**NOTES:**

(1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
(2) In stages operating with grid-leak bias, an adequate bias resistor or other suitable means is required to protect the tube in the absence of excitation.
(3) Section No. 1 connects to Pins 4, 5, and 6.

*Color Television Type*

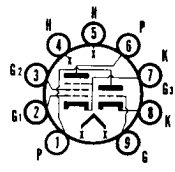
## VHF OSCILLATOR and MIXER or GENERAL PURPOSE AMPLIFIER

# 6EA8/6GH8A

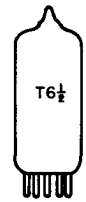
**5EA8, 5GH8, 5GH8A, 9EA8, 9GH8A, 19EA8**

### Medium Mu Triode and Sharp Cutoff Pentode

Construction .....Miniature T-6½
Base .....Button 9 Pin, E9-1
Basing .....9AE
Outline .....6-2
Maximum Diameter .....0.875 In.
Maximum Seated Height .....1.937 In.
Maximum Overall Height .....2.187 In.




9AE




### ELECTRICAL DATA

**HEATER OPERATION**

| | 19EA8 | 9EA8 9GH8A | 5EA8 5GH8 5GH8A | 6EA8/6GH8A |
|---|---|---|---|---|
| Heater Voltage | 18.9 | 9.5 | 4.7 | 6.3 Volts |
| Heater Current | 150 | 300 | 600 | 450 Ma |
| Heater Warm-up Time | 11 | 11 | 11 | 11 Seconds |
| Maximum Heater-Cathode Voltage | | | | |
| Heater Negative with Respect to Cathode | | | | |
| Total DC and Peak | | | | 200 Volts |
| Heater Positive with Respect to Cathode | | | | |
| DC | | | | 100 Volts |
| Total DC and Peak | | | | 200 Volts |

**DIRECT INTERELECTRODE CAPACITANCES (Shielded)**

| | |
|---|---|
| **Triode Section** | |
| Grid to Plate | 1.7 Pf |
| Input | 3.2 Pf |
| Output | 1.9 Pf |
| Heater to Cathode | 3.0 Pf |
| **Pentode Section** | |
| Grid No. 1 to Plate (Max.) | 0.01 Pf |
| Input | 5.0 Pf |
| Output | 3.4 Pf |
| Heater to Cathode | 3.0 Pf |

**RATINGS (Design Maximum Rating System)**

| | Triode Section | Pentode Section | Pentode Section Horiz. Defl. Osc.(1) |
|---|---|---|---|
| Plate Voltage (Max.) | 330 | 330 | 350 Volts |
| Grid No. 2 Supply Voltage (Max.) | — | 330 | 330 Volts |
| Grid No. 2 Voltage | See Rating Chart (Gen. Info. Sec.) | | |
| Positive Grid No. 1 Voltage (Max.) | — | 0 | 0 Volt |
| Peak Negative Pulse Grid Voltage (Max.) | 0 | — | 175 Volts |
| Average Cathode Current (Max.) | — | — | 20 Ma |
| Peak Cathode Current (Max.) | — | — | 300 Ma |
| Plate Dissipation (Max.) | 2.5 | 3.1 | 2.5 Watts |
| Grid No. 2 Dissipation (Max.) | — | 0.55 | 0.55 Watt |
| Maximum Grid No. 1 Circuit Resistance | | | |
| Fixed Bias | 2.2 | — | 2.2 Megohms |
| Self Bias | 2.2 | — | 2.2 Megohms |

**CHARACTERISTICS AND TYPICAL OPERATION**

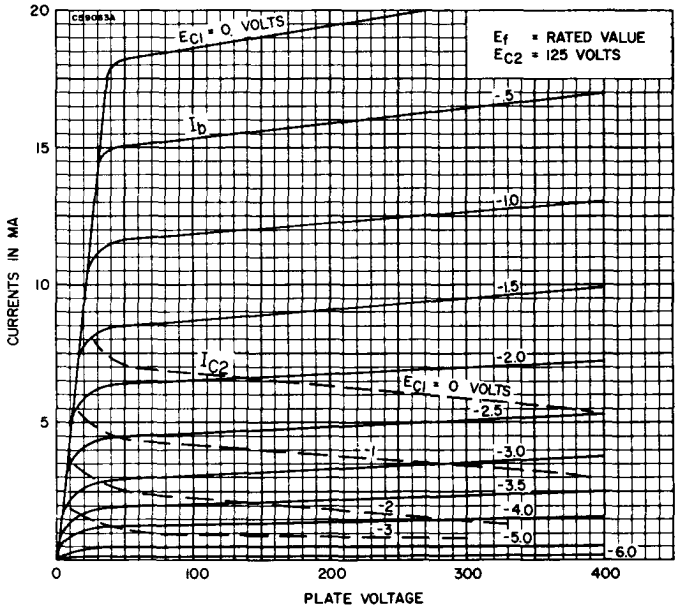
| **Class A1 Amplifier** | Triode Section | Pentode Section |
|---|---|---|
| Plate Voltage | 150 | 125 Volts |
| Grid No. 2 Voltage | — | 125 Volts |
| Grid No. 1 Voltage | — | -1.0 Volts |
| Cathode Bias Resistor | 56 | — Ohms |
| Plate Current | 18 | 12 Ma |
| Grid No. 2 Current | — | 4 Ma |

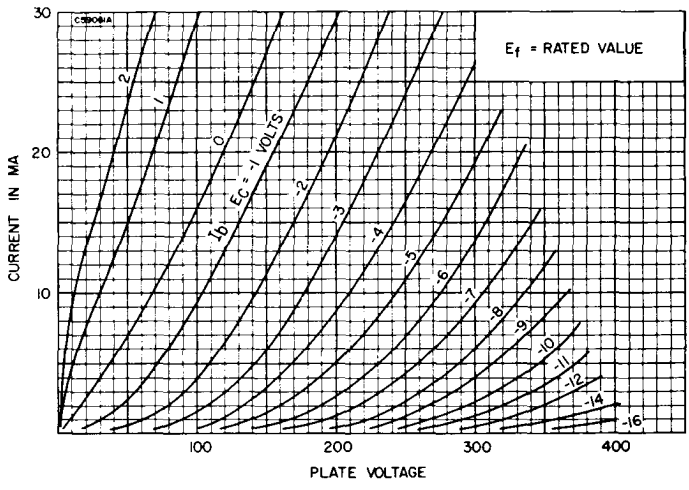
| | | |
|---|---|---|
| Transconductance | 8500 | 6400 μmhos |
| Amplification Factor | 40 | — |
| Plate Resistance (Approx.) | 5000 | 200,000 Ohms |
| Ec1 for Ib = 10 μa (Approx.) | −12 | −9 Volts |

**NOTE:**

(1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.

**AVERAGE PLATE CHARACTERISTICS**
**(Pentode Section)**




**AVERAGE PLATE CHARACTERISTICS**
**(Triode Section)**