



**ELECTRONIC  
INNOVATIONS**  
IN ACTION

**TUBES**

**6LX8**

# Triode-Pentode

The 6LX8 is a triode-pentode intended primarily for horizontal-oscillator and AFC service in the horizontal-deflection systems of television receivers.

## GENERAL

### ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

|                                |           |         |
|--------------------------------|-----------|---------|
| Heater Voltage, AC or DC*      | 6.0       | Volts   |
| Heater Current •               | 0.45±0.03 | Amperes |
| Heater Warm-up Time, average ▲ | 11        | Seconds |

Direct Interelectrode Capacitances ♦

**Pentode Section**

|   |      |    |
|---|------|----|
| Grid-Number 1 to Plate: maximum (Pg1 to Pp) | 0.01 | pf |
| Input: Pg1 to (h+Pk+Pg2+Pg3+i.s.)           | 5.5  | pf |
| Output: Pp to (h+Pk+Pg2+Pg3+i.s.)           | 3.4  | pf |

**Triode Section**

|                                  |     |    |
|----------------------------------|-----|----|
| Grid to Plate: (Tg to Tp)        | 1.8 | pf |
| Input: Tg to (h+Tk+Pk+Pg3+i.s.)  | 3.2 | pf |
| Output: Tp to (h+Tk+Pk+Pg3+i.s.) | 1.9 | pf |

### MECHANICAL

Operating Position - Any

Envelope - T-6½, Glass

Base - E9-1, Small Button 9-Pin

Outline Drawing - EIA 6-2

|                         |       |        |
|-------------------------|-------|--------|
| Maximum Diameter        | 0.875 | Inches |
| Maximum Over-all Length | 2.187 | Inches |
| Maximum Seated Height   | 1.937 | Inches |

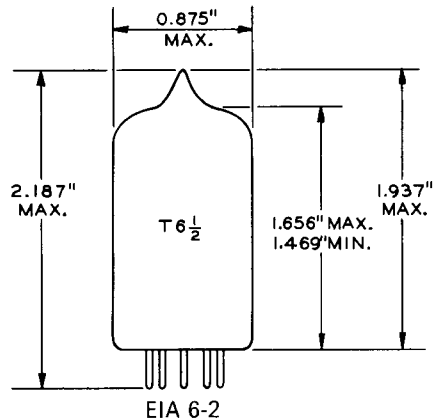
### DESIGN-CENTER VALUES

|   |      |              |
|---|------|--------------|
| Plate Voltage                           | 250  | Volts        |
| Screen Voltage                          | 250  | Volts        |
| Plate Dissipation                       | 1.2  | Watts        |
| Screen Dissipation                      | 0.2  | Watts        |
| DC Cathode Current                      | 15   | Milliamperes |
| Peak Cathode Current                    | 50   | Milliamperes |
| 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 Fixed Bias                         | 0.56 | Megohms      |
| With Cathode Bias                       | 1.0  | Megohms      |

### MAXIMUM RATINGS

|   | Pentode Section | Triode Section |              |
|---|-----------------|----------------|--------------|
| Plate Voltage                           | 250             | 250            | Volts        |
| Screen Voltage                          | 250             | ---            | Volts        |
| Plate Dissipation                       | 1.2             | 1.4            | Watts        |
| Screen Dissipation                      | 0.2             | ---            | Watts        |
| DC Cathode Current                      | 15              | 10             | Milliamperes |
| Peak Cathode Current                    | 50              | ---            | 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-Number 1 Circuit Resistance        |                 |                |              |
| With Fixed Bias                         | 0.56            | 3.0            | Megohms      |
| With Cathode Bias                       | 1.0             | ---            | Megohms      |

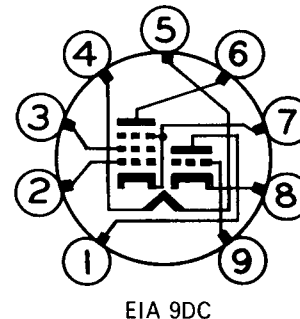
### PHYSICAL DIMENSIONS



### TERMINAL CONNECTIONS

- Pin 1 - Triode Plate
- Pin 2 - Pentode Grid-Number 1
- Pin 3 - Pentode Grid-Number 2 (Screen)
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate
- Pin 7 - Pentode Cathode, Grid-Number 3 and Internal Shield
- Pin 8 - Triode Cathode
- Pin 9 - Triode Grid

### BASING DIAGRAM



**MAXIMUM RATINGS (Cont'd)**

Design-Center 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 normal conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube in average applications, making allowance for normal changes in operating conditions due to rated supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

The equipment manufacturer should design so that initially no design-center value for the intended service is exceeded with a bogey tube under normal operating conditions at the stated normal supply voltage.

**CHARACTERISTICS AND TYPICAL OPERATION**

**AVERAGE CHARACTERISTICS**

|                                     | Pentode Section |        | Triode Section |              |
|-------------------------------------|-----------------|--------|----------------|--------------|
| Plate Voltage .....                 | 200             | 100    | 200            | Volts        |
| Screen Voltage .....                | 200             | 100    | ---            | Volts        |
| Grid-Number 1 Voltage .....         | 0               | -1.0   | -2.0           | Volts        |
| Amplification Factor .....          | ---             | ---    | 70             |              |
| Plate Resistance, approximate ..... | ---             | 400000 | 20000          | Ohms         |
| Transconductance .....              | ---             | 5500   | 3500           | Micromhos    |
| Plate Current .....                 | 12.5            | 6.0    | 3.5            | Milliamperes |
| Screen Current .....                | 3.5             | 1.7    | ---            | Milliamperes |
| Grid Voltage, approximate           |                 |        |                |              |
| Ic = +0.3 Microamperes .....        | ---             | ---    | -1.3           | Volts        |
| Grid-Number 1 Voltage, approximate  |                 |        |                |              |
| Ic1 = +0.3 Microamperes .....       | ---             | -1.3   | ---            | Volts        |
| Grid-Number 1 Voltage, approximate  |                 |        |                |              |
| Ib = 10 Microamperes .....          | -16             | ---    | ---            | Volts        |

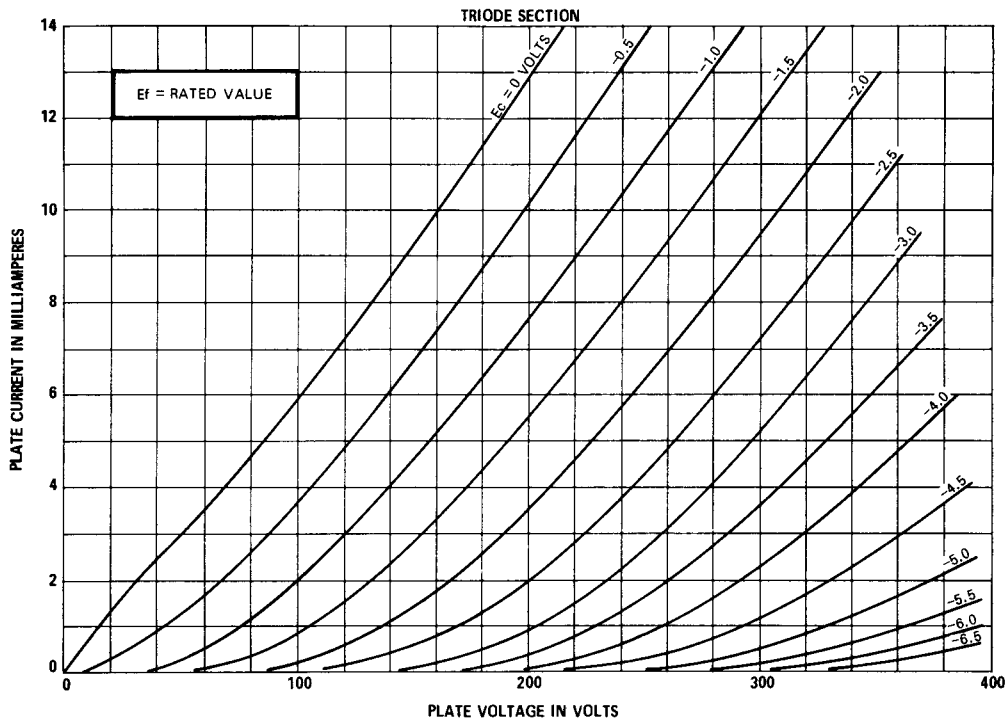
**NOTES**

- ★ Heater voltage for a bogey tube at If = 0.45 amperes.
- The equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.
- ▲ The time required for the voltage across the heater to reach 80 percent of the bogey value after applying 4 times the bogey heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the bogey heater voltage divided by the bogey heater current.
- ◆ Without external shield.

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

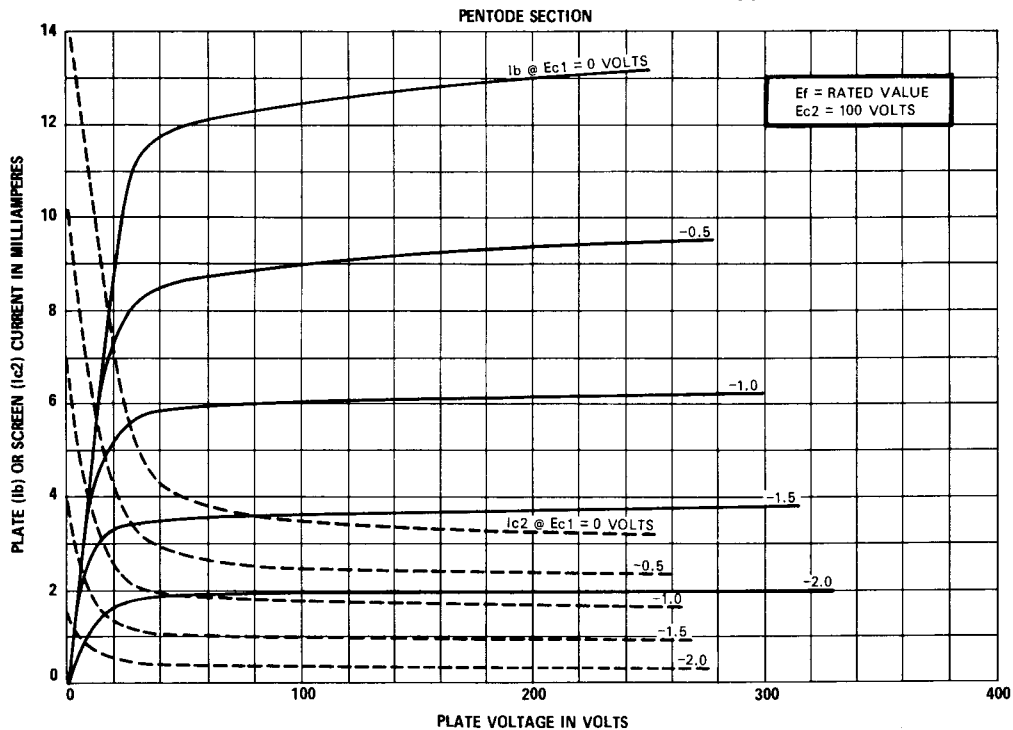
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### AVERAGE PLATE CHARACTERISTICS



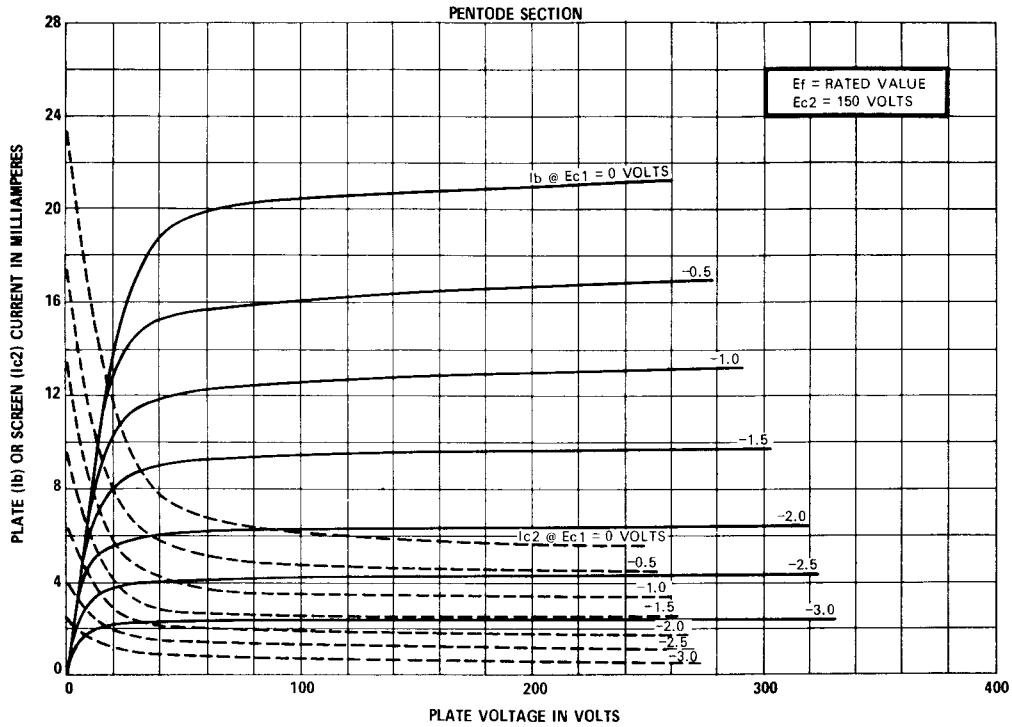
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### AVERAGE PLATE CHARACTERISTICS

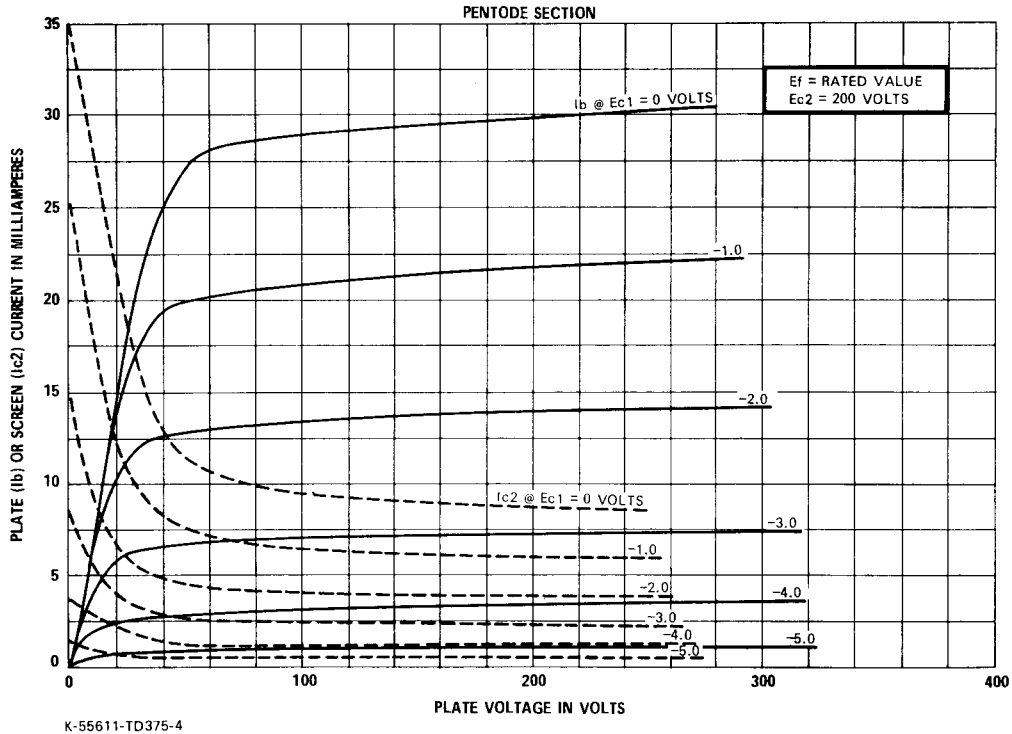


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## AVERAGE PLATE CHARACTERISTICS



## AVERAGE PLATE CHARACTERISTICS



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