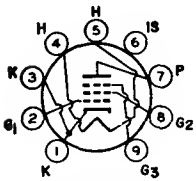
Refer to chart at end of section. **6EH7**




9AQ

## SEMIREMOTE-CUTOFF PENTODE

# 6EH7/ EF183

**3EH7/XF183, 4EH7**

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 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 | | | 9 | pF |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield | | | 3 | pF |

### Class $A_1$ 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**

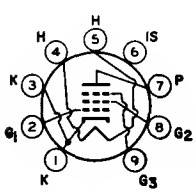
| | | | | | |
|---|---|---|---|---|---|
| Plate Voltage | 200 | 200 | 200 | 200 | volts |
| Grid No.3 | Connected to cathode at socket | | | | |
| Grid-No.2 Supply Voltage | 200 | 200 | 200 | 200 | volts |
| Grid-No.2 Series Resistor | 22000 | 22000 | 22000 | 22000 | ohms |
| Grid-No.1 Voltage | —19.5 | —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**




9AQ

## SHARP-CUTOFF PENTODE

# 6EJ7/ EF184

**3EJ7/XF184, 4EJ7**

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.8, and Internal Shield | | | 10 | pF |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield | | | 3 | pF |

## Class $A_1$ 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 | μmhos |
| Plate Current | 10 | 10 | mA |
| Grid-No.2 Current | 4.1 | 4.1 | mA |

**MAXIMUM CIRCUIT VALUE**

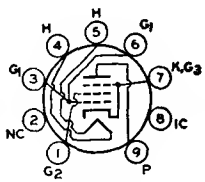
| | | |
|---|---|---|
| Grid-No.1-Circuit Resistance | 1 | megohm |

# 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 $A_1$ 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 | μmhos |
| 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 he measured by a method involving a recurrent waveform such that the maximum ıatings of the tube will not be exceeded.