

**COMPACTRON DISSIMILAR DOUBLE TRIODE**  
**FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS**

**DESCRIPTION AND RATING**

The 6FY7 is a compactron containing two dissimilar triode sections, designed for use as a combined vertical-deflection oscillator and amplifier in television receivers. Section 1 is intended for service as an oscillator and Section 2 as an amplifier.

**GENERAL**

**ELECTRICAL**

Cathode - Coated Unipotential  
Heater Characteristics and Ratings  
Heater Voltage, AC or DC\* . . . 6.3±0.6 Volts  
Heater Current† . . . . . 1.05 Amperes  
Direct Interelectrode Capacitances, approximate§

	Section 1	Section 2
Grid to Plate: (g to p)	4.4	9.5 pf
Input: g to (h + k)	2.2	6.5 pf
Output: p to (h + k)	0.4	1.2 pf

**MECHANICAL**

Operating Position - Any  
Envelope - T-9, Glass  
Base - E12-70, Button 12-Pin  
Outline Drawing - EIA 9-60

Maximum Diameter . . . . .	1.188	Inches
Maximum Over-all Length . . . . .	2.875	Inches
Maximum Seated Height . . . . .	2.500	Inches

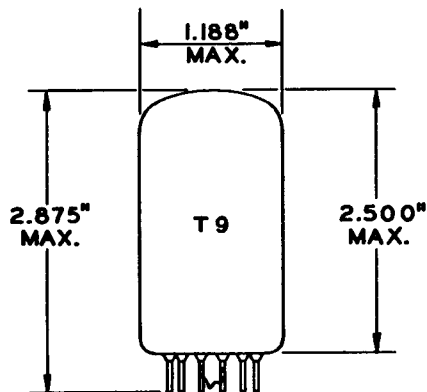
**MAXIMUM RATINGS**

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.

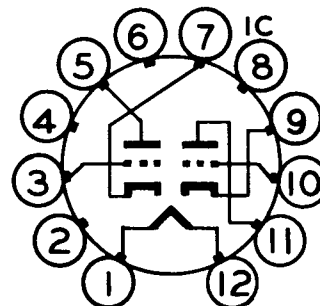
**PHYSICAL DIMENSIONS**



**TERMINAL CONNECTIONS**

- Pin 1 - Heater
- Pin 2 - No Connection
- Pin 3 - Grid (Section 2)
- Pin 4 - No Connection
- Pin 5 - Plate (Section 2)
- Pin 6 - No Connection
- Pin 7 - Cathode (Section 2)
- Pin 8 - Internal Connection - Do Not Use
- Pin 9 - Cathode (Section 1)
- Pin 10 - Grid (Section 1)
- Pin 11 - Plate (Section 1)
- Pin 12 - Heater

**BASING DIAGRAM**



EIA 12E0

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 (Cont'd)

DESIGN-MAXIMUM VALUES	Vertical Oscillator Service¶ (Section 1)	Vertical Deflection Amplifier¶¶ (Section 2)	
DC Plate Voltage . . . . .	330	275	Volts
Peak Positive Pulse Plate Voltage . . . . .	---	2000	Volts
Peak Negative Grid Voltage. . . . .	400	250	Volts
Plate Dissipation. . . . .	1.0	7.0#	Watts
DC Cathode Current . . . . .	20	50	Milliamperes
Peak Cathode Current. . . . .	70	175	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 Circuit Resistance. . . . .	2.2	2.2	Megohms

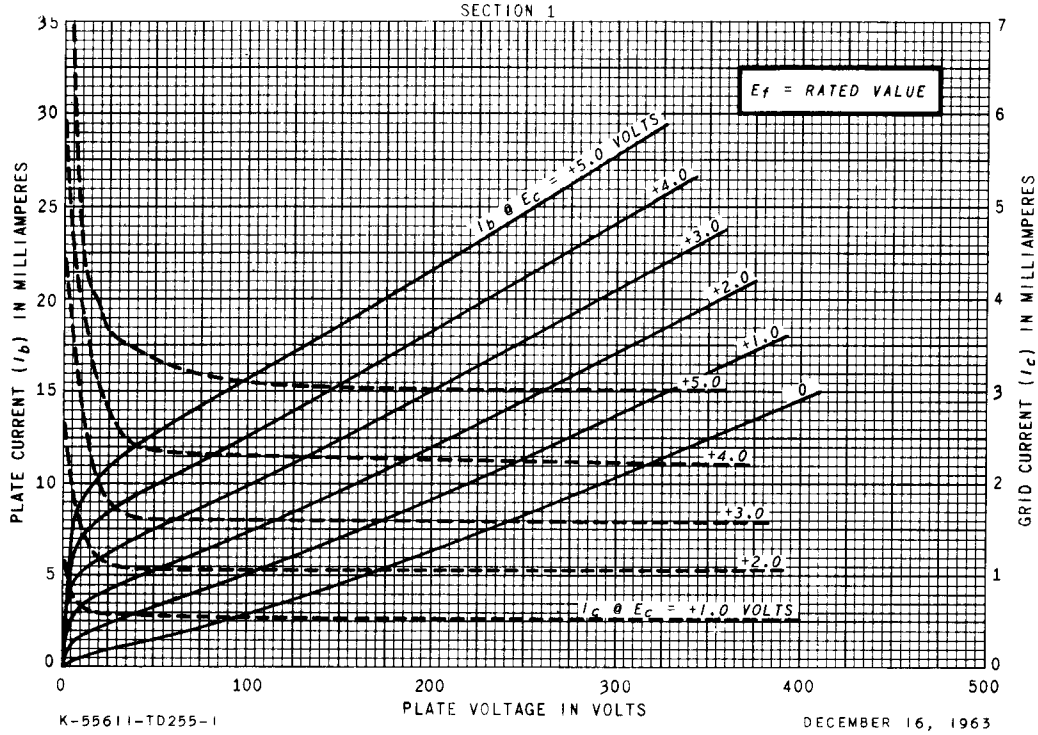
## CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS	Section 1 (Oscillator)	Section 2 (Amplifier)	
Plate Voltage . . . . .	250	60    150	Volts
Grid Voltage . . . . .	-3.0	0‡   -17.5	Volts
Amplification Factor. . . . .	65	---	6.0
Plate Resistance, approximate. . . . .	40500	---	920    Ohms
Transconductance . . . . .	1600	---	6500    Micromhos
Plate Current . . . . .	1.4	95    35	Milliamperes
Plate Current, approximate			
Ec = -25 Volts. . . . .	---	---	6    Milliamperes
Grid Voltage, approximate			
Ib = 30 Microamperes. . . . .	-5.5	---	---
Grid Voltage, approximate			
Ib = 50 Microamperes. . . . .	---	---	-36    Volts

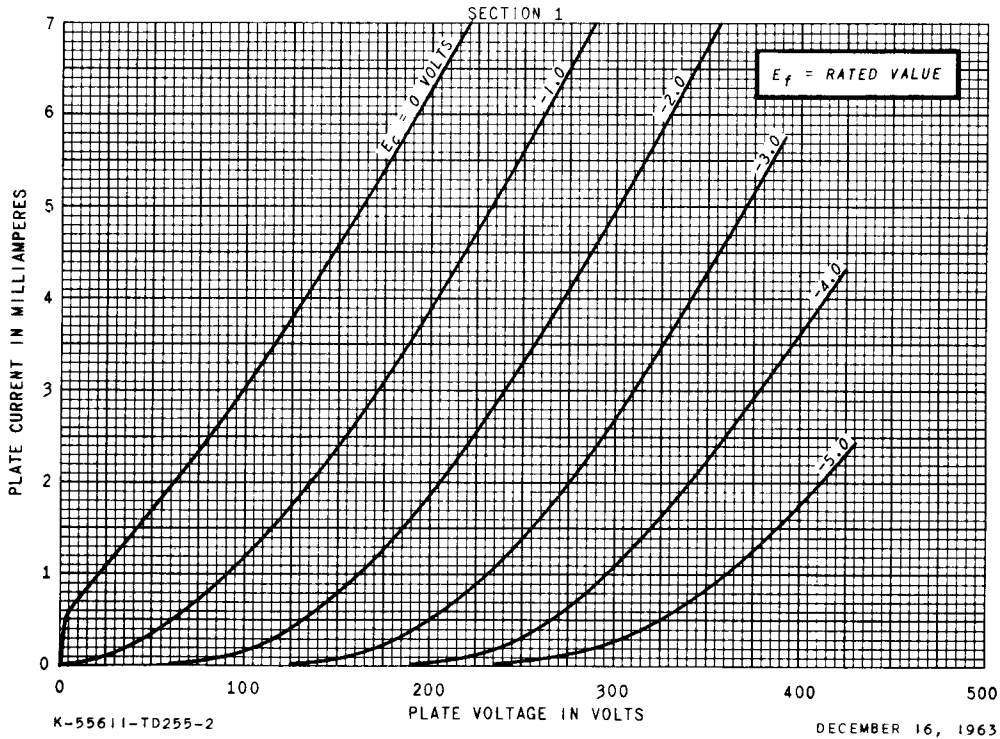
### NOTES

- \* 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 Ef = 6.3 volts.
- § Without external shield.
- ¶ 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. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.
- # In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.
- ‡ Applied for short interval (two seconds maximum) so as not to damage tube.

### AVERAGE PLATE CHARACTERISTICS

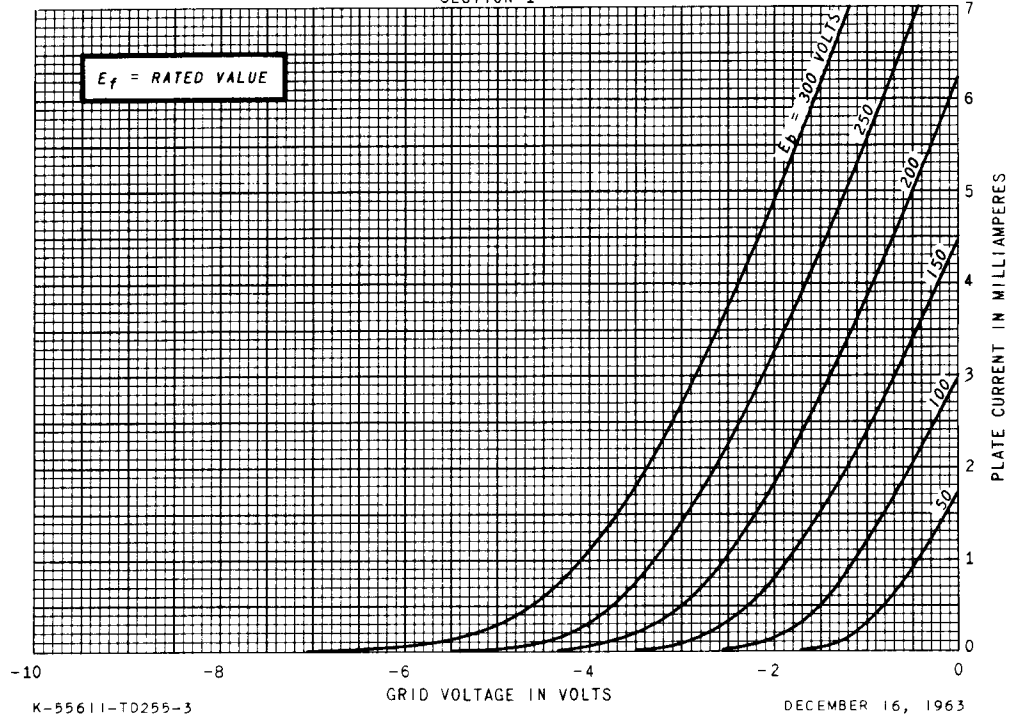


### AVERAGE PLATE CHARACTERISTICS



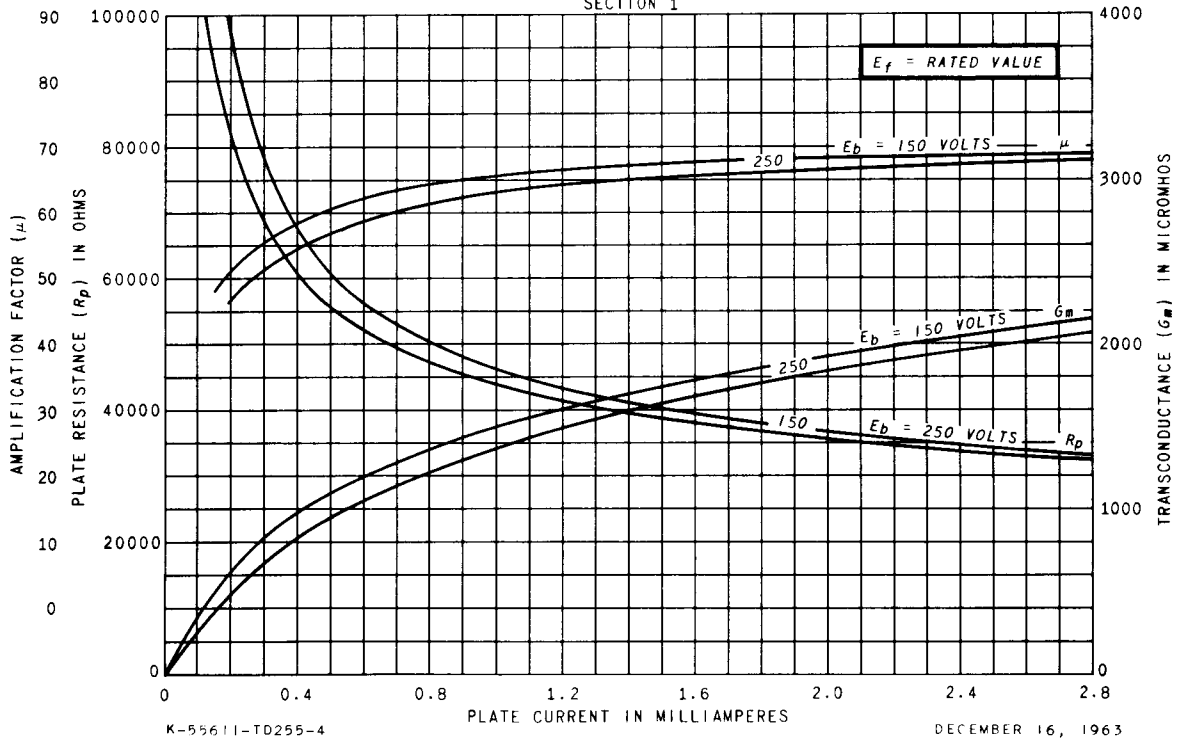
### AVERAGE TRANSFER CHARACTERISTICS

SECTION 1

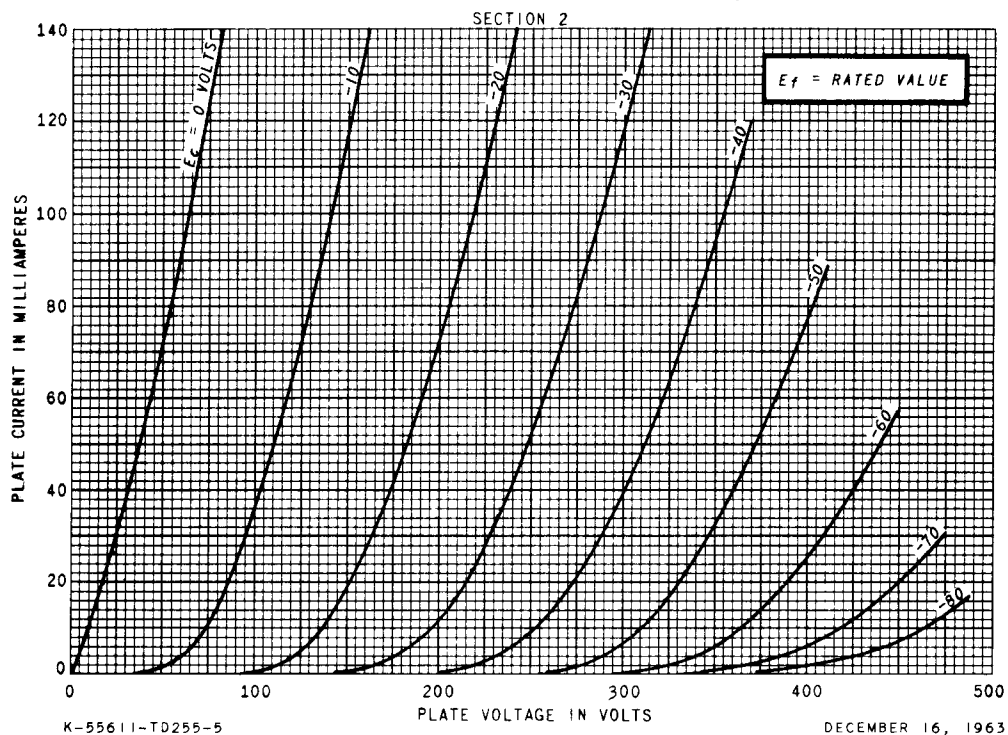


### AVERAGE CHARACTERISTICS

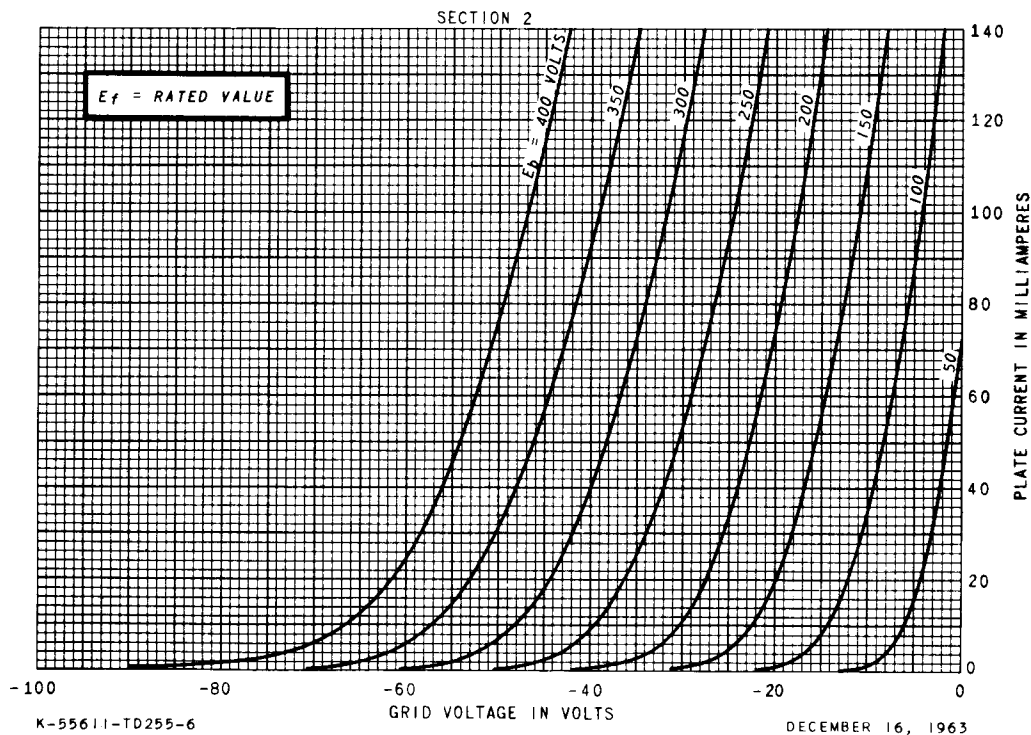
SECTION 1



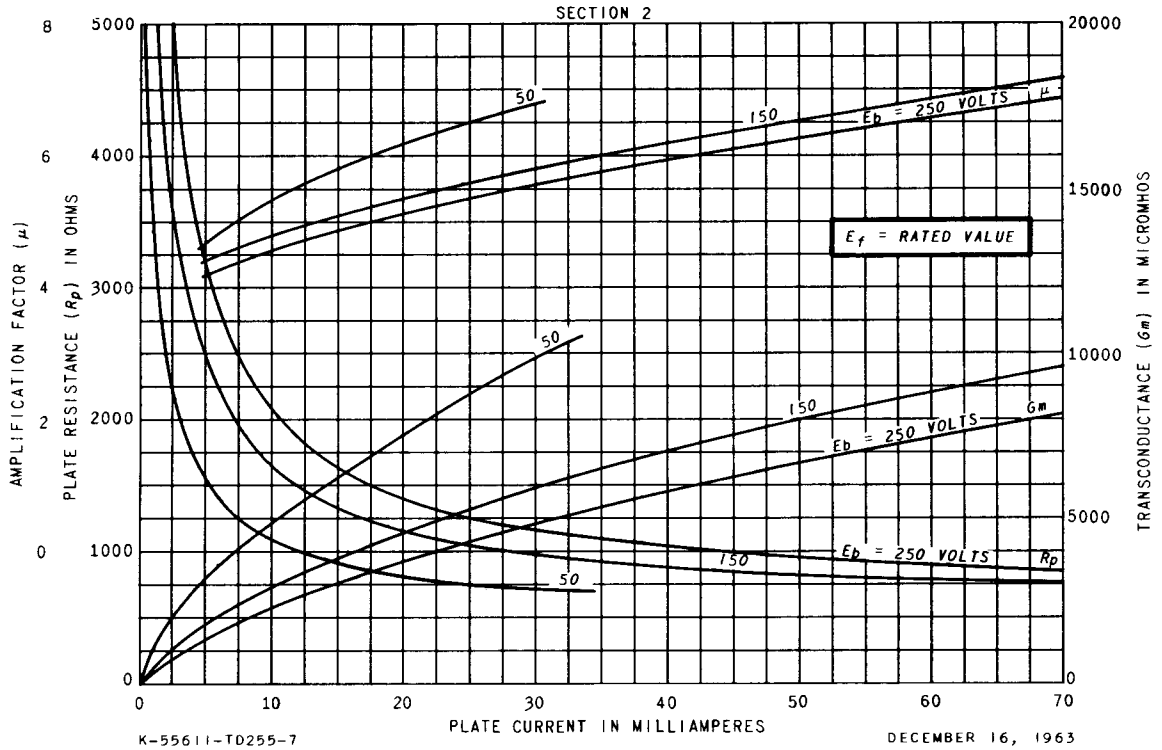
### AVERAGE PLATE CHARACTERISTICS



### AVERAGE TRANSFER CHARACTERISTICS



### AVERAGE CHARACTERISTICS



TUBE DEPARTMENT



Owensboro, Kentucky