High-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

FRAME-GRID CONSTRUCTION

For Use as a Combined Voltage Amplifier
and Video Output Tube in TV Receivers

ELECTRICAL

Heater Characteristics and Ratings
Voltage (AC or DC) .......... 6.3 ± 0.6 V
Current at heater volts = 6.3 .......... 0.775 A

Peak heater-cathode voltage (Each unit):
Heater negative with respect to cathode . 200 V
heater positive with respect to cathode . 200 V

Direct Inter electrode Capacitances

Triode Unit:
Grid to plate .................. 3.7 pF
Grid to cathode, pentode cathode, pentode grid No.3 & internal shield, and heater. 2.5 pF
Plate to cathode, pentode cathode, pentode grid No.3 & internal shield, and heater. 2.4 pF
Triode grid to pentode plate .......... 0.015 max pF

Pentode Unit:
Grid No.1 to plate .......... 0.12 max pF
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater .......... 13.0 pF
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater .......... 4.8 pF
Pentode plate to triode plate .......... 0.17 max pF

Characteristics, Class A1 Amplifier

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>-</td>
<td>125</td>
</tr>
<tr>
<td>Plate Voltage</td>
<td>200</td>
<td>-</td>
</tr>
<tr>
<td>Grid-No.2 Supply Voltage</td>
<td>-</td>
<td>125</td>
</tr>
<tr>
<td>Grid-No.1 Supply Voltage</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cathode Resistor</td>
<td>-</td>
<td>82</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>70</td>
<td>-</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>17500</td>
<td>55000</td>
</tr>
<tr>
<td>Transconductance</td>
<td>4000</td>
<td>21000</td>
</tr>
<tr>
<td>Plate Current</td>
<td>4</td>
<td>16.5</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>-</td>
<td>3.1</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.)</td>
<td>-</td>
<td>-4.5</td>
</tr>
</tbody>
</table>

For plate current = 100 μA

Indicates a change.
MECHANICAL

Operating Position. ............................................. Any
Maximum Overall Length ..................................... 2-5/8 in
Maximum Seated Length ....................................... 2-3/8 in
Length, Base Seat to Bulb Top (Excluding tip) .......... 2 ± 3/32 in
Diameter .......................................................... 0.750 to 0.875 in
Dimensional Outline ............................................. See General Section
Bulb ............................................................... 16-1/2 Small-Button Noma 9-Pin (JEDEC No. E9-1)

BASING DIAGRAM (Bottom View)

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

AMPLIFIER — Class A
Design—Maximum Ratings

| Plate Voltage | 300 | 300 max V |
| Grid-No. 2 (Screen-Grid) Supply Voltage | - | 300 max V |
| Grid-No. 2 Voltage | - | See Grid-No. 2 |

Input Rating Chart at front of Receiving Tube Section

Grid-No. 1 (Control-Grid) Voltage

Positive-bias value .......................... 0 0 max V

Grid-No. 2 Input

For grid-No. 2 voltages up to 150 V ........................ - 1 max W
For grid-No. 2 voltages between 150 and 300 V ..................... See Grid-No. 2

Input Rating Chart at front of Receiving Tube Section

Plate Dissipation ........................................... 1 5 max W

Maximum Circuit Values

<table>
<thead>
<tr>
<th>Grid-No. 1—Circuit Resistance</th>
<th>Triode</th>
<th>Pentode</th>
</tr>
</thead>
<tbody>
<tr>
<td>For fixed-bias operation ......</td>
<td>0.5</td>
<td>0.1 max MΩ</td>
</tr>
<tr>
<td>For cathode-bias operation ...</td>
<td>1</td>
<td>0.25 max MΩ</td>
</tr>
</tbody>
</table>

a The dc component must not exceed 100 volts.
b Without external shield.
Average Plate Characteristics
Triode Unit

E_h = BOGEY VALUE

PLATE MILLIAMPERES

PLATE VOLTS

92CM-8644RI

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Average Characteristics
Triode Unit

\[ E_T = \text{BOGEY VALUE} \]

\[ \text{PLATE RESISTANCE } (r_p) - \text{MICYOHMS} \]

\[ \text{GRID VOLTS} \]

\[ \text{AMPLIFICATION FACTOR } (\mu) \]

\[ \text{TRANSCONDUCTANCE } (g_m) - \text{MICROMHRS} \]

92CM-10874RI
Average Characteristics
Pentode Unit

E_R = BOGEY VALUE
GRID-No.2 VOLTS = 125

PLATE (I_b) OR GRID-No.2 (I_c2) MILLIAMPERES

PLATE VOLTS

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DATA 3
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