

6EA7

DISSIMILAR DOUBLE TRIODE

FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6EA7 is a dissimilar double-triode designed for use as a combined vertical-deflection oscillator and amplifier in television receivers. Section one, a high-mu triode, is intended for service as an oscillator; Section two, a low-mu, high-perveance triode, for service as an amplifier.

ELECTRICAL

Cathode—Coated Unipotential
 Heater Voltage, AC or DC.....6.3 Volts
 Heater Current.....1.05 Amperes
 Direct Interelectrode Capacitances, approximate*

GENERAL

	Section 1	Section 2
Grid to Plate.....	4.0	8.0 μf
Input.....	2.2	6.0 μf
Output.....	0.6	1.3 μf

MECHANICAL

Mounting Position—Any
 Envelope—T-9, Glass
 Base—B8-6 Intermediate-Shell Octal 8-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES	Vertical Oscillator Service (Section 1)†	Vertical Deflection Amplifier (Section 2)†
Allowable Heater Voltage.....	5.7 to 6.9	Volts
DC Plate Voltage.....	350	550 Volts
Peak Positive Pulse Plate Voltage.....	—	1500 Volts
Peak Negative Grid Voltage.....	400	250 Volts
Plate Dissipation.....	1.0	10‡ Watts
DC Cathode Current.....	—	50 Milliamperes
Peak Cathode Current.....	—	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		
With Fixed Bias.....	1.0	1.0 Megohms
With Cathode Bias.....	2.2	2.2 Megohms

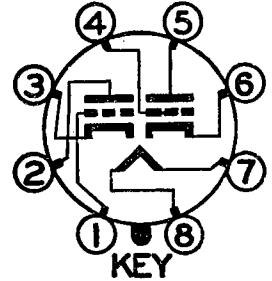
Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

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.

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.

BASING DIAGRAM

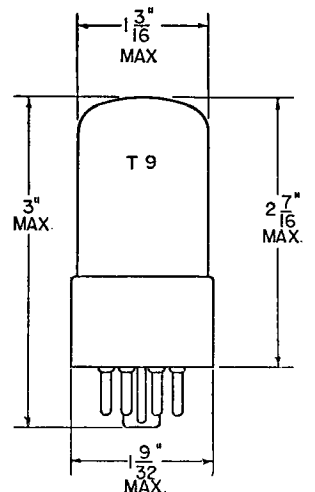


EIA 8BD

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

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS	Section 1 (Oscillator)	Section 2 (Amplifier)	
Plate Voltage	250	60	175 Volts
Grid Voltage	-3.0	0§	-25 Volts
Amplification Factor	65	—	5.0
Plate Resistance, approximate	34000	—	770 Ohms
Transconductance	1900	—	6500 Micromhos
Plate Current	1.5	95	48 Milliamperes
Grid Voltage, approximate I _b = 20 Microamperes	-5	—	— Volts
Grid Voltage, approximate I _b = 200 Microamperes	—	—	-55 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.