

# DUO-DIODE POWER AMPLIFIER PENTODE

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

|         |     |                   |
|---------|-----|-------------------|
| Voltage | 6.3 | a.c. or d.c.volts |
| Current | 0.8 | amps.             |

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

|                                |      |      |                |
|--------------------------------|------|------|----------------|
| Pentode Unit:                  |      |      |                |
| Grid to Plate                  | 0.5  | max. | $\mu\text{mF}$ |
| Input                          | 11.5 |      | $\mu\text{mF}$ |
| Output                         | 9.5  |      | $\mu\text{mF}$ |
| Diode Units:                   |      |      |                |
| Diode (pin 1) to Diode (pin 6) | 0.01 | max. | $\mu\text{mF}$ |
| Diode (pin 1) to Pentode Plate | 0.7  | max. | $\mu\text{mF}$ |
| Diode (pin 6) to Pentode Plate | 0.8  | max. | $\mu\text{mF}$ |
| Diode (pin 1) to Pentode Grid  | 0.1  | max. | $\mu\text{mF}$ |
| Diode (pin 6) to Pentode Grid  | 0.1  | max. | $\mu\text{mF}$ |

<sup>o</sup>With no external shield

### Mechanical:

|                                               |                          |
|-----------------------------------------------|--------------------------|
| Mounting Position                             | Any                      |
| Maximum Overall Length                        | 2-5/8"                   |
| Maximum Seated Length                         | 2-5/8"                   |
| Length, Base Seat to Bulb Top (excluding tip) | 2"-3/32"                 |
| Maximum Diameter                              | 7/8"                     |
| Bulb                                          | T-8-2                    |
| Base                                          | Small-Button Noval 9-Pin |

Base Connections for BOTTOM VIEW

|                            |                                         |
|----------------------------|-----------------------------------------|
| Pin 1 - Diode Plate        | Pin 7 - Cathode and Pentode Grid No. 3. |
| Pin 2 - Pentode Plate      |                                         |
| Pin 3 - Pentode Grid No. 2 | Pin 8 - Pentode Grid No. 1.             |
| Pin 4 - Heater             | Pin 9 - Cathode and Pentode Grid No. 3  |
| Pin 5 - Heater             |                                         |
| Pin 6 - Diode Plate        |                                         |



## DUO-DIODE POWER AMPLIFIER PENTODE

PENTODE UNITA-F POWER AMPLIFIER - Class A<sub>1</sub>

Maximum Ratings; Design-Centre Values:

|                                         |     |             |
|-----------------------------------------|-----|-------------|
| PLATE VOLTAGE                           | 250 | max. volts. |
| GRID NO. 2 VOLTAGE                      | 250 | max. volts. |
| PLATE DISSIPATION                       | 10  | max. watts. |
| GRID NO. 2 DISSIPATION                  | 2   | max. watts. |
| PEAK HEATER-CATHODE VOLTAGE:            |     |             |
| Heater negative with respect to cathode | 90  | max. volts. |
| Heater positive with respect to cathode | 90  | max. volts. |

Typical Operation and Characteristics:

|                                     |        |                  |
|-------------------------------------|--------|------------------|
| Plate Voltage                       | 180    | 250 volts.       |
| Grid No. 2 (Screen) Voltage         | 180    | 250 volts.       |
| Grid No. 1 (Control-Grid) Voltage   | -4     | -5 volts.        |
| Peak A-F Grid No. 1 Volt ge         | 4      | 5 volts.         |
| Zero-Sig. Plate Current             | 20     | 38 mA.           |
| Zero-Sig. Grid No. 2 Current        | 3.5    | 6.0 mA.          |
| Plate Resistance (Approx.)          | 130000 | 100000 ohms.     |
| Transconductance                    | 8000   | 10000 $\mu$ hos. |
| Load Resistance                     | 7000   | 7000 ohms.       |
| Max. Sig. Total Harmonic Distortion | 10     | 10 %             |
| Max. Sig. Power Output              | 2      | 4 watts.         |

Maximum Circuit Values (for maximum rated conditions):

Grid No. 1 -- Circuit Resistance:

|                  |            |
|------------------|------------|
| For fixed bias   | 0.1 megohm |
| For cathode bias | 0.5 megohm |

DIODE UNITS

Maximum Ratings, Design-Centre Values:

PLATE CURRENT (For each diode) 1.0 max. mA

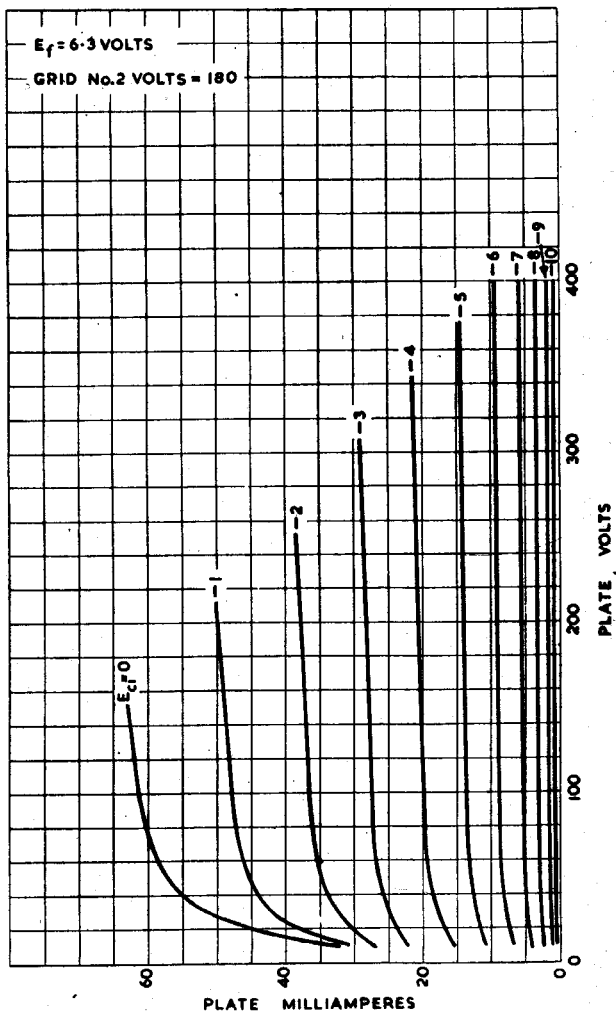
Diode considerations:

The two diode units are placed on opposite sides of, and parallel to the cathode, the sleeve of which is common also to the pentode unit.

The minimum diode current per plate with an applied d.c. voltage of 10 volts is 0.8 mA.

6BV7

# AVERAGE PLATE CHARACTERISTICS



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# AVERAGE PLATE CHARACTERISTICS

