# 6HS8

## TWIN PENTODE



## DESCRIPTION AND RATING

The 6HS8 is a miniature multisection tube that incorporates separate plates and number-3 grids for the two sections together with a common screen, number-1 grid, and cathode. The tube is intended for use as a combined sync-AGC tube in television receivers.

## GENERAL

### ELECTRICAL

| | | |
|---|---|---|
| Cathode—Coated Unipotential | | |
| Heater Characteristics and Ratings | | |
| Heater Voltage, AC or DC* | 6.3 ± 0.6 | Volts |
| Heater Current† | 0.3 | Ampere |
| Direct Interelectrode Capacitances, approximate‡ | | |
| Grid-Number 3 to Plate, Each Section | 2.0 | pf |
| Grid-Number 1 to All | 6.0 | pf |
| Grid-Number 3 (Each Section) to All | 3.6 | pf |
| Plate (Each Section) to All | 3.0 | pf |
| Grid-Number 3 (Section 1) to Grid-Number 3 (Section 2), maximum | 0.015 | pf |

### MECHANICAL

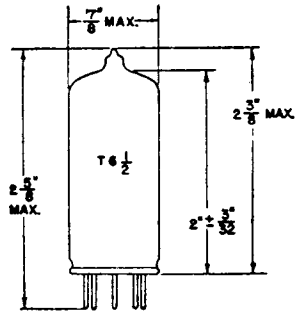
Operating Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

## MAXIMUM RATINGS

### DESIGN-MAXIMUM VALUES

| | | |
|---|---|---|
| Plate Voltage, Each Section | 300 | Volts |
| Screen Voltage | 150 | Volts |
| Positive DC Grid-Number 3 Voltage, Each Section | 3.0 | Volts |
| Negative DC Grid-Number 3 Voltage, Each Section | 50 | Volts |
| Peak Positive Grid-Number 3 Voltage, Each Section | 50 | Volts |
| Negative DC Grid-Number 1 Voltage | 50 | Volts |
| Plate Dissipation, Each Section | 1.1 | Watts |
| Screen Dissipation | 0.75 | Watt |
| DC Cathode Current | 12 | 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 | 0.5 | Megohm |
| Grid-Number 3 Circuit Resistance, Each Section | 0.5 | Megohm |

### PHYSICAL DIMENSIONS

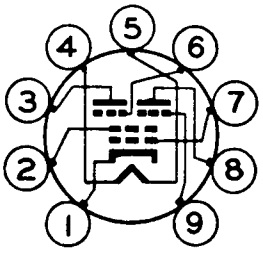



EIA 6-3

### TERMINAL CONNECTIONS

Pin 1—Cathode
Pin 2—Grid Number 2 (Screen) and Internal Shield
Pin 3—Plate (Section 2)
Pin 4—Heater
Pin 5—Heater
Pin 6—Grid Number 3 (Section 2)
Pin 7—Grid Number 1
Pin 8—Plate (Section 1)
Pin 9—Grid Number 3 (Section 1)

### BASING DIAGRAM




EIA 9FG

GENERAL ELECTRIC

*Supersedes pages 1 and 2 only of ET-T1635 dated 12-61*

# CHARACTERISTICS AND TYPICAL OPERATION

## AVERAGE CHARACTERISTICS, BOTH SECTIONS OPERATING

| | | | |
|---|---|---|---|
| Plate Voltage, Each Section | 100 | 100 | Volts |
| Screen Voltage | 67.5 | 67.5 | Volts |
| Grid-Number 3 Voltage, Each Section | −10 | 0 | Volts |
| Grid-Number 1 Voltage | § | § | |
| Plate Current, Each Section | | 2.0 | Milliamperes |
| Screen Current | 7.0 | 4.4 | Milliamperes |
| Cathode Current | 7.1 | 8.5 | Milliamperes |

## AVERAGE CHARACTERISTICS, EACH SECTION SEPARATELY WITH PLATE AND GRID-NUMBER 3 OF OPPOSITE SECTION GROUNDED

| | | | |
|---|---|---|---|
| Plate Voltage | 100 | 100 | Volts |
| Screen Voltage | 67.5 | 67.5 | Volts |
| Grid-Number 3 Voltage | 0 | 0 | Volts |
| Grid-Number 1 Voltage | 0 | § | Volts |
| Grid-Number 3 Transconductance | | 450 | Micromhos |
| Grid-Number 1 Transconductance | 1100 | .... | Micromhos |
| Plate Current | | 2.0 | Milliamperes |
| Grid-Number 3 Voltage, approximate Ib = 100 Microamperes | | −3.5 | Volts |
| Grid-Number 1 Voltage, approximate Ib = 100 Microamperes | | −2.3 | Volts |

* 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.

§ With grid current adjusted for 100 microamperes d-c.

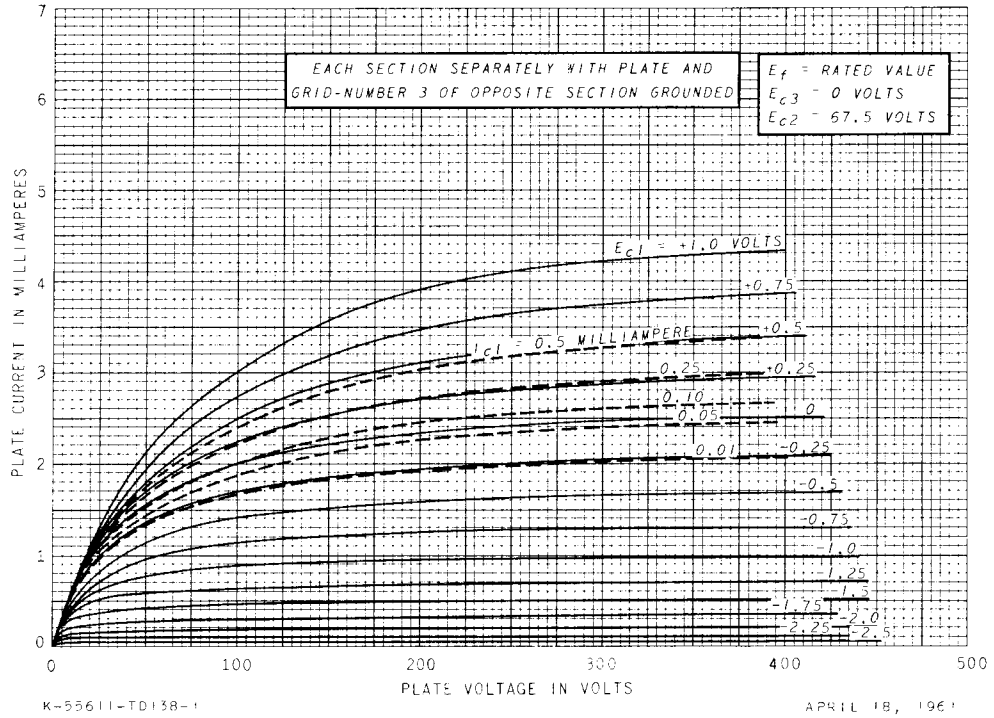
Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

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.



## AVERAGE PLATE CHARACTERISTICS

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