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:

Pentode Unit:
Grid to Plate 0.5 max. μF
Input 11.5 μF
Output 9.5 μF

Diode Units:
Diode (pin 1) to Diode (pin 6) 0.01 max. μF
Diode (pin 1) to Pentode Plate 0.7 max. μF
Diode (pin 6) to Pentode Plate 0.3 max. μF
Diode (pin 1) to Pentode Grid 0.1 max. μF
Diode (pin 6) to Pentode Grid 0.1 max. μF

*With no external shield

Mechanical:

Mounting Position Any
Maximum Overall Length 8-5/8"
Maximum Seated Length 2-3/8"
Length, Base Seat to Bulb Top (excluding tip) 2" + 3/32"
Maximum Diameter 7/8"
Bulb T-8-1/2
Base Small-Button Noval 9-Pin

Base Connections for BOTTOM VIEW

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

No. 3.
DUO-DIODE POWER AMPLIFIER PENTODE

PENTODE UNIT
A-F POWER AMPLIFIER - CLASS A1

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:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>150</td>
</tr>
<tr>
<td>Grid No. 2 (Screen) Voltage</td>
<td>150</td>
</tr>
<tr>
<td>Grid No. 1 (Control-Grid) Voltage</td>
<td>-4</td>
</tr>
<tr>
<td>Peak A-F Grid No. 1 Volt ge</td>
<td>4</td>
</tr>
<tr>
<td>Zero-Sig. Plate Current</td>
<td>20</td>
</tr>
<tr>
<td>Zero-Sig. Grid No. 2 Current</td>
<td>3.5</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>130000</td>
</tr>
<tr>
<td>Transconductance</td>
<td>8000</td>
</tr>
<tr>
<td>Load Resistance</td>
<td>7000</td>
</tr>
<tr>
<td>Max. Sig. Total Harmonic</td>
<td>10</td>
</tr>
<tr>
<td>Distortion</td>
<td>10 %</td>
</tr>
<tr>
<td>Max. Sig. Power Output</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4 watts.</td>
</tr>
</tbody>
</table>

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

- $E_f = 6.3$ VOLTS
- GRID No.2 VOLTS = 180

[Graph showing characteristics with grid lines and labeled points]

PLATE MILLIAMPERES

PLATE VOLTS

0 100 200 300 400
6BV7

AVERAGE PLATE CHARACTERISTICS

- $E_f = 6.3$ VOLTS
- GRID No. 2 VOLTS = 250

![Graph showing plate characteristics with grid voltages and plate currents](image-url)