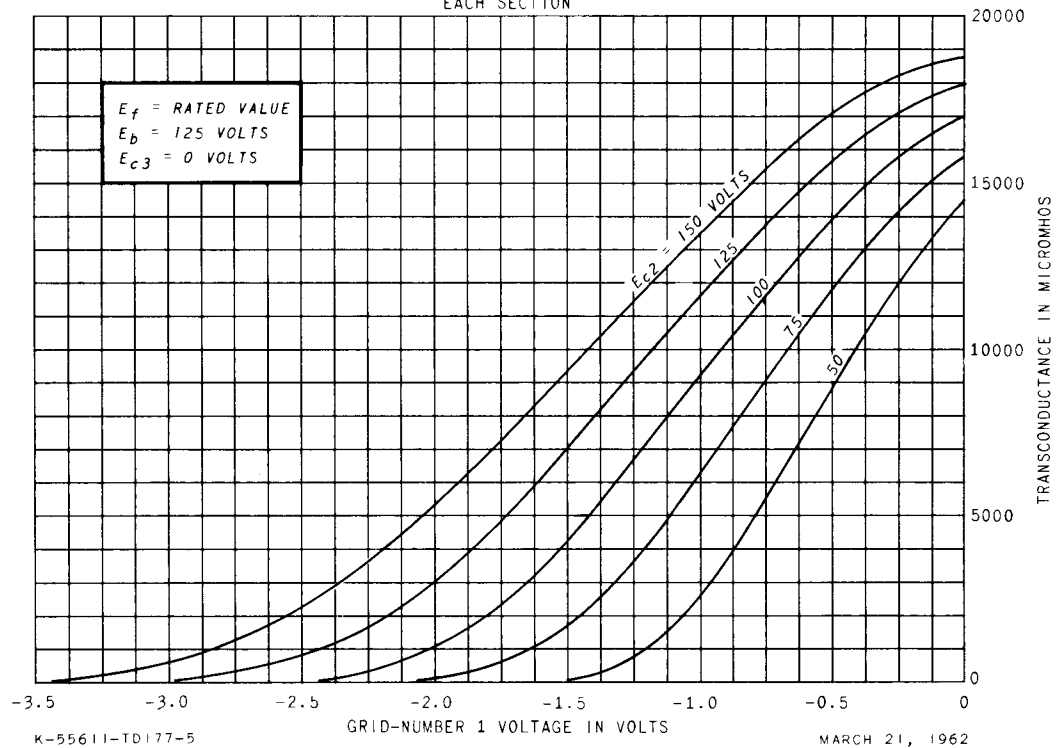
### AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION



### AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION



TUBE DEPARTMENT  
**GENERAL**  **ELECTRIC**  
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