



6DN7

DISSIMILAR DOUBLE TRIODE

FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6DN7 is a dissimilar double-triode 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 Voltage, AC or DC $6.3 \pm 10\%$ Volts
 Heater Current 0.9 Amperes
 Direct Interelectrode Capacitances, approximate*

	Section 1	Section 2	
Grid to Plate	4.0	5.5	$\mu\mu\text{f}$
Input	2.2	4.6	$\mu\mu\text{f}$
Output	0.7	1.0	$\mu\mu\text{f}$

MECHANICAL

Mounting Position—Any
 Envelope—T-9, Glass
 Base—B8-142, Intermediate-Shell Octal 8-Pin

MAXIMUM RATINGS

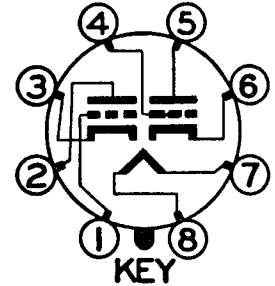
DESIGN-MAXIMUM VALUES	Vertical-Oscillator Service (Section 1) †	Vertical-Deflection Amplifier (Section 2) †	
DC Plate Voltage	350	550	Volts
Peak Positive Pulse Plate Voltage		2500	Volts
Peak Negative Grid Voltage	400	250	Volts
Plate Dissipation	1.0	10 ‡	Watts
DC Cathode Current		50	Milliamperes
Peak Cathode Current		150	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			
With Fixed Bias	2.2	2.2	Megohms
With Cathode Bias	2.2	...	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey 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, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

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, and environmental conditions.

BASING DIAGRAM

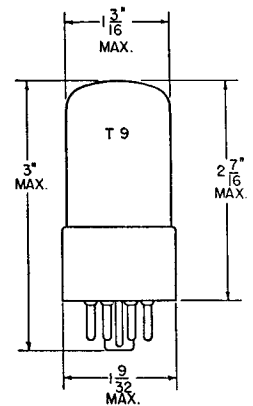


EIA 88D

TERMINAL CONNECTIONS

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

PHYSICAL DIMENSIONS



EIA 9-5

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.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Section 1 (Oscillator)	Section 2 (Amplifier)
Plate Voltage	250	150 250 Volts
Grid Voltage	-8.0	0§ -9.5 Volts
Amplification Factor	22.5	... 15.4
Plate Resistance, approximate	9000	... 2000 Ohms
Transconductance2500	... 7700 Micromhos
Plate Current	8.0	68 41 Milliamperes
Grid Voltage, approximate		
I _b = 10 Microamperes	-18 Volts
Grid Voltage, approximate		
I _b = 50 Microamperes -23 Volts

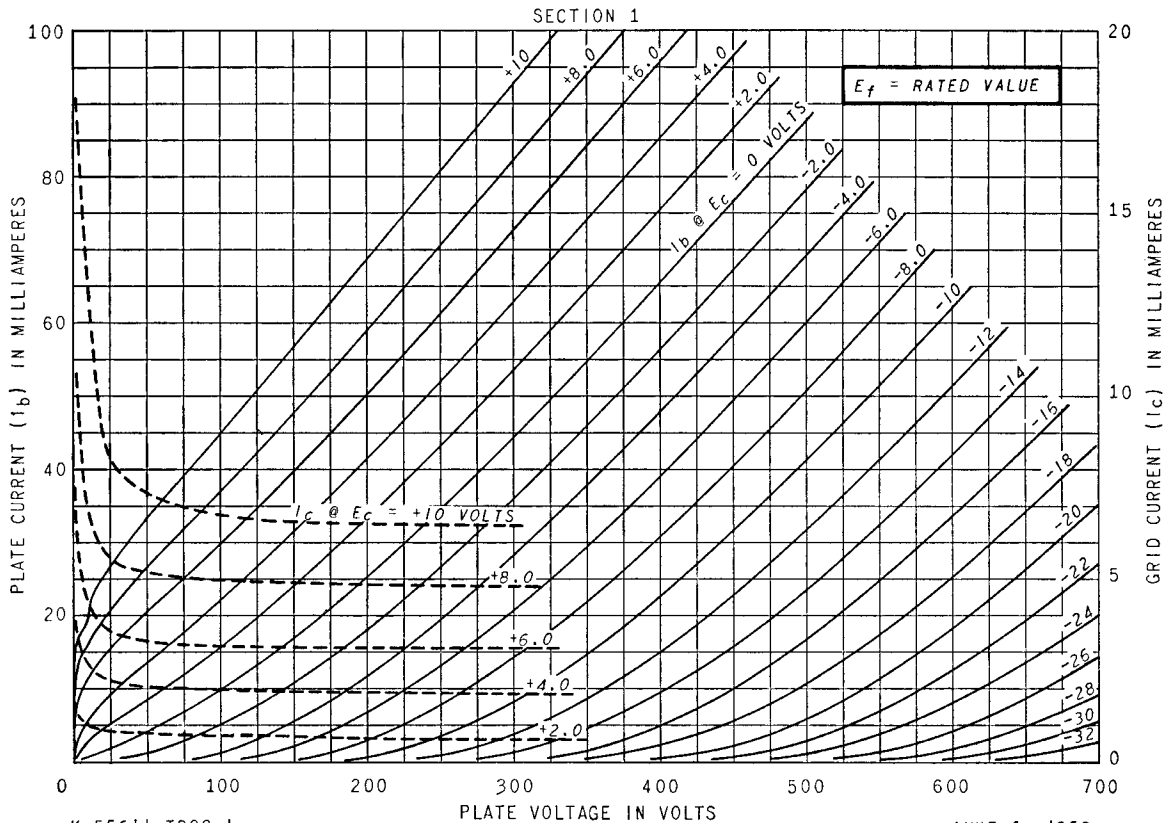
* Without external shield.

† For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communication 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.

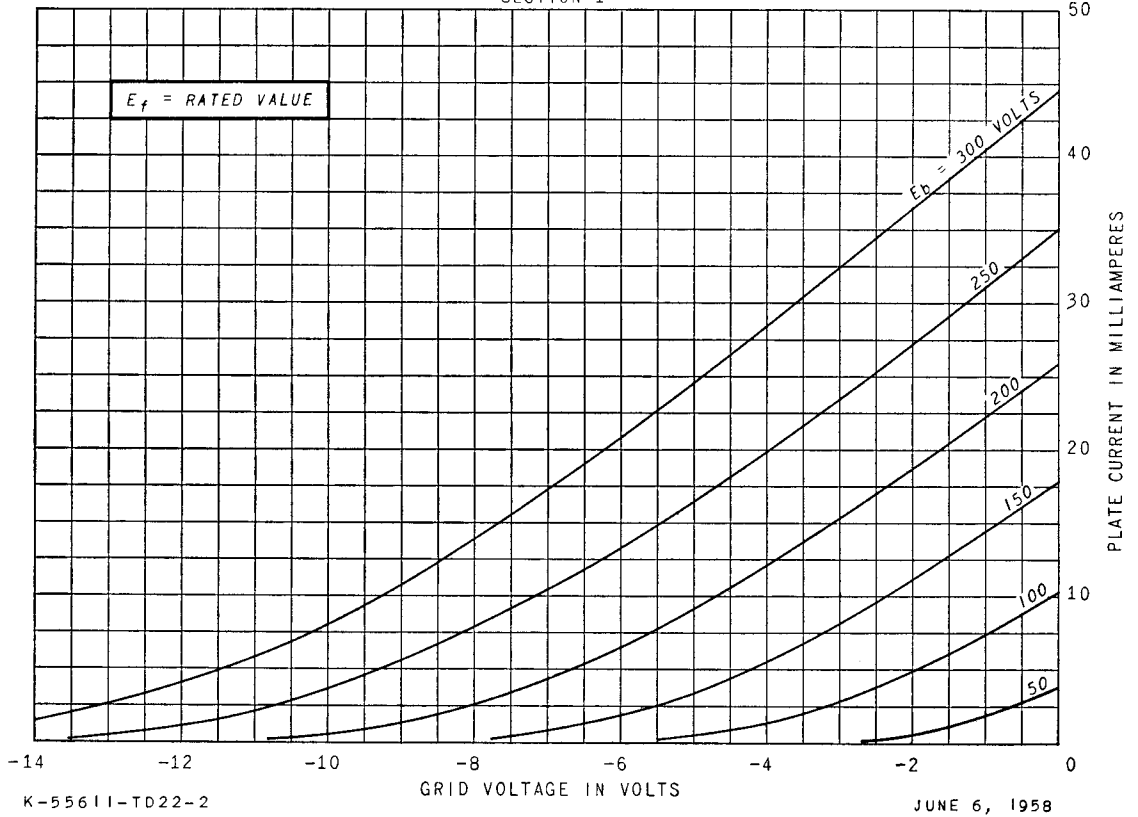
§ Applied for short interval (two seconds maximum) so as not to damage tube.

AVERAGE PLATE CHARACTERISTICS



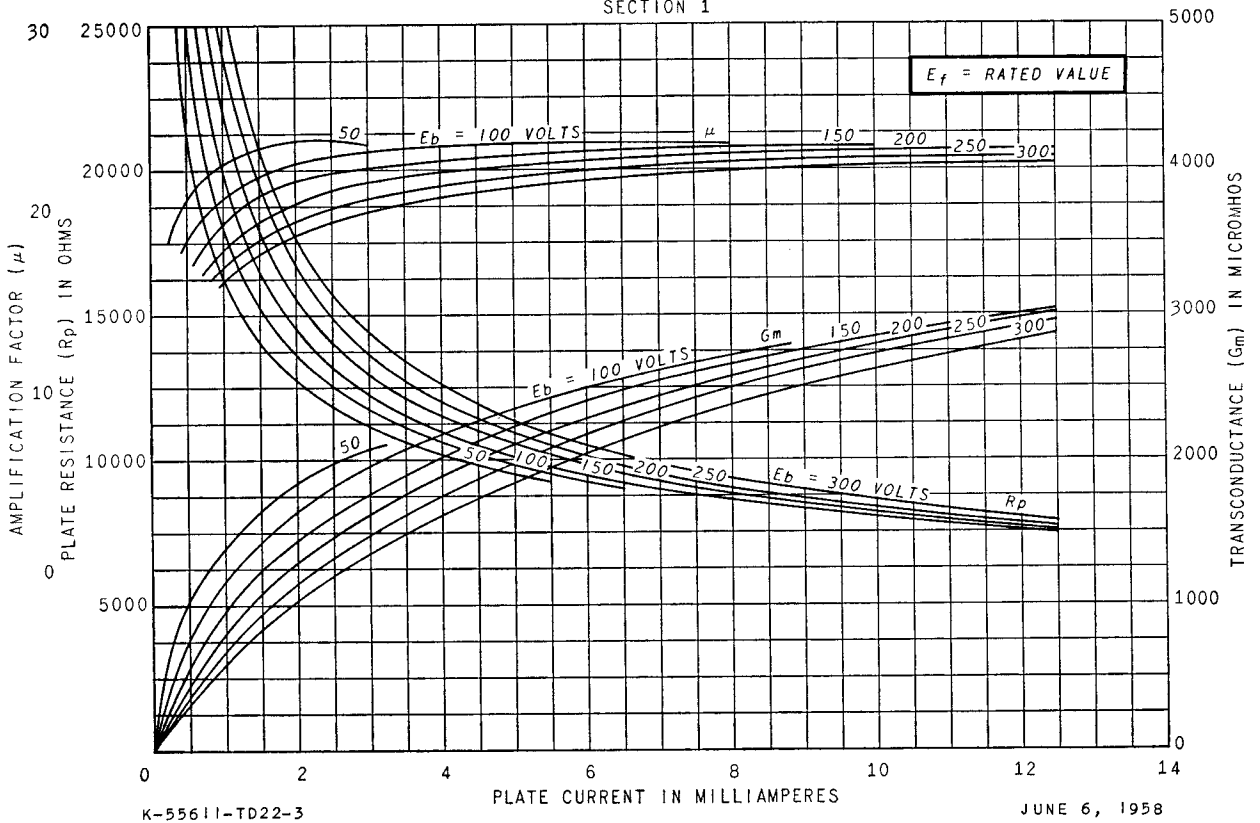
AVERAGE TRANSFER CHARACTERISTICS

SECTION 1



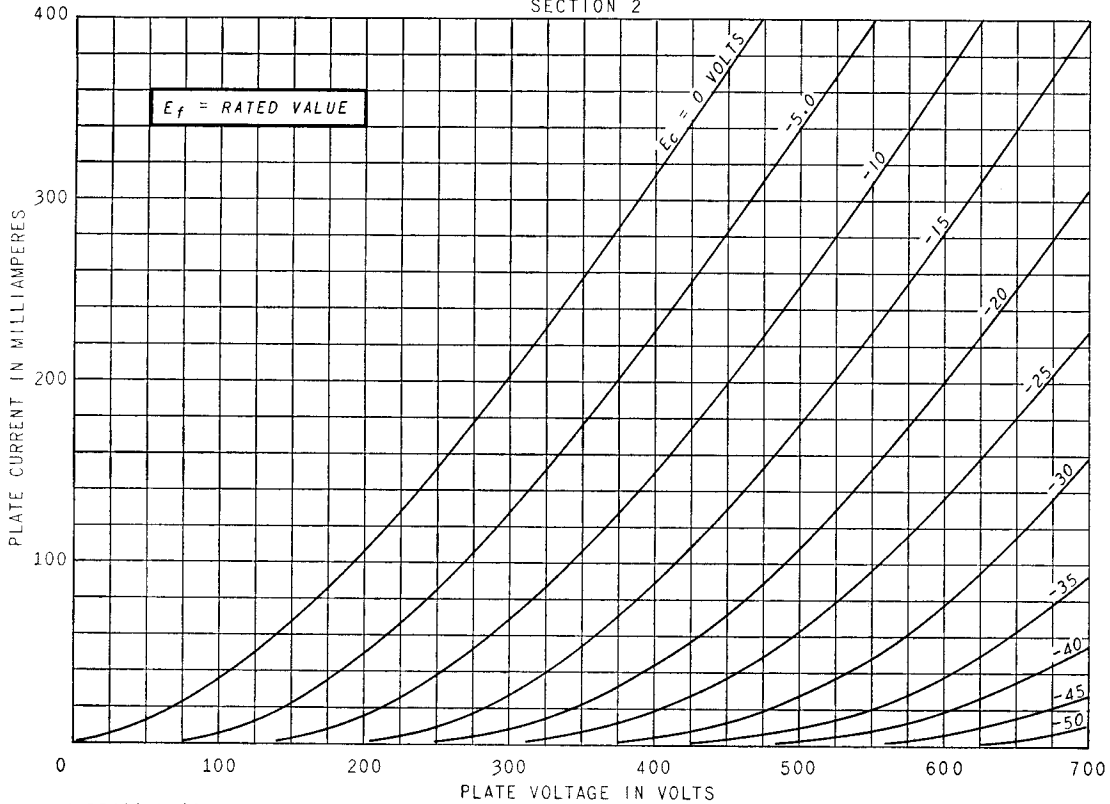
AVERAGE CHARACTERISTICS

SECTION 1



AVERAGE PLATE CHARACTERISTICS

SECTION 2

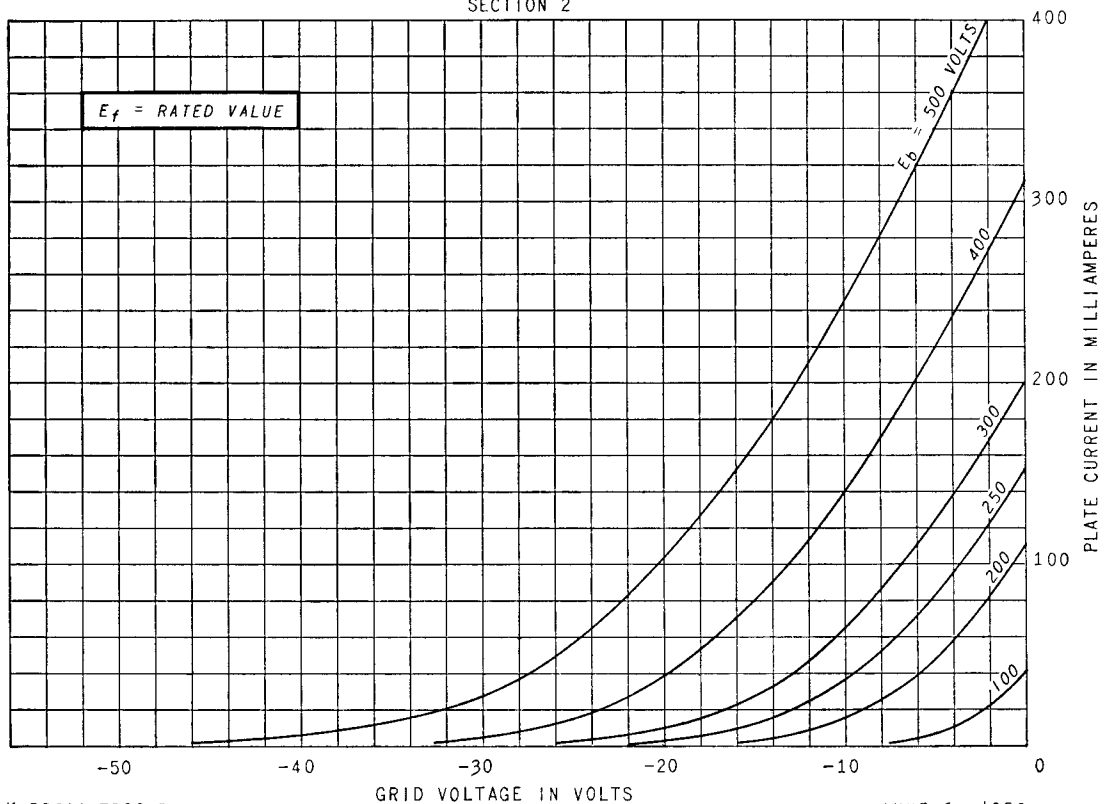


K-55611-TD22-4

JUNE 6, 1958

AVERAGE TRANSFER CHARACTERISTICS

SECTION 2



K-55611-TD22-5

JUNE 6, 1958

AVERAGE CHARACTERISTICS

SECTION 2

