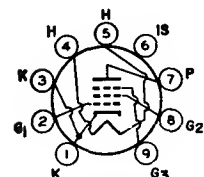


Refer to chart at end of section.

6EH7

SEMIREMOTE-CUTOFF  
PENTODE6EH7/  
EF183

3EH7/XF183, 4EH7



9AQ

Miniature types used as if-amplifier tubes in color and black-and-white television receivers. Outlines section, 6C; requires miniature 9-contact socket. Types 3EH7/XF183 and 4EH7 are identical with type 6EH7/EF183 except for heater ratings.

|                                                                         | 3EH7/XF183 | 4EH7     | 6EH7/EF183 |        |
|-------------------------------------------------------------------------|------------|----------|------------|--------|
| Heater Voltage (ac/dc)                                                  | 3.4        | 4.4      | 6.3        | volts  |
| Heater Current                                                          | 0.6        | 0.45     | 0.3        | ampere |
| Peak Heater-Cathode Voltage                                             | ±150 max   | ±150 max | ±150 max   | volts  |
| Direct Inter-electrode Capacitances:                                    |            |          |            |        |
| Grid No.1 to Plate                                                      |            |          | 0.005 max  | pF     |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield |            |          | 9          | pF     |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield     |            |          | 3          | pF     |

Class A<sub>1</sub> Amplifier

## MAXIMUM RATINGS (Design-Center Values)

|                                                     |      |       |
|-----------------------------------------------------|------|-------|
| Plate Supply Voltage                                | 550  | volts |
| Plate Voltage                                       | 250  | volts |
| Grid-No.3 (Suppressor-Grid) Voltage, Positive value | 0    | volts |
| Grid-No.2 (Screen-Grid) Supply Voltage              | 550  | volts |
| Grid-No.2 Voltage                                   | 250  | volts |
| Cathode Current                                     | 20   | mA    |
| Plate Dissipation                                   | 2.5  | watts |
| Grid-No.2 Input                                     | 0.65 | watt  |

## CHARACTERISTICS

|                            |                                |        |
|----------------------------|--------------------------------|--------|
| Plate Voltage              | 200                            | volts  |
| Grid No.3                  | Connected to cathode at socket |        |
| Grid-No.2 Voltage          | 90                             | volts  |
| Grid-No.1 Voltage          | -2                             | volts  |
| Plate Resistance (Approx.) | 0.5                            | megohm |
| Transconductance           | 12500                          | μmhos  |
| Plate Current              | 12                             | mA     |
| Grid-No.2 Current          | 4.5                            | mA     |

## TYPICAL OPERATION

|                                                            |                                |       |       |       |       |
|------------------------------------------------------------|--------------------------------|-------|-------|-------|-------|
| Plate Voltage                                              | 200                            | 200   | 200   | 200   | volts |
| Grid No.3                                                  | Connected to cathode at socket |       |       |       |       |
| Grid-No.2 Supply Voltage                                   | 200                            | 200   | 200   | 200   | volts |
| Grid-No.2 Series Resistor                                  | 22000                          | 22000 | 22000 | 22000 | ohms  |
| Grid-No.1 Voltage                                          | -19.5                          | -9.5  | -6.5  | -2    | volts |
| Transconductance                                           | 125                            | 625   | 1250  | 12500 | μmhos |
| RMS Grid-No.1 Voltage, for cross-modulation factor of 0.01 | 450                            | 160   | 100   | —     | mV    |

## MAXIMUM CIRCUIT VALUE

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

Refer to chart at end of section.

6EH8

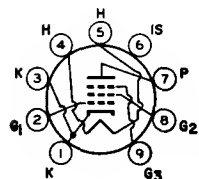
Refer to chart at end of section.

6EJ7

## SHARP-CUTOFF PENTODE

6EJ7/  
EF184

3EJ7/XF184, 4EJ7



9AQ

Miniature types used as if-amplifier tubes in color and black-and-white television receivers. Outlines section, 6C; requires miniature 9-contact socket. Types 3EJ7/XF184 and 4EJ7 are identical with type 6EJ7/EF184 except for heater ratings.

|                                                                         | 3EJ7/XF184 | 4EJ7     | 6EJ7/EF184 |        |
|-------------------------------------------------------------------------|------------|----------|------------|--------|
| Heater Voltage (ac/dc)                                                  | 3.4        | 4.4      | 6.3        | volts  |
| Heater Current                                                          | 0.6        | 0.45     | 0.3        | ampere |
| Peak Heater-Cathode Voltage                                             | ±150 max   | ±150 max | ±150 max   | volts  |
| Direct Interelectrode Capacitances:                                     |            |          |            |        |
| Grid No.1 to Plate                                                      |            |          | 0.005 max  | pF     |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield |            |          | 10         | pF     |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield     |            |          | 3          | pF     |

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

#### MAXIMUM RATINGS (Design-Center Values)

|                                        |     |       |
|----------------------------------------|-----|-------|
| Plate Supply Voltage                   | 550 | volts |
| Plate Voltage                          | 250 | volts |
| Grid-No.2 (Screen-Grid) Supply Voltage | 550 | volts |
| Grid-No.2 Voltage                      | 250 | volts |
| Cathode Current                        | 25  | mA    |
| Plate Dissipation                      | 2.5 | watts |
| Grid-No.2 Input                        | 0.9 | watt  |

#### CHARACTERISTICS

|                            |                                |       |        |
|----------------------------|--------------------------------|-------|--------|
| Plate Voltage              | 190                            | 200   | volts  |
| Grid No.3                  | Connected to cathode at socket |       |        |
| Grid-No.2 Voltage          | 190                            | 200   | volts  |
| Grid-No.1 Voltage          | -2.35                          | -2.5  | volts  |
| Plate Resistance (Approx.) | 0.35                           | 0.35  | megohm |
| Transconductance           | 15000                          | 15000 | μmbos  |
| Plate Current              | 10                             | 10    | mA     |
| Grid-No.2 Current          | 4.1                            | 4.1   | mA     |

#### MAXIMUM CIRCUIT VALUE

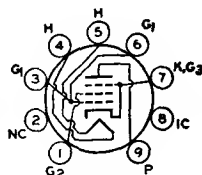
|                              |   |        |
|------------------------------|---|--------|
| Grid-No.1-Circuit Resistance | 1 | megohm |
|------------------------------|---|--------|

## 6EM5

### 8EM5

### BEAM POWER TUBE

Miniature type used as vertical-deflection amplifier in television receivers utilizing picture tubes having diagonal deflection angles of 110 degrees. Outlines section, 6G; requires miniature 9-contact socket. Type 8EM5 is identical with type 6EM5 except for heater ratings.



9HN

|                                                        | 6EM5     | 8EM5     |         |
|--------------------------------------------------------|----------|----------|---------|
| Heater Voltage (ac/dc)                                 | 6.3      | 8.4      | volts   |
| Heater Current                                         | 0.8      | 0.6      | ampere  |
| Heater Warm-up Time (Average)                          | —        | 11       | seconds |
| Heater-Cathode Voltage:                                |          |          |         |
| Peak value                                             | ±200 max | ±200 max | volts   |
| Average value                                          | 100 max  | 100 max  | volts   |
| Direct Interelectrode Capacitances:                    |          |          |         |
| Grid No.1 to Plate                                     |          | 0.7 max  | pF      |
| Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3 |          | 10       | pF      |
| Plate to Cathode, Heater, Grid No.2, and Grid No.3     |          | 5.1      | pF      |

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

#### CHARACTERISTICS

|                                                         |      |      |        |
|---------------------------------------------------------|------|------|--------|
| Plate Voltage                                           | 60   | 250  | volts  |
| Grid-No.2 Voltage                                       | 250  | 250  | volts  |
| Grid-No.1 Voltage                                       | 0    | -18  | volts  |
| Mu Factor, Grid No.1 to Grid No.2                       | —    | 8.7  |        |
| Plate Resistance                                        | —    | 0.05 | megohm |
| Transconductance                                        | —    | 5100 | μmbos  |
| Plate Current                                           | 180* | 40   | mA     |
| Grid-No.2 Current                                       | 30*  | 3    | mA     |
| Grid-No.1 Voltage (Approx.) for plate current of 0.2 mA | —    | -37  | volts  |

\* These values can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.