

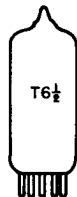
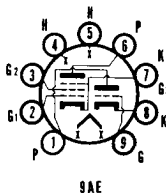
## NOTES:

- (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

**6EA8/6GH8A**5EA8, 5GH8, 5GH8A,  
9EA8, 9GH8A, 19EA8
**VHF OSCILLATOR and MIXER  
or GENERAL PURPOSE AMPLIFIER**
**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.


**ELECTRICAL DATA  
HEATER OPERATION**

|                                         | 19EA8 | 9EA8<br>9GH8A | 5EA8<br>5GH8<br>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<br>Section                  | Pentode<br>Section | Pentode<br>Section<br>Horiz. Defl.<br>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**

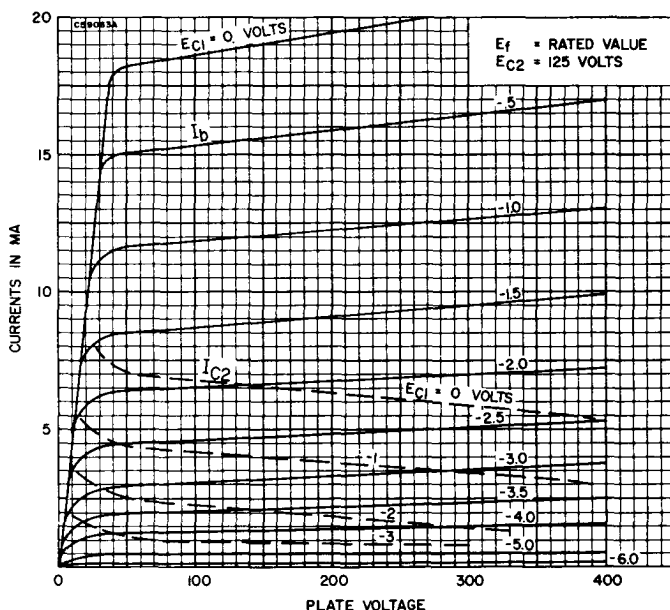
|                             | Triode<br>Section | Pentode<br>Section |
|-----------------------------|-------------------|--------------------|
| Plate Voltage .....         | 150               | 125 Volts          |
| Grid No. 2 Voltage .....    | —                 | 125 Volts          |
| Grid No. 1 Voltage .....    | —                 | -1.0 Volts         |
| Cathode Bias Resistor ..... | 56                | — Ohms             |
| Plate Current .....         | 18                | 12 Ma              |
| Grid No. 2 Current .....    | —                 | 4 Ma               |

|                                               |      |                 |
|-----------------------------------------------|------|-----------------|
| Transconductance .....                        | 8500 | 6400 $\mu$ mhos |
| Amplification Factor .....                    | 40   | —               |
| Plate Resistance (Approx.) .....              | 5000 | 200,000 Ohms    |
| $E_{c1}$ for $I_b = 10 \mu$ a (Approx.) ..... | -12  | -9 Volts        |

**NOTE:**

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### AVERAGE PLATE CHARACTERISTICS (Pentode Section)



### AVERAGE PLATE CHARACTERISTICS (Triode Section)

