

## Beam Power Tube

## GENERAL DATA

## Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):

|   |                       |       |
|---|-----------------------|-------|
| Voltage (AC or DC) . . . . .                      | 6.3 ± 0.6             | volts |
| Current at heater volts = 6.3 . . .               | 1.200                 | amp   |
| Peak heater-cathode voltage:                      |                       |       |
| Heater negative with respect to cathode . . . . . | 200 max.              | volts |
| Heater positive with respect to cathode . . . . . | 200 <sup>a</sup> max. | volts |

Direct Interelectrode Capacitances

|  |      |    |
|--|------|----|
| (Approx.): <sup>b</sup>  |      |    |
| Grid No.1 to plate . . . . .   | 0.5  | μf |
| Grid No.1 to cathode & grid No.3,<br>grid No.2, and heater . . . . . | 15.0 | μf |
| Plate to cathode & grid No.3,<br>grid No.2, and heater . . . . .     | 7.0  | μf |

Characteristics, Class A<sub>1</sub> Amplifier:

|   |                  |       |       |       |
|---|------------------|-------|-------|-------|
| Plate Voltage . . . . .   | 60               | 150   | 250   | volts |
| Grid-No.2 Voltage . . . . .   | 150              | 150   | 150   | volts |
| Grid-No.1 Voltage . . . . .   | 0                | -22.5 | -22.5 | volts |
| Amplification Factor . . . . .  | -                | 4.4   | -     |       |
| Plate Resistance (Approx.) . . . . .  | -                | -     | 18000 | ohms  |
| Transconductance . . . . .  | -                | -     | 7300  | μmhos |
| Plate Current . . . . .   | 345 <sup>c</sup> | -     | 65    | ma    |
| Grid-No.2 Current . . . . .   | 27 <sup>c</sup>  | -     | 1.8   | ma    |
| Grid-No.1 Voltage (Approx.)<br>for plate ma. = 1 . . . . .  | -                | -     | -42   | volts |
| Grid-No.1 Voltage (Approx.)<br>for peak positive-pulse plate<br>volts = 5000, grid-No.2 volts<br>= 150, and plate ma. = 1 . . . . . | -                | -     | -100  | volts |

## Mechanical:

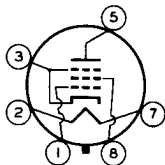
|                                  |   |
|----------------------------------|---|
| Operating Position . . . . .     | Any   |
| Type of Cathode . . . . .        | Coated Unipotential   |
| Maximum Overall Length . . . . . | 3-7/8"  |
| Maximum Seated Length . . . . .  | 3-5/16"   |
| Diameter . . . . .               | 1.438" to 1.562"  |
| Bulb . . . . .                   | T12   |
| Base . . . . .                   | Short Medium-Shell Octal 6-Pin<br>with External Barriers, Arrangement 1, Style A,<br>(JEDEC Group 1. No.86-112) |



# 6FW5

Basing Designation for BOTTOM VIEW. . . . . 6CK

Pin 1—Grid No.1  
 Pin 2—Heater  
 Pin 3—Cathode,  
 Grid No.3



Pin 5—Plate  
 Pin 7—Heater  
 Pin 8—Grid No.2

## HORIZONTAL-DEFLECTION AMPLIFIER

### Maximum Ratings, Design-Maximum Values:

*For operation in a 525-line, 30-frame system<sup>d</sup>*

|   |           |       |
|---|-----------|-------|
| DC PLATE VOLTAGE. . . . .                                       | 770 max.  | volts |
| PEAK POSITIVE-PULSE PLATE VOLTAGE <sup>e</sup> . . .            | 6500 max. | volts |
| DC GRID-No.2 (SCREEN-GRID) VOLTAGE. . .                         | 220 max.  | volts |
| PEAK NEGATIVE-PULSE GRID-No.1 VOLTAGE . .                       | 330 max.  | volts |
| DC GRID-No.1 (CONTROL-GRID) VOLTAGE . .                         | -55 max.  | volts |
| CATHODE CURRENT:  |           |       |
| Peak. . . . .   | 610 max.  | ma    |
| Average . . . . .   | 175 max.  | ma    |
| GRID-No.2 INPUT . . . . .                                       | 3.6 max.  | watts |
| PLATE DISSIPATION <sup>f</sup> . . . . .                        | 18 max.   | watts |
| BULB TEMPERATURE (At hottest point<br>on bulb surface). . . . . | 220 max.  | °C    |

### Maximum Circuit Values:

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

- <sup>a</sup> The dc component must not exceed 100 volts.
- <sup>b</sup> without external shield.
- <sup>c</sup> This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.
- <sup>d</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.
- <sup>e</sup> This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.
- <sup>f</sup> An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

