Medium-Mu Triode—Sharp-Cutoff Pentode

9-Pin Miniature Type

For Use as a General-Purpose-Amplifier
Tube in Color- and Black-and-White TV Receivers

ELECTRICAL CHARACTERISTICS — Bogey Values\(^a\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage, ac or dc (E_h)</td>
<td>6.3 ± 10% V</td>
</tr>
<tr>
<td>Heater Current (I_h)</td>
<td>535 mA</td>
</tr>
</tbody>
</table>

Direct Interelectrode Capacitances: \(^b\) (Without External Shield)

**Triode Unit:**
- Grid to plate \(c_{g-p}\): 1.7 pF
- Input: \(G_T\) to \((K_T, G_3p + K_P + I_S, H)\): \(c_i\): 3.0 pF
- Output: \(P_T\) to \((K_T, G_3p + K_P + I_S, H)\): \(c_o\): 1.4 pF

**Pentode Unit:**
- Grid No.1 to plate \(c_{g1-p}\): 0.045 pF
- Input: \(G_1p\) to \((K_P + G_3p + I_S, G_2p, H)\): \(c_i\): 7.5 pF
- Output: \(P_p\) to \((K_P + G_3p + I_S, G_2p, H)\): \(c_o\): 2.2 pF

For the following characteristics, see Conditions below:

\(\mu\) 40 -
\(r_p\) 5 150 kΩ
\(g_m\) 8500 10000 μmho
\(I_b\) 18 12 mA
\(I_{c2}\) - 4.5 mA
\(E_{C1(co)}\) -12 -7 V

**Conditions:**
- Heater Voltage \(E_h\): 6.3 V
- DC Plate Voltage \(E_b\): 150 V
- DC Grid-No.2 Voltage \(E_{C2}\): -125 V
- Cathode Resistance \(R_k\): 56 62 Ω

**TERMINAL DIAGRAM (Bottom View)**
- Pin 1 - Triode Plate
- Pin 2 - Pentode Grid No.1
- Pin 3 - Pentode Grid No.2
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate
- Pin 7 - Pentode Cathode, Grid No.3 and Internal Shield
- Pin 8 - Triode Cathode
- Pin 9 - Triode Grid

JEDEC 9AE

RCA Electronic Components
MECHANICAL CHARACTERISTICS
Maximum Overall Length ............... 2.187 in (55.54 mm)
Maximum Seated Length ................ 1.937 in (49.19 mm)
Maximum Diameter ...................... 0.875 in (22.12 mm)
Envelope .................................. JEDEC T6-1/2
Base .................................. Small-Button Noval 9-Pin (JEDEC E9-1)
Dimensional Outline ..................... JEDEC 6-2
Terminal Diagram ......................... JEDEC 9AE
Type of Cathodes ......................... Coated Unipotential
Operating Position ...................... Any

MAXIMUM RATINGS - Design-Maximum Values

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage</td>
<td>E_b 330</td>
<td>330 V</td>
</tr>
<tr>
<td>DC Grid-No.2 Supply Voltage</td>
<td>E_c2 -</td>
<td>330 V</td>
</tr>
<tr>
<td>DC Grid-No.2 Voltage</td>
<td>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section.</td>
<td></td>
</tr>
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DC Grid-No.1 Voltage:
Positive-bias value .......... E_c1 0 0 V
Heater-Cathode Voltage:
Peak .................. \( e_{hkm} \pm 200 \) \( \pm 200 \) V
DC .................. \( E_{hk} \) 100 100 V
Heater Current ........... I_h 500 to 570 mA
Grid-No.2 Input: For grid-No.2 voltages up to 165 volts .......... P_g2 - 0.55 W
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 .......... P_b 2.7 2.5 W

MAXIMUM CIRCUIT VALUES
Grid-No.1 Circuit Resistance:
For fixed-bias operation \( R_{g1(ckt)} \) 0.5 0.25 MΩ
For cathode-bias operation \( R_{g1(ckt)} \) 0.5 0.5 MΩ

INTERELECTRODE LEAKAGE
Minimum Leakage Resistance between grid No.1 of each unit and all other electrodes of both units tied together \( R_{g1-all} \) 100 MΩ

Conditions:
\( E_h \) = bogey value, \( E_c1 = -100 \) V with respect to all other electrodes tied together.
Unless otherwise specified.

Measured in accordance with the current issue of EIA Standard RS-191.

As defined in the current issue of EIA Standard RS-239.

TYPICAL CHARACTERISTICS – Triode Unit

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**E_C = BOGEY VALUE**

**PLATE MILLIAMPERES**

**PLATE VOLTS E_B = 100**

**PLATE RESISTANCE (r_p) – OHMS**

**TRANSDUCTANCE (g_m) – MICROMEWS**

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92CM-9882RI
TYPICAL CHARACTERISTICS – Pentode Unit

$E_t = $ BOGey VALUE
GRID-No. 2 VOLTS = 125

PLATE (I_b) OR GRID-No. 2 (I_{C2}) MILLIAMPERES

92CM-15102