### High-Mu Triode—Sharp-Cutoff Pentode

#### 9-Pin Miniature Type

#### General Data

**Electrical:**

Heater, for Unipotential Cathodes:
- Voltage (AC or DC): 6.3 ± 10% volts
- Current at 6.3 volts: 0.75 amp

Direct Interelectrode Capacitances:
- **Triode Unit:**
  - Grid to plate: 3.5 μf
  - Grid to cathode, pentode cathode & grid No.3 & internal shield, and heater: 2.8 μf
- **Pentode Unit:**
  - Plate to cathode, pentode cathode & grid No.3 & internal shield, and heater: 2.6 μf
  - Grid No.1 to plate: 0.1 max. μf
  - Grid No.1 to cathode & internal shield & grid No.3, grid No.2, and heater: 10 μf
  - Plate to cathode & internal shield & grid No.3, grid No.2, and heater: 4.2 μf
  - Triode grid to pentode plate: 0.015 max. μf

#### Characteristics, Class A Amplifier:

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>200</td>
<td>45</td>
</tr>
<tr>
<td>Grid-No.2 Supply Voltage</td>
<td>-</td>
<td>125</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-2</td>
<td>0</td>
</tr>
<tr>
<td>Cathode Resistor</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>70</td>
<td>-</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>17500</td>
<td>-</td>
</tr>
<tr>
<td>Transconductance</td>
<td>4000</td>
<td>-</td>
</tr>
<tr>
<td>Plate Current</td>
<td>4</td>
<td>40*</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>-15*</td>
<td>7</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>for plate μa = 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.)</td>
<td>-6</td>
<td>-</td>
</tr>
<tr>
<td>for plate μa = 20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Mechanical:

- Operating Position: Any
- Maximum Overall Length: 2-5/8" (2-3/8"
- Maximum Seated Length: 2-3/8"
Length, Base Seat to Bulb Top (Excluding tip) ... 2" ± 3/32"
Diameter ........................................ 0.750" to 0.875"
Dimensional Outline. ......................... See General Section
Bulb .............................................. T6-1/2
Base .............................................. Small-Button Naval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW ......... 9DX

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

AMPlIFIER — Class A1

Maximum Ratings, Design-Maximum Values:

<table>
<thead>
<tr>
<th></th>
<th>Triode</th>
<th>Pentode</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLATE VOLTAGE</td>
<td>330 max.</td>
<td>330 max. volts</td>
</tr>
<tr>
<td>GRID-No.2 (SCREEN-GRID)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPPLY VOLTAGE</td>
<td>— 330 max. volts</td>
<td>— 330 max. volts</td>
</tr>
<tr>
<td>GRID-No.2 VOLTAGE</td>
<td>— See Grid-No.2 Input</td>
<td>— See Grid-No.2 Input</td>
</tr>
</tbody>
</table>

Rating Chart at front of Receiving Tube Section

GRID-No.1 (CONTROL-GRID) VOLTAGE:
Positive-bias value ...... 0 max. 0 max. volts
GRID-No.2 INPUT:
For grid-No.2 voltages up to 165 volts ... — 1.1 max. watts
For grid-No.2 voltages between 165 and 330 volts .... — See Grid-No.2 Input

Rating Chart at front of Receiving Tube Section

PLATE DISSIPATION ....... 1 max. 5 max. watts

PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode ... 200 max. 200 max. volts
Heater positive with respect to cathode ... 200* max. 200* max. volts

Maximum Circuit Values:

<table>
<thead>
<tr>
<th></th>
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<th>Pentode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid-No.1-Circuit Resistance:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For fixed-bias operation</td>
<td>0.5 max.</td>
<td>0.25 max. megohm</td>
</tr>
<tr>
<td>For cathode-bias operation</td>
<td>1 max.</td>
<td>1 max. megohm</td>
</tr>
</tbody>
</table>

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Electron Tube Division
Harrison, N. J.
Without external shield.

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

The dc component must not exceed 100 volts.
AVERAGE CHARACTERISTICS
Pentode Unit

$E_C = 6.3$ VOLTS
GRID-N°2 VOLTS = 125

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PLATE (I_B) OR GRID-N°2 (I_C2) MILLIAMPERES

PLATE VOLTS

GRID-N°2 VOLTS

92CM-9906
AVERAGE CHARACTERISTICS
Pentode Unit

$E_F = 6.3 \text{ VOLTS}$

PLATE VOLTS $= 200$

GRID-N\#2 VOLTS $= 125$

PLATE ($I_D$) OR GRID-N\#2 ($I_{C2}$) MILLIAMPERES

GRID-N\#1 VOLTS

TRANSCONDUTANCE ($g_m$) - MICROMOHNS

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DATA 4
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