

# 22JF6

## Beam Power Tube

### NOVAR TYPE

*For Horizontal-Deflection-Amplifier Service  
in Low-B+, Black-and-White TV Receivers*

### ELECTRICAL

#### Heater Characteristics and Ratings

|                                          |               |   |
|------------------------------------------|---------------|---|
| Current . . . . .                        | 0.450 ± 0.030 | A |
| Voltage (AC or DC). . . . .              | 22.0          | V |
| At heater amperes = 0.450                |               |   |
| Warm-up time (Average). . . . .          | 11            | s |
| Maximum heater-cathode voltage:          |               |   |
| Heater negative with respect to cathode: |               |   |
| Peak. . . . .                            | 200           | V |
| Heater positive with respect to cathode: |               |   |
| Peak. . . . .                            | 200           | V |
| DC component. . . . .                    | 100           | V |

#### Direct Interelectrode Capacitances<sup>a</sup>

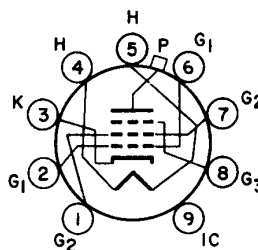
|                                      |      |    |
|--------------------------------------|------|----|
| Grid No.1 to plate. . . . .          | 1.2  | pF |
| Input: G1 to (K, G3, G2, H). . . . . | 22.0 | pF |
| Output: P to (K, G3, G2, H). . . . . | 9.0  | pF |

### MECHANICAL

|                                 |                                                               |
|---------------------------------|---------------------------------------------------------------|
| Operating Position. . . . .     | Any                                                           |
| Type of Cathode . . . . .       | Coated Unipotential                                           |
| Maximum Overall Length. . . . . | 3.550 in                                                      |
| Seated Length . . . . .         | 2.910 to 3.170 in                                             |
| Diameter. . . . .               | 1.438 to 1.562 in                                             |
| Dimensional Outline . . . . .   | See General Section                                           |
| Bulb. . . . .                   | T12                                                           |
| Cap . . . . .                   | Skirted Miniature (JEDEC No.C1-2 or C1-3)                     |
| Base. . . . .                   | Large-Button Novar 9-Pin with Exhaust Tip<br>(JEDEC No.E9-88) |

Basing Designation for BOTTOM VIEW. . . . . 9QL

- Pin 1-Grid No.2
- Pin 2-Grid No.1
- Pin 3-Cathode
- Pin 4-Heater
- Pin 5-Heater
- Pin 6-Grid No.1
- Pin 7-Grid No.2
- Pin 8-Grid No.3
- Pin 9-Do Not Use
- Cap-Plate



### CHARACTERISTICS

|                                                          |      |     |       |   |
|----------------------------------------------------------|------|-----|-------|---|
| Peak Positive-Pulse Plate Voltage <sup>b</sup> . . . . . | 6500 | -   | -     | V |
| Plate Voltage . . . . .                                  | -    | 50  | 130   | V |
| Grid No.3 . . . . . Connected to cathode at socket       |      |     |       |   |
| Grid-No.2 Voltage. . . . .                               | 125  | 125 | 125   | V |
| Grid-No.1 Voltage . . . . .                              | -    | 0   | -20   | V |
| Plate Resistance (Approx.). . . . .                      | -    | -   | 12000 | Ω |



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DATA 1  
9-65

# 22JF6

|                                     |      |                  |       |           |
|-------------------------------------|------|------------------|-------|-----------|
| Transconductance. . . . .           | -    | -                | 10000 | $\mu$ hos |
| Plate Current . . . . .             | -    | 525 <sup>c</sup> | 80    | mA        |
| Grid-No.2 Current . . . . .         | -    | 32 <sup>c</sup>  | 2.5   | mA        |
| Grid-No.1 Voltage (Approx.) . . . . | -125 | -                | -40   | V         |

For plate mA = 1

## Triode Amplification Factor

(Triode connection: grid No.2

connected to plate at socket.

Plate volts = grid-No.2 volts =

125; grid-No.1 volts = -20) . . . - - 4.1

## HORIZONTAL-DEFLECTION AMPLIFIER

### Maximum Ratings, Design-Maximum Values

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

|                                                               |      |   |
|---------------------------------------------------------------|------|---|
| DC Plate Supply Voltage . . . . .                             | 770  | V |
| Peak Positive-Pulse Plate Voltage <sup>d</sup> . . . . .      | 6500 | V |
| Peak Negative-Pulse Plate Voltage . . . . .                   | 1500 | V |
| DC Grid-No.3 Voltage <sup>e</sup> . . . . .                   | 100  | V |
| DC Grid-No.2 (Screen-Grid) Voltage. . . . .                   | 220  | V |
| Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage. . . . . | 330  | V |

### Cathode Current

|                                          |     |    |
|------------------------------------------|-----|----|
| Peak. . . . .                            | 950 | mA |
| Average . . . . .                        | 275 | mA |
| Grid-No.2 Input . . . . .                | 3.5 | W  |
| Plate Dissipation <sup>f</sup> . . . . . | 17  | W  |
| Bulb Temperature. . . . .                | 240 | °C |

At hottest point on bulb surface

## MAXIMUM CIRCUIT VALUES

### Grid-No.1-Circuit Resistance

For grid-resistor-bias operation<sup>f</sup>. . . . . 0.47 M $\Omega$

For plate-pulsed operation. . . . . 10 M $\Omega$

(Horizontal-deflection circuits only)

<sup>a</sup> Without external shield.

<sup>b</sup> Under conditions shown in footnote<sup>d</sup>.

<sup>c</sup> This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

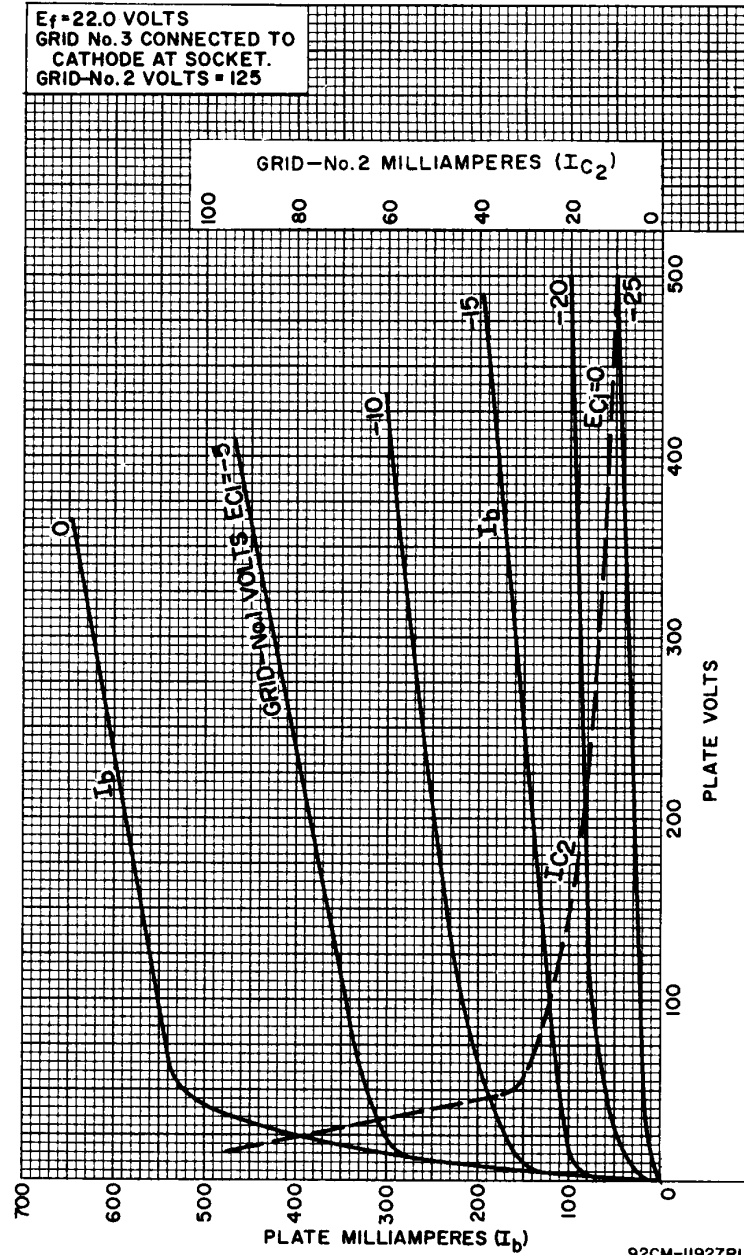
<sup>d</sup> This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

<sup>e</sup> In horizontal-deflection-amplifier service, a positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in both vhf and uhf television receivers. A typical value for this voltage is 50 volts.

<sup>f</sup> An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

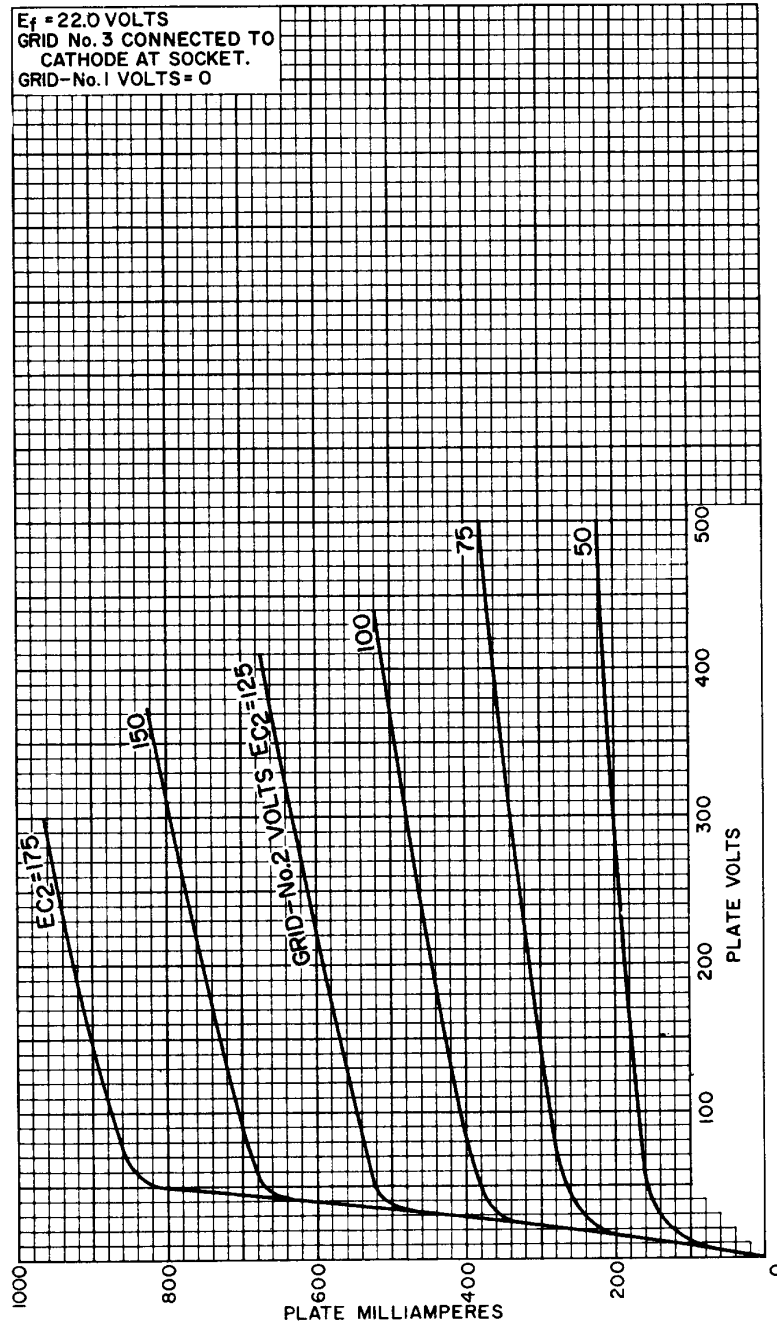


## Average Characteristics



# 22JF6

## Average Characteristics



92CM-11923R2

DATA 2

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