

|                                                                          |  |
|--------------------------------------------------------------------------|--|
| Grid-No.2 Current .....                                                  |  |
| Grid-No.1 Supply Voltage (Approx.):                                      |  |
| For plate current of 10 $\mu$ A .....                                    |  |
| For plate current of 20 $\mu$ A .....                                    |  |
| Grid-No.3 Supply Voltage (Approx.) for plate current of 20 $\mu$ A ..... |  |

| Triode Unit | Pentode Unit | mA    |
|-------------|--------------|-------|
| —           | 2.8          |       |
| —5          | —            | volts |
| —           | —4           | volts |
| —           | —7           | volts |

**MAXIMUM CIRCUIT VALUES**

|                                  |      |        |
|----------------------------------|------|--------|
| Grid-Circuit Resistance:         |      |        |
| For fixed-bias operation .....   | 0.25 | megohm |
| For cathode-bias operation ..... | 1    | megohm |

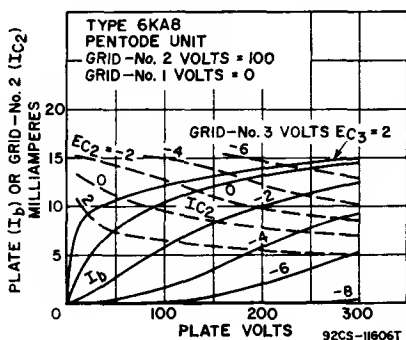
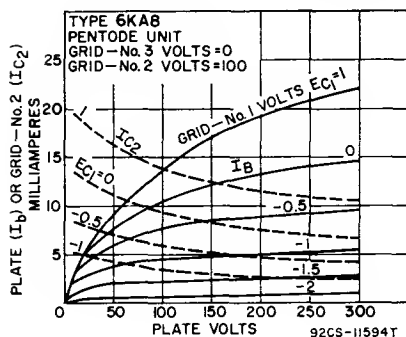
**Gated AGC Amplifier and Noise Inverter****MAXIMUM RATINGS (Design-Maximum Values)**

|                                                        |                   |       |
|--------------------------------------------------------|-------------------|-------|
| DC Plate Voltage .....                                 | Pentode Unit      | volts |
| Peak Positive-Pulse Plate Voltage# .....               | 300               | volts |
| Grid-No.3 (Control-Grid) Voltage:                      | 600               | volts |
| Positive-bias value .....                              | 0                 | volts |
| Negative-bias value .....                              | —100              | volts |
| Grid-No.2 (Screen-Grid) Supply Voltage .....           | 300               | volts |
| Grid-No.2 Voltage .....                                | See curve page 98 |       |
| Grid-No.1 (Control-Grid) Voltage:                      |                   |       |
| Positive-bias value .....                              | 0                 | volts |
| Negative-bias value .....                              | —50               | volts |
| Plate Dissipation .....                                | 2                 | watts |
| Grid-No.2 Input:                                       |                   |       |
| For grid-No.2 voltages up to 150 volts .....           | 1.1               | watts |
| For grid-No.2 voltages between 150 and 300 volts ..... | See curve page 98 |       |

**MAXIMUM CIRCUIT VALUES**

|                                    |      |        |
|------------------------------------|------|--------|
| Grid-No.3-Circuit Resistance ..... | 0.68 | megohm |
| Grid-No.1-Circuit Resistance:      |      |        |
| For fixed-bias operation .....     | 0.5  | megohm |
| For cathode-bias operation .....   | 1    | megohm |

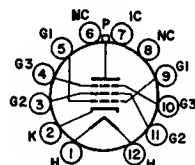
# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

**6KD6**

40KD6

**BEAM POWER TUBE**

Duodec type used as horizontal-deflection amplifier in television receivers. Outlines section, 16C; requires duodec 12-contact socket. Type 40KD6 is identical with type 6KD6 except for heater ratings.



12GW

|                           |          |          |         |
|---------------------------|----------|----------|---------|
| Heater Voltage .....      | 6KD6     | 40KD6    |         |
| Heater Current .....      | 6.3      | 40       | volts   |
| Heater Warm-up Time ..... | 2.85     | 0.45     | amperes |
| Heater-Cathode Voltage:   | —        | 11       | seconds |
| Peak value .....          | ±200 max | ±200 max | volts   |
| Average value .....       | 100 max  | 100 max  | volts   |

## Horizontal-Deflection Amplifier

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

## MAXIMUM RATINGS (Design-Maximum Values)

|                                                |      |       |
|------------------------------------------------|------|-------|
| DC Plate Supply Voltage                        | 990  | volts |
| Peak Positive-Pulse Plate Voltage <sup>#</sup> | 7000 | volts |
| Positive DC Grid-No.3 Voltage                  | 70   | volts |
| Grid-No.2 Voltage                              | 200  | volts |
| Peak Negative-Pulse Grid-No.1 Voltage          | 250  | volts |
| Peak Cathode Current                           | 1400 | mA    |
| Average Cathode Current                        | 400  | mA    |
| Plate Dissipation <sup>*</sup>                 | 33   | watts |
| Grid-No.2 Input                                | 5    | watts |
| Bulb Temperature (At hottest point)            | 225  | °C    |

Class A<sub>1</sub> Amplifier

## CHARACTERISTICS

|                                                         | Triode†<br>Connection | Pentode<br>Connection          |       |
|---------------------------------------------------------|-----------------------|--------------------------------|-------|
| Plate Voltage                                           | 150                   | 60 150                         | volts |
| Grid No.3 (Suppressor Grid)                             |                       | Connected to cathode at socket |       |
| Grid-No.2 (Screen-Grid) Voltage                         | 150                   | 110 110                        | volts |
| Grid-No.1 (Control-Grid) Voltage                        | -22.5                 | 0 -22.5                        | volts |
| Amplification Factor                                    | 4                     | —                              |       |
| Plate Resistance (Approx.)                              | —                     | 6000                           | ohms  |
| Transconductance                                        | —                     | 14000                          | μmhos |
| Plate Current                                           | —                     | 750 <sup>■</sup> 120           | mA    |
| Grid-No.2 Current                                       | —                     | 42 <sup>■</sup> 1.8            | mA    |
| Grid-No.1 Voltage (Approx.) for plate current of 1.0 μA | —                     | — -40                          | volts |

## MAXIMUM CIRCUIT VALUE

|                              |     |         |
|------------------------------|-----|---------|
| Grid-No.1-Circuit Resistance | 2.2 | megohms |
|------------------------------|-----|---------|

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

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

†Grid-No.2 connected to plate at socket.

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

Refer to type 6U8A/6KD8.

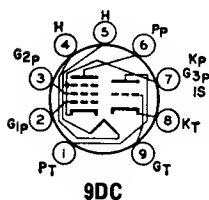
6KD8

MEDIUM-MU TRIODE—  
SHARP-CUTOFF PENTODE

6KE8

4KE8, 5KE8

Miniature type with frame-grid pentode unit used as combined oscillator-mixer tube in television receivers using an intermediate frequency in the order of 40 MHz. Outlines section, 6B; requires miniature 9-contact socket. Types 4KE8 and 5KE8 are identical with type 6KE8 except for heater ratings.



9DC

|                                                                                   | 4KE8     | 5KE8     | 6KE8             |         |
|-----------------------------------------------------------------------------------|----------|----------|------------------|---------|
| Heater Voltage (ac/dc)                                                            | 4.5      | 5.6      | 6.3              | volts   |
| Heater Current                                                                    | 0.6      | 0.45     | 0.4              | 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:†                                              |          |          |                  |         |
| Triode Unit:                                                                      |          |          |                  |         |
| Grid to Plate                                                                     |          |          | 1.3              | pF      |
| Grid to Cathode, Heater, Pentode Cathode, Pentode Grid No.3, and Internal Shield  |          |          | 2.4              | pF      |
| Plate to Cathode, Heater, Pentode Cathode, Pentode Grid No.3, and Internal Shield |          |          | 2                | pF      |
| Pentode Unit:                                                                     |          |          |                  |         |
| Grid No.1 to Plate                                                                |          |          | 0.015 max        | pF      |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield           |          |          | 5                | pF      |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield               |          |          | 3.4              | pF      |
| Heater to Triode Cathode and Pentode Cathode                                      |          |          | 5.5 <sup>■</sup> | pF      |

† With external shield connected to cathode of unit under test, except as noted.

■ With external shield connected to ground.