

## Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

FRAME-GRID CONSTRUCTION

DARK HEATER

*For Video-Output-Amplifier Service in Color-TV Receivers*

### ELECTRICAL CHARACTERISTICS

Bogey Values<sup>a</sup>

|                                           |            |          |    |
|-------------------------------------------|------------|----------|----|
| Heater Voltage (AC or DC) . . . . .       | $E_h$      | 6.3      | V  |
| Heater Current . . . . .                  | $I_h$      | 0.520    | A  |
| <b>Direct Interelectrode Capacitances</b> |            |          |    |
| Without external shield                   |            |          |    |
| Grid No.1 to plate . . . . .              | $C_{g1-p}$ | 0.16 max | pF |
| Input: G1 to (K, G3 + IS, G2, H)          | $C_i$      | 14       | pF |
| Output: P to (K, G3 + IS, G2, H).         | $C_o$      | 6.0      | pF |

*For the following characteristics, see Conditions*

|                                       |              |       |            |
|---------------------------------------|--------------|-------|------------|
| Plate Resistance (Approx.) . . . . .  | $r_p$        | 40    | k $\Omega$ |
| Transconductance . . . . .            | $g_m$        | 30000 | $\mu$ mho  |
| DC Plate Current . . . . .            | $I_b$        | 30    | mA         |
| DC Grid-No.2 Current . . . . .        | $I_{c2}$     | 5.2   | mA         |
| Cutoff DC Grid-No.1 Voltage . . . . . | $E_{c1}(co)$ | -4.5  | V          |
| Plate $\mu$ A = 100                   |              |       |            |

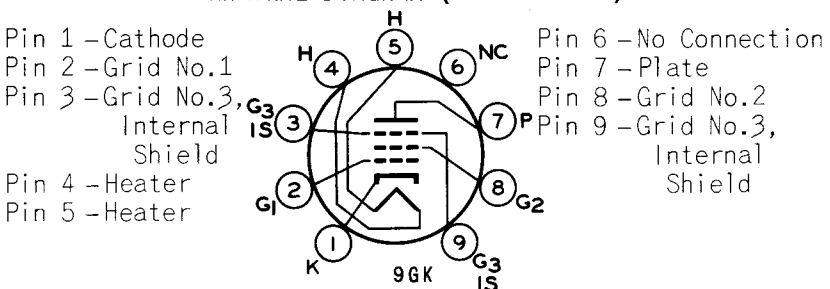
Conditions

|                                    |           |                   |          |
|------------------------------------|-----------|-------------------|----------|
| Heater Voltage . . . . .           | $E_h$     | Bogey Value       | V        |
| Plate Supply Voltage . . . . .     | $E_{bb}$  | 200               | V        |
| Grid-No.3. . . . .                 |           | connected to      |          |
|                                    |           | cathode at socket |          |
| Grid-No.2 Supply Voltage . . . . . | $E_{cc2}$ | 135               | V        |
| Grid-No.1 Supply Voltage . . . . . | $E_{cc1}$ | 0                 | V        |
| Cathode Resistor . . . . .         | $R_k$     | 47                | $\Omega$ |

### MECHANICAL CHARACTERISTICS

|                                          |                                       |
|------------------------------------------|---------------------------------------|
| Operating Position . . . . .             | Any                                   |
| Type of Cathode. . . . .                 | Coated Unipotential                   |
| Maximum Overall Length . . . . .         | 2.625 in                              |
| Maximum Seated Length. . . . .           | 2.375 in                              |
| Length, Base Seat to Bulb Top            |                                       |
| Excluding tip . . . . .                  | 1.906 to 2.094 in                     |
| Maximum Diameter . . . . .               | 0.875 in                              |
| Dimensional Outline (JEDEC 6-3). . . . . | See General Section                   |
| Envelope . . . . .                       | JEDEC T6-1/2                          |
| Base . . . . .                           | Small-Button Noval 9-Pin (JEDEC E9-1) |

### TERMINAL DIAGRAM (Bottom View)



DESIGN-MAXIMUM RATINGS

For operation as a Class A<sub>1</sub> Amplifier

|                                                                           |                  |            |   |
|---------------------------------------------------------------------------|------------------|------------|---|
| Plate Voltage. . . . .                                                    | E <sub>b</sub>   | 330        | V |
| Grid-No.2 (Screen-Grid)                                                   |                  |            |   |
| Supply Voltage. . . . .                                                   | E <sub>cc2</sub> | 330        | V |
| Grid-No.2 Voltage. . . .                                                  | E <sub>c2</sub>  |            |   |
| See Grid-No.2 Input<br>Rating Chart at front of<br>Receiving Tube Section |                  |            |   |
| Grid-No.1 (Control-Grid)<br>Voltage                                       |                  |            |   |
| Positive-bias value. .                                                    | E <sub>c1</sub>  | 0          | V |
| Heater-Cathode Voltage                                                    |                  |            |   |
| Peak . . . . .                                                            | e <sub>hkm</sub> | ±200       | V |
| DC . . . . .                                                              | E <sub>hk</sub>  | 100        | V |
| Heater Voltage (AC or DC)                                                 | E <sub>h</sub>   | 5.7 to 6.9 | V |
| Grid-No.2 Input                                                           | P <sub>g2</sub>  |            |   |
| For E <sub>c2</sub> ≤ 165 V. . . .                                        |                  | 1          | W |
| For E <sub>c2</sub> > 165 V and<br>≤ 330 V . . . . .                      | -                |            |   |
| See Grid-No.2-Input<br>Rating Chart at front of<br>Receiving Tube Section |                  |            |   |
| Plate Dissipation. . . .                                                  | P <sub>b</sub>   | 9          | W |

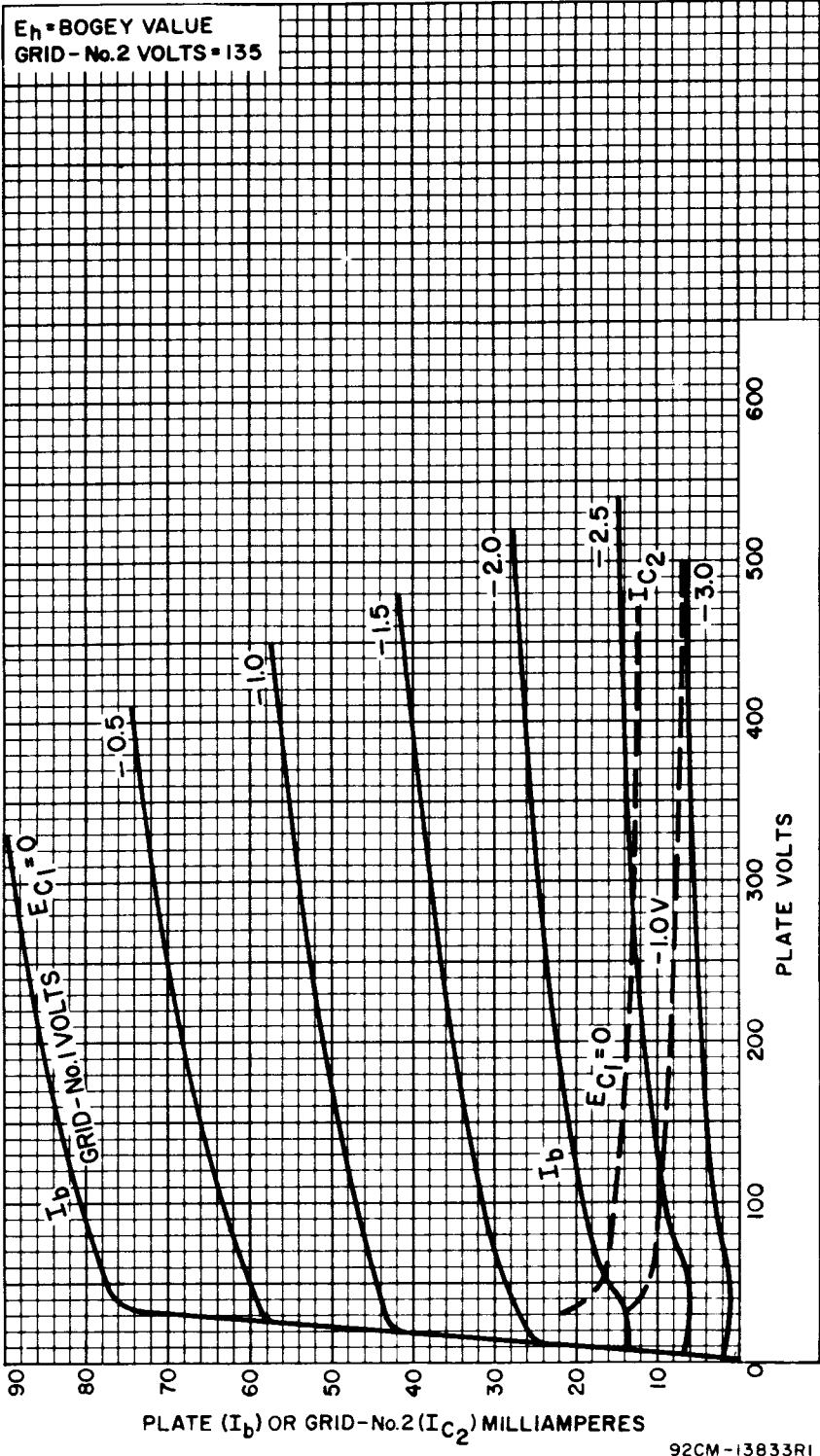
MAXIMUM CIRCUIT VALUES

|                                 |                       |      |    |
|---------------------------------|-----------------------|------|----|
| Grid-No.1-Circuit Resistance    | R <sub>g1</sub> (ckt) |      |    |
| For fixed-bias operation. . . . |                       | 0.1  | MΩ |
| For cathode-bias operation. . . | -                     | 0.25 | MΩ |

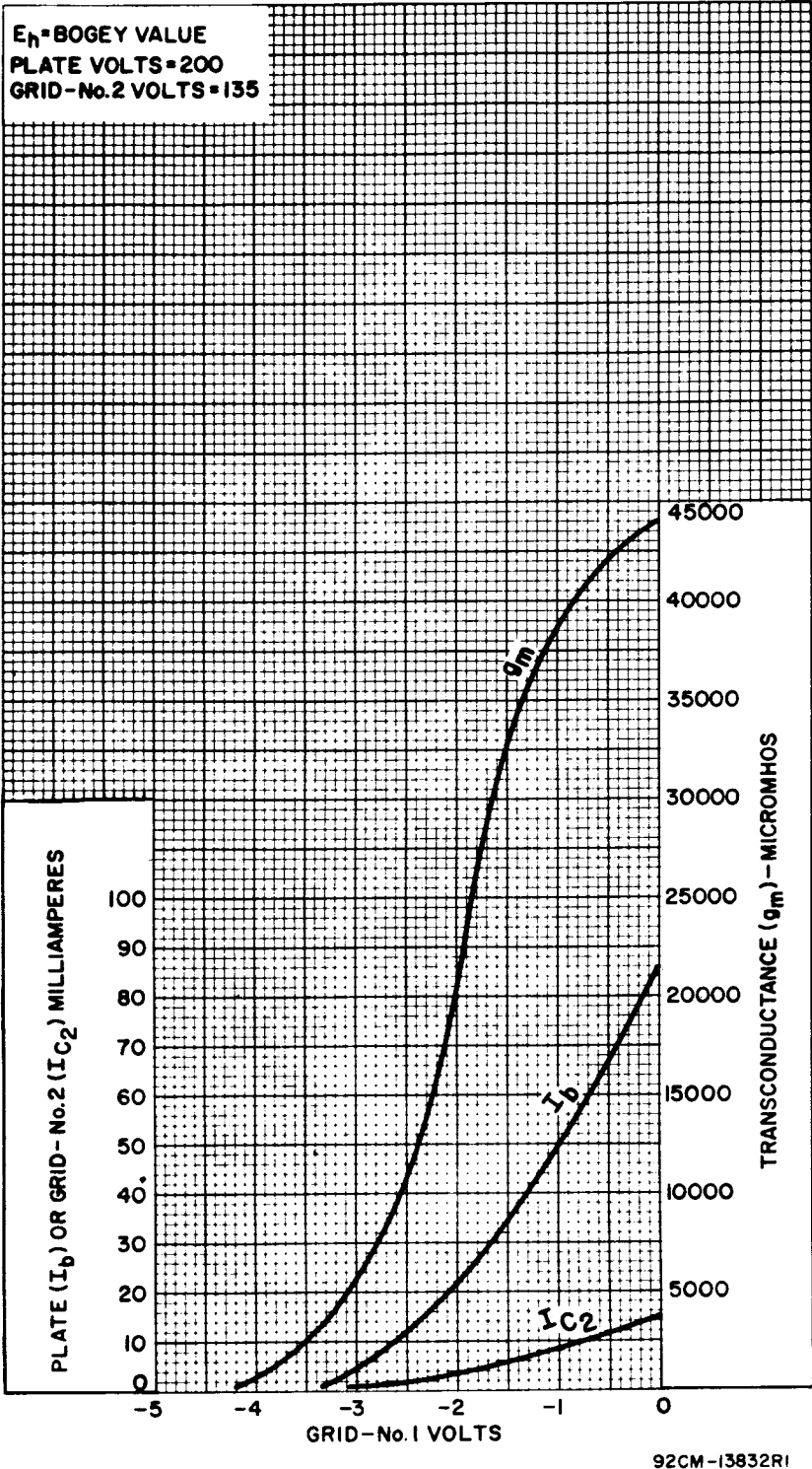
<sup>a</sup> Unless otherwise specified.



Typical Characteristics



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92CM-13832R1

