Medium-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

FRAME-GRID CONSTRUCTION (PENTODE UNIT)


Electrical:
Heater Characteristics and Ratings:
Current: \[ 0.450 \pm 0.030 \text{ amp} \]
Voltage (AC or DC) at heater amperes = 0.450: \[ 10.9 \text{ volts} \]
Warm-up time (Average): \[ 11 \text{ sec} \]
Peak heater-cathode voltage:
Heater negative with respect to cathode: \[ 200 \text{ max. volts} \]
Heater positive with respect to cathode: \[ 200^a \text{ max. volts} \]

Direct Interelectrode Capacitances (Approx.):\[ ^a \]

Triode Unit:
Grid to plate: \[ 2.8 \text{ pf} \]
Input: \[ C_T \text{ to } (K_T,K_P+G_3P+1S,H) \] \[ 4.2 \text{ pf} \]
Output: \[ P_T \text{ to } (K_T,K_P+G_3P+1S,H) \] \[ 2.4 \text{ pf} \]

Pentode Unit:
Grid No.1 to plate: \[ 0.090 \text{ max. pf} \]
Input: \[ C_{IP} \text{ to } (K_P+G_3P+1S,G_2P,H) \] \[ 14 \text{ pf} \]
Output: \[ P_P \text{ to } (K_P+G_3P+1S,G_2P,H) \] \[ 4.8 \text{ pf} \]
Triode grid to pentode plate: \[ 0.015 \text{ max. pf} \]
Pentode plate to triode plate: \[ 0.17 \text{ max. pf} \]

Characteristics, Class A\text{\textsubscript{1}} Amplifier:

<table>
<thead>
<tr>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>125</td>
</tr>
<tr>
<td>Grid-No.2 Supply Voltage</td>
<td>-</td>
</tr>
<tr>
<td>Grid-No.1 Supply</td>
<td>Connected to negative end of cathode resistor</td>
</tr>
<tr>
<td>Cathode Resistor</td>
<td>68</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>46</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>4400</td>
</tr>
<tr>
<td>Transconductance</td>
<td>10400</td>
</tr>
<tr>
<td>Plate Current</td>
<td>15</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>-</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.)</td>
<td>-6</td>
</tr>
</tbody>
</table>

\[ ^a \] The dc component must not exceed 100 volts.

\[ ^b \] Without external shield.
Mechanical:
Operating Position ........................................ Any
Type of Cathodes ........................................ Coated Unipotential
Maximum Overall Length ................................ 2-5/8"
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 .............. 3DX
Pin 1 - Triode Cathode
Pin 2 - Triode Grid
Pin 3 - Triode Plate
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Grid No.3,
    Pentode Cathode,
    Internal Shield
Pin 7 - Pentode Grid No.1
Pin 8 - Pentode Grid No.2
Pin 9 - Pentode Plate

AMPLIFIER — Class A

Maximum Ratings, Design-Maximum Values:

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>300 max.</td>
<td>300 max.</td>
</tr>
<tr>
<td>Grid-No.2 (Screen-grid) Supply Voltage</td>
<td>—</td>
<td>300 max.</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>—</td>
<td>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</td>
</tr>
</tbody>
</table>

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 150 volts ........ — 1 max. watt
For grid-No.2 voltages between 150 and 300 volts ... — See Grid-No.2 Input Rating Chart at front of Receiving Tube Section

Plate Dissipation ................................... 2 max. 5 max. watts

Maximum Circuit Values:

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</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>0.1 max. meqohm</td>
</tr>
<tr>
<td>For cathode-bias operation</td>
<td>1 max.</td>
<td>0.25 max. meqohm</td>
</tr>
</tbody>
</table>

RADIO CORPORATION OF AMERICA
Electronic Components and Devices Harrison, N. J.
AVERAGE CHARACTERISTICS
Triode Unit

$E_f = 10.9$ VOLTS

$P^*_{\text{plate}} - \text{megohms}$

$g_m - \text{micromhos}$

$E_f$ = 10.9 VOLTS

GRID VOLTS

AMPLIFICATION FACTOR ($\mu$)

TRANSCONDUCTANCE ($g_m$) — MICROMOS
AVERAGE CHARACTERISTICS
Pentode Unit

$E_t=10.9 \text{ VOLTS}$
$\text{GRID-No.2 VOLTS}=125$

PLATE (I_B) OR GRID-No.2 (I_C2) MILLIAMPERES

PLATE VOLTS

RADIO CORPORATION OF AMERICA
Electronic Components and Devices
Harrison, N. J.

DATA 3
8–64
AVERAGE CHARACTERISTICS

Pentode Unit

$E_t = 10.9$ VOLTS
PLATE VOLTS = 200
GRID-No. 2 VOLTS = 125