Medium-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE
With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):
- Voltage (AC or DC) . . . . 6.3<sup>a</sup> 6.3 ± 0.6 volts
- Current . . . . . . . . 0.450 ± 0.030 0.450<sup>b</sup> amp
- Warm-up time (Average) . . 11 - sec
- Peak heater-cathode voltage:
  - Heater negative with respect to cathode . . . . . 200 max. volts
  - Heater positive with respect to cathode . . . . . 200<sup>c</sup> max. volts

Direct Interelectrode Capacitances:

<table>
<thead>
<tr>
<th></th>
<th>Without External Shield</th>
<th>With External Shield&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Triode Unit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid to plate</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Grid to cathode and heater</td>
<td>2.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Plate to cathode and heater</td>
<td>0.44</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Pentode Unit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid No.1 to plate</td>
<td>0.038 max. 0.018 max.</td>
<td>(\mu)f</td>
</tr>
<tr>
<td>Grid No.1 to cathode &amp; grid No.3 &amp; internal shield, grid No.2, and heater</td>
<td>4.8</td>
<td>5.0</td>
</tr>
<tr>
<td>Plate to cathode &amp; grid No.3 &amp; internal shield, grid No.2, and heater</td>
<td>0.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Pentode grid No.1 to triode plate</td>
<td>0.05 max. 0.036 max.</td>
<td>(\mu)f</td>
</tr>
<tr>
<td>Pentode plate to triode plate</td>
<td>0.075 max. 0.012 max.</td>
<td>(\mu)f</td>
</tr>
<tr>
<td>Heater to cathode</td>
<td>6.5&lt;sup&gt;e&lt;/sup&gt;</td>
<td>6.5&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Characteristics, Class A\textsubscript{1} Amplifier:

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>125</td>
<td>100</td>
</tr>
<tr>
<td>Grid-\textsuperscript{No.2} Voltage</td>
<td>-</td>
<td>70</td>
</tr>
<tr>
<td>Grid-\textsuperscript{No.1} Voltage</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>6000</td>
<td>-</td>
</tr>
<tr>
<td>Transconductance</td>
<td>6500</td>
<td>5700</td>
</tr>
</tbody>
</table>
**Triode Unit**  |  **Pentode Unit**
---|---
Plate Current | 12 | 9 | ma
Grid-No.2 Current | - | 2.2 | ma
Grid-No.1 Voltage (Approx.)
for plate μa = 20 | -7 | 6.5 | volts

**Mechanical:**
Operating Position | Any
Type of Cathode | Coated Unipotential
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 General Section
Bulb | T6-1/2
Base | Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW | .9PA

Pin 1—Pentode
- Grid No.3, Cathode, Internal Shield
Pin 2—Pentode
- Grid No.1
Pin 3—Pentode
- Grid No.2
Pin 4—Heater
Pin 5—Heater
- Plate
Pin 6—Pentode
- Grid No.3, Cathode, Internal Shield
Pin 7—Pentode
Pin 8—Triode Grid
Pin 9—Triode Plate

**AMPLIFIER — Class A**

**Maximum Ratings, Design-Maximum Values:**

| Triode Unit | Pentode Unit |
---|---|
Plate Voltage | 275 max. | 275 max. | volts |
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE | - | 275 max. | volts |
GRID-No.2 VOLTAGE | - | See Grid-No.2 Input |

**GRID-No.1 (CONTROL-GRID) VOLTAGE:**
Positive-bias value | 0 max. | 0 max. | volts |
Plate Dissipation | 1.7 max. | 2.3 max. | watts |
GRID-No.2 INPUT:
For grid-No.2 voltages up to 137.5 volts | - | 0.45 max. | watt |
For grid-No.2 voltages between 137.5 and-
| | See Grid-No.2 Input |
275 volts | - |

**Maximum Circuit Values:**

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

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RADIO CORPORATION OF AMERICA
Electron Tube Division
Harrison, N. J.
a. At heater amperes = 0.450.
b. At heater volts = 6.3.
c. The dc component must not exceed 100 volts.
d. With external shield JEDEC No.315 connected to pin 3 except as noted.
e. With external shield JEDEC No.315 connected to pin 6.