

Class A<sub>1</sub> Amplifier

## CHARACTERISTICS

|                                             | Triode<br>Connection <sup>a</sup> | Pentode<br>Connection          |            |
|---------------------------------------------|-----------------------------------|--------------------------------|------------|
| Plate Voltage                               | 150                               | 60 150                         | volts      |
| Grid No.3 (Suppressor Grid)                 |                                   | Connected to cathode at socket | volts      |
| Grid-No.2 (Screen-Grid) Voltage             | —                                 | 150 150                        | volts      |
| Grid-No.1 (Control-Grid) Voltage            | -22.5                             | 0 -22.5                        | volts      |
| Mu-Factor, Grid No.2 to Grid No.1           | 4.4                               | —                              |            |
| Plate Resistance (Approx.)                  | —                                 | 15000                          | ohms       |
| Transconductance                            | —                                 | 7100                           | $\mu$ mhos |
| Plate Current                               | —                                 | 390 <sup>a</sup> 70            | mA         |
| Grid-No.2 Current                           | —                                 | 32 <sup>a</sup> 2.1            | mA         |
| Grid-No.1 Voltage for plate current of 1 mA | —                                 | — -42                          | volts      |

<sup>a</sup> Grid No.2 connected to plate.

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

## Horizontal-Deflection Amplifier

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

## MAXIMUM RATINGS (Design-Maximum Values)

|                                                |      |       |
|------------------------------------------------|------|-------|
| DC Plate Supply Voltage                        | 770  | volts |
| Peak Positive-Pulse Plate Voltage <sup>#</sup> | 6500 | volts |
| Peak Negative-Pulse Plate Voltage              | 1500 | volts |
| DC Grid-No.3 Voltage <sup>†</sup>              | 70   | volts |
| DC Grid-No.2 Voltage                           | 220  | volts |
| DC Grid-No.1 Voltage                           | -55  | volts |
| Peak Negative-Pulse Grid-No.1 Voltage          | 330  | volts |
| Peak Cathode Current                           | 550  | mA    |
| Average Cathode Current                        | 175  | mA    |
| Plate Dissipation <sup>*</sup>                 | 17.5 | watts |
| Grid-No.2 Input                                | 3.5  | watts |
| Bulb Temperature (At hottest point)            | 240  | °C    |

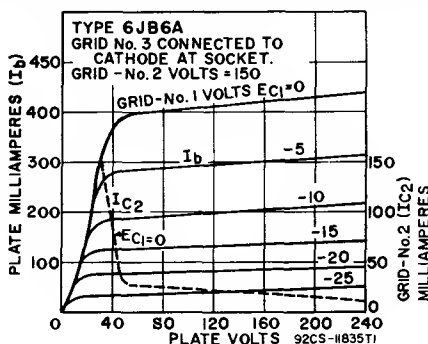
## MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance, for grid-resistor-bias operation . . . . . 1 megohm

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

<sup>†</sup> For horizontal-deflection service, a positive voltage may be applied to grid No.3 to minimize "snivets" interference in both vhf and uhf television receivers. A typical value is 30 volts.

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

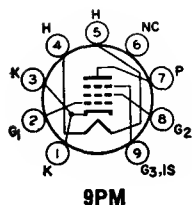


## SHARP-CUTOFF PENTODE

**6JC6**  
**6JC6A**

3JC6A, 4JC6, 4JC6A

Miniature type with frame grid used in if-amplifier stages of color and black-and-white television receivers utilizing intermediate frequencies in the order of 40 MHz. Outlines section, 6B; requires miniature 9-contact socket. Type 4JC6 is identical with type 6JC6 except for heater ratings. Types 3JC6A and 4JC6A are identical with type 6JC6A except for heater ratings.



|                                                                         | 3JC6A     | 4JC6<br>4JC6A | 6JC6<br>6JC6A |         |
|-------------------------------------------------------------------------|-----------|---------------|---------------|---------|
| Heater Voltage (ac/dc)                                                  | 3.5       | 4.5           | 6.3           | volts   |
| Heater Current                                                          | 0.6       | 0.45          | 0.3           | ampere  |
| Heater Warm-up Time (Average)                                           | 11        | 11            | —             | seconds |
| Heater-Cathode Voltage:                                                 |           |               |               |         |
| Peak value                                                              | ±200 max  | ±200 max      | ±200 max      | volts   |
| Average value                                                           | 100 max   | 100 max       | 100 max       | volts   |
| Direct Interelectrode Capacitances:                                     | 6JC6      | 6JC6A         |               |         |
| Grid No.1 to Plate                                                      | 0.019 max | 0.019 max     |               | pF      |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield | 8.2       | 8.5           |               | pF      |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield     | 3         | 3             |               | pF      |

Class A<sub>1</sub> Amplifier

## MAXIMUM RATINGS (Design-Maximum Values)

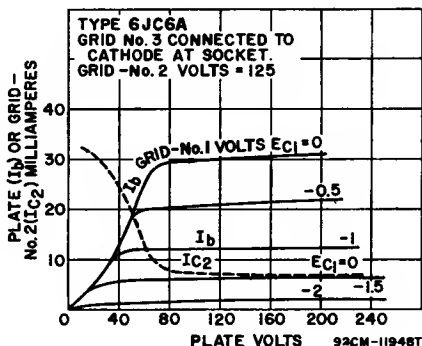
|                                                       |     |     |                   |
|-------------------------------------------------------|-----|-----|-------------------|
| Plate Voltage                                         | 330 | 330 | volts             |
| Grid-No.3 (Suppressor-Grid) Voltage, Positive value   | 0   | 0   | volts             |
| Grid-No.2 (Screen-Grid) Supply Voltage                | 330 | 330 | volts             |
| Grid-No.2 Voltage                                     |     |     | See curve page 98 |
| Grid-No.1 (Control-Grid) Voltage, Positive-bias value | 0   | 0   | volts             |
| Plate Dissipation                                     | 2.5 | 3.1 | watts             |
| Grid-No.2 Input:                                      |     |     |                   |
| For grid-No.2 voltages up to 165 volts                | 0.6 | 0.7 | watt              |
| For grid-No.2 voltages between 165 and 330 volts      |     |     | See curve page 98 |

## CHARACTERISTICS

|                                                         |                                |       |        |
|---------------------------------------------------------|--------------------------------|-------|--------|
| Plate Supply Voltage                                    | 125                            | 125   | volts  |
| Grid No.3                                               | Connected to cathode at socket |       |        |
| Grid-No.2 Supply Voltage                                | 125                            | 125   | volts  |
| Cathode-Bias Resistor                                   | 56                             | 56    | ohms   |
| Plate Resistance (Approx.)                              | 0.18                           | 0.18  | megohm |
| Transconductance                                        | 15000                          | 16000 | μmhos  |
| Plate Current                                           | 13                             | 14    | mA     |
| Grid-No.2 Current                                       | 3.2                            | 3.4   | mA     |
| Grid-No.1 Voltage (Approx.) for plate current of 100 μA | —3                             | —3    | volts  |

## MAXIMUM CIRCUIT VALUES

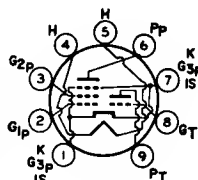
|                               |      |      |        |
|-------------------------------|------|------|--------|
| Grid-No.1-Circuit Resistance: |      |      |        |
| For fixed-bias operation      | 0.25 | 0.25 | megohm |
| For cathode-bias operation    | 1    | 1    | megohm |



## 6JC6

MEDIUM-MU TRIODE—  
SHARP-CUTOFF PENTODE

Miniature type used as combined vhf oscillator and mixer tube in television receivers. Outlines section, 6B; requires miniature 9-contact socket. Heater: volts (ac/dc), 6.3; amperes, 0.45; warm-up time (average), 11 seconds; maximum heater-cathode volts, ±200 peak, 100 average.



9PA