

|                                                              |          |        |
|--------------------------------------------------------------|----------|--------|
| Heater Voltage (ac/dc)                                       | 6.3      | volts  |
| Heater Current                                               | 0.2      | ampere |
| Heater-Cathode Voltage:                                      |          |        |
| Peak value                                                   | ±200 max | volts  |
| Average value                                                | 100 max  | volts  |
| Direct Interelectrode Capacitances:°                         |          |        |
| Grid No.1 to Plate                                           | 0.03 max | pF     |
| Grid No.1 to Cathode, Heater, Grid No.2, and Internal Shield | 4.5      | pF     |
| Plate to Cathode, Heater, Grid No.2, and Internal Shield     | 3        | pF     |
| Cathode to Heater                                            | 2.7*     | pF     |

\* With external shield connected to cathode except as noted.

\* With external shield connected to ground.

## Class A<sub>1</sub> Amplifier

### MAXIMUM RATINGS (Design-Maximum Values)

|                                                       |                   |       |
|-------------------------------------------------------|-------------------|-------|
| Plate Voltage                                         | 275               | volts |
| Grid-No.2 (Screen-Grid) Supply Voltage                | 180               | volts |
| Grid-No.2 Voltage                                     | See curve page 98 |       |
| Grid-No.1 (Control-Grid) Voltage, Positive-bias value | 0                 | volts |
| Cathode Current                                       | 20                | mA    |
| Plate Dissipation                                     | 2                 | watts |
| Grid-No.2 Input:                                      |                   |       |
| For grid-No.2 voltages up to 90 volts                 | 0.5               | watt  |
| For grid-No.2 voltages between 90 and 180 volts       | See curve page 98 |       |

### CHARACTERISTICS

|                                                        |      |        |
|--------------------------------------------------------|------|--------|
| Plate Voltage                                          | 125  | volts  |
| Grid-No.2 Voltage                                      | 80   | volts  |
| Grid-No.1 Voltage                                      | —1   | volt   |
| Plate Resistance (Approx.)                             | 0.1  | megohm |
| Transconductance                                       | 8000 | μmhos  |
| Plate Current                                          | 10   | mA     |
| Grid-No.2 Current                                      | 1.5  | mA     |
| Grid-No.1 Voltage (Approx.) for plate current of 20 μA | —6   | volts  |

### MAXIMUM CIRCUIT VALUE

|                              |     |        |
|------------------------------|-----|--------|
| Grid-No.1-Circuit Resistance | 0.5 | megohm |
|------------------------------|-----|--------|

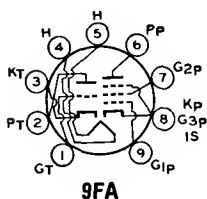
Refer to chart at end of section.

6FV8

## MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

6FV8A  
5FV8

Miniature type used in television receivers as combined oscillator and amplifier. Triode unit is used as vertical-deflection oscillator; pentode unit is used as if or general-purpose amplifier. Outlines section, 6B; requires 9-contact socket. Type 5FV8 is identical with type 6FV8A except for heater ratings.



9FA

|                                                                                   | 5FV8     | 6FV8A    |         |
|-----------------------------------------------------------------------------------|----------|----------|---------|
| Heater Voltage (ac/dc)                                                            | 4.7      | 6.3      | volts   |
| Heater Current                                                                    | 0.6      | 0.45     | ampere  |
| Heater Warm-up Time (Average)                                                     | 11       | 11       | seconds |
| Heater-Cathode Voltage:                                                           |          |          |         |
| Peak value                                                                        | ±200 max | ±200 max | volts   |
| Average value                                                                     | 100 max  | 100 max  | volts   |
| Direct Interelectrode Capacitances:                                               |          |          |         |
| Triode Unit:                                                                      |          |          |         |
| Grid to Plate                                                                     | 1.8      | 1.8      | pF      |
| Grid to Cathode, Heater, Pentode Cathode, Pentode Grid No.3, and Internal Shield  | 2.8      | 2.8      | pF      |
| Plate to Cathode, Heater, Pentode Cathode, Pentode Grid No.3, and Internal Shield | 1.5      | 2        | pF      |
| Pentode Unit:                                                                     |          |          |         |
| Grid No.1 to Plate                                                                | 0.02 max | 0.01 max | pF      |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield           | 5        | 5        | pF      |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield               | 2        | 3        | pF      |
| Pentode Plate to Triode Plate                                                     | 0.15 max | 0.03 max | pF      |

Class A<sub>1</sub> Amplifier

## MAXIMUM RATINGS (Design-Maximum Values)

|                                                       | Pentode Unit      |       |
|-------------------------------------------------------|-------------------|-------|
| Plate Voltage                                         | 300               | volts |
| Grid-No.2 (Screen-Grid) Supply Voltage                | 300               | volts |
| Grid-No.2 Voltage                                     | See curve page 98 |       |
| Grid-No.1 (Control-Grid) Voltage, Positive-bias value | 0                 | volts |
| Plate Dissipation                                     | 2.3               | watts |
| Grid-No.2 Input:                                      |                   |       |
| For grid-No.2 voltages up to 165 volts                | 0.55              | watt  |
| For grid-No.2 voltages between 165 and 330 volts      | See curve page 98 |       |

## MAXIMUM CIRCUIT VALUES

|                               |      |        |
|-------------------------------|------|--------|
| Grid-No.1-Circuit Resistance: |      |        |
| For fixed-bias operation      | 0.25 | megohm |
| For cathode-bias operation    | 1    | megohm |

## CHARACTERISTICS

|                                                             | Triode Unit | Pentode Unit |            |
|-------------------------------------------------------------|-------------|--------------|------------|
| Plate Voltage                                               | 125         | 125          | volts      |
| Grid-No.2 Voltage                                           | —           | 125          | volts      |
| Grid-No.1 Voltage                                           | —1          | —1           | volt       |
| Amplification Factor                                        | 45          | —            |            |
| Plate Resistance (Approx.)                                  | 5600        | 200000       | ohms       |
| Transconductance                                            | 8000        | 6500         | $\mu$ mhos |
| Plate Current                                               | 12          | 12           | mA         |
| Grid-No.2 Current                                           | —           | 4            | mA         |
| Grid-No.1 Voltage (Approx.) for plate current of 20 $\mu$ A | —7.5        | —9           | volts      |

## Vertical-Deflection Oscillator—Triode Unit

For operation in a 525-line, 30-frame system

## MAXIMUM RATINGS (Design-Maximum Values)

|                                  |     |       |
|----------------------------------|-----|-------|
| DC Plate Voltage                 | 330 | volts |
| Peak Negative-Pulse Grid Voltage | 250 | volts |
| Peak Cathode Current             | 70  | mA    |
| Average Cathode Current          | 20  | mA    |
| Plate Dissipation                | 2   | watts |

## MAXIMUM CIRCUIT VALUE

|                                                     |   |         |
|-----------------------------------------------------|---|---------|
| Grid-Circuit Resistance, for cathode-bias operation | 3 | megohms |
|-----------------------------------------------------|---|---------|

## 6FW5

## BEAM POWER TUBE

Glass octal type used as horizontal-deflection amplifier in television receivers. Outlines section, 19B; requires octal socket. Heater: volts (ac/dc), 6.3; amperes, 1.2; maximum heater-cathode volts,  $\pm 200$  peak, 100 average.

## Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

## MAXIMUM RATINGS (Design-Maximum Values)

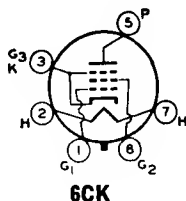
|                                       |      |              |
|---------------------------------------|------|--------------|
| DC Plate Voltage                      | 770  | volts        |
| Peak Positive-Pulse Plate Voltage#    | 6500 | volts        |
| DC Grid-No.2 (Screen-Grid) Voltage    | 220  | volts        |
| Peak Negative-Pulse Grid-No.1 Voltage | 330  | volts        |
| DC Grid-No.1 (Control-Grid) Voltage   | —55  | volts        |
| Peak Cathode Current                  | 610  | mA           |
| Average Cathode Current               | 175  | mA           |
| Plate Dissipation*                    | 18   | watts        |
| Grid-No.2 Input                       | 3.6  | watts        |
| Bulb Temperature (At hottest point)   | 220  | $^{\circ}$ C |

## MAXIMUM CIRCUIT VALUE

|                              |   |        |
|------------------------------|---|--------|
| Grid-No.1-Circuit Resistance | 1 | megohm |
|------------------------------|---|--------|

# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

\* A bias resistor or other means is required to protect the tube in absence of excitation.



6CK