

## Twin Diode—Sharp-Cutoff Pentode

## 9-PIN MINIATURE TYPE

## GENERAL DATA

## Electrical:

Heater, for Unipotential Cathodes:

|                              |           |       |
|------------------------------|-----------|-------|
| Voltage (AC or DC) . . . . . | 6.3 ± 10% | volts |
| Current . . . . .            | 0.45      | amp   |

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

## Pentode Unit:

|   |           |    |
|---|-----------|----|
| Grid No.1 to plate . . . . .  | 0.02 max. | μf |
| Grid No.1 to cathode & grid No.3<br>& internal shield, grid No.2,<br>and heater . . . . . | 4.8       | μf |
| Plate to cathode & grid No.3<br>& internal shield, grid No.2,<br>and heater . . . . .     | 2.6       | μf |

## Diode Units:

|  |            |    |
|--|------------|----|
| Diode-No.1 plate to cathode<br>and heater . . . . .  | 1.3        | μf |
| Diode-No.2 plate to cathode<br>and heater . . . . .  | 1.2        | μf |
| Pentode grid No.1 to either<br>diode plate . . . . . | 0.006 max. | μf |

Characteristics, Class A<sub>1</sub> Amplifier (Pentode Unit):

|   |      |        |
|---|------|--------|
| Plate Supply Voltage . . . . .                                  | 250  | volts  |
| Grid-No.2 Supply Voltage . . . . .                              | 110  | volts  |
| Cathode Resistor . . . . .                                      | 68   | ohms   |
| Plate Resistance (Approx.) . . . . .                            | 0.25 | megohm |
| Transconductance . . . . .                                      | 5200 | μmhos  |
| Grid-No.2 Current . . . . .                                     | 3.5  | ma     |
| Plate Current . . . . .   | 10   | ma     |
| Grid-No.1 Voltage (Approx.) for<br>plate $\mu_a = 10$ . . . . . | -10  | volts  |

## Mechanical:

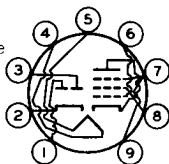
|   |  |
|---|--|
| Operating Position . . . . .                            | Any                                      |
| Maximum Overall Length . . . . .                        | 2-3/16"                                  |
| Maximum Seated Length . . . . .                         | 1-15/16"                                 |
| Length, Base Seat to Bulb Top (Excluding tip) . . . . . | 1-9/16" ± 3/32"                          |
| Diameter . . . . .                                      | 0.750" to 0.875"                         |
| Dimensional Outline . . . . .                           | See <i>General Section</i>               |
| Bulb . . . . .  | .T6-1/2                                  |
| Base . . . . .  | Small-Button Noval 9-Pin (JEDEC No.E9-1) |



# 6BW8

Basing Designation for BOTTOM VIEW. . . . . 9HK

- Pin 1 - Diode  
Plate No.2
- Pin 2 - Diode Cathode
- Pin 3 - Diode  
Plate No.1
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode  
Grid No.1



- Pin 7 - Pentode  
Cathode,  
Grid No.3,  
Internal  
Shield
- Pin 8 - Pentode  
Grid No.2
- Pin 9 - Pentode  
Plate

## PENTODE UNIT — AMPLIFIER — Class A<sub>1</sub>

### Maximum Ratings, Design-Maximum Values:

|  |   |      |       |
|--|---|------|-------|
| PLATE VOLTAGE. . . . .                                       | 330   | max. | volts |
| GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . .                   | 330   | max. | volts |
| GRID-No.2 VOLTAGE. . . . .                                   | See <i>Grid-No.2 Input Rating Chart</i><br>at front of Receiving Tube Section |      |       |
| GRID-No.1 (CONTROL-GRID) VOLTAGE:                            |   |      |       |
| Negative-bias value. . . . .                                 | 55  | max. | volts |
| Positive-bias value. . . . .                                 | 0   | max. | volts |
| GRID-No.2 INPUT:   |   |      |       |
| For grid-No.2 voltages up to 165 volts .                     | 0.55  | max. | watt  |
| For grid-No.2 voltages between 165<br>and 330 volts. . . . . | See <i>Grid-No.2 Input Rating Chart</i><br>at front of Receiving Tube Section |      |       |
| PLATE DISSIPATION. . . . .                                   | 3   | max. | watts |
| PEAK HEATER-CATHODE VOLTAGE:                                 |   |      |       |
| Heater negative with respect to cathode.                     | 200   | max. | volts |
| Heater positive with respect to cathode.                     | 200 <sup>b</sup>  | max. | volts |

### Maximum Circuit Values:

|                                      |     |      |        |
|--------------------------------------|-----|------|--------|
| Grid-No.1-Circuit Resistance:        |     |      |        |
| For fixed-bias operation . . . . .   | 0.1 | max. | megohm |
| For cathode-bias operation . . . . . | 0.5 | max. | megohm |

## DIODE UNITS — Two

*Values are for Each Unit*

### Maximum Ratings, Design-Maximum Values:

|  |                  |      |       |
|--|------------------|------|-------|
| PLATE CURRENT. . . . .                   | 5                | max. | ma    |
| PEAK HEATER-CATHODE VOLTAGE:             |                  |      |       |
| Heater negative with respect to cathode. | 200              | max. | volts |
| Heater positive with respect to cathode. | 200 <sup>b</sup> | max. | volts |

### Characteristics, Instantaneous Test Condition:

|  |    |    |
|--|----|----|
| Plate Current for plate volts = 5. . . . . | 20 | ma |
|--|----|----|

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

<sup>b</sup> The dc component must not exceed 100 volts.

