Medium-Mu Triode—Semiremote-Cutoff Pentode

9-PIN MINIATURE TYPE
SEPARATE CATHODE BASE-PIN CONNECTIONS

For Color and Black-and-White TV Receivers. Pentode Unit is Particularly Suited for Burst-Amplifier Circuit in Color TV. Triode Unit is Useful as a General-Purpose Amplifier.

Electrical:

Heater Characteristics and Ratings:
Voltage (AC or DC) ................. 6.3 ± 0.6 volts
Current at heater volts = 6.3 ........ 0.450 amp
Peak heater-cathode voltage (Each unit):
Heater negative with respect to cathode .... 200 max. volts
Heater positive with respect to cathode .... 200\(^a\) max. volts

Direct Interelectrode Capacitances:

Triode Unit:
Grid to plate .................. 1.8 pf
Input: G\(_T\) to (K\(_T\), K\(_p\)+G\(_3\)P+IS,H) .................. 3.2 pf
Output: P\(_T\) to (K\(_T\), K\(_p\)+G\(_3\)P+IS,H) .................. 1.9 pf

Pentode Unit:
Grid No.1 to plate ............... 0.015 max. pf
Input: G\(_1\)P to (K\(_p\)+G\(_3\)P+IS,G\(_2\)P,H) ............... 5.5 pf
Output: P\(_\text{PC} \) to (K\(_p\)+G\(_3\)P+IS,G\(_2\)P,H) ............... 3.8 pf
Heater to cathode (Each unit) .......... 3.2 pf

Mechanical:

Operating Position .................. Any
Type of Cathodes .................. Coated Unipotential
Maximum Overall Length ............. 2-3/16"
Maximum Seated Length ............. 1-15/16"
Length from 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 ........... 9AE

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,
Pentode Grid No.3,
and Internal Shield
Pin 8—Triode Cathode
Pin 9—Triode Grid
### Characteristics:

<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>125</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>-</td>
<td>125</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-1</td>
<td>-2</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>5400</td>
<td>150000</td>
</tr>
<tr>
<td>Transconductance</td>
<td>8500</td>
<td>6000</td>
</tr>
<tr>
<td>Plate Current</td>
<td>13.5</td>
<td>12</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.)</td>
<td>-8</td>
<td>-14</td>
</tr>
</tbody>
</table>

for plate $\mu_a = 10$ ...

### Maximum Ratings, Design-Maximum Values:

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<tr>
<td>Plate Voltage</td>
<td>330 max.</td>
<td>350 max.</td>
</tr>
<tr>
<td>Grid-No.2 (Screen-Grid) Supply Voltage</td>
<td>-</td>
<td>330 max.</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>-</td>
<td>330</td>
</tr>
</tbody>
</table>

See Grid-No.2 Input Rating Chart at front of Receiving Tube Section

Grid-No.1 (Control-Grid) Voltage:

Positive-bias value: 0 max.

Grid-No.2 Input:

- For grid-No.2 voltages up to 165 volts: - 0.55 max. watt
- 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: 2.5 max. 2.5 max. watts

### Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

- For fixed-bias operation: 0.5 max. 0.25 max. megohm
- For cathode-bias operation: 1 max. 0.5 max. megohm

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*a* The dc component must not exceed 100 volts.

*b* With external shield JEDEC No.315 measured in accordance with EIA Standard RS-191-A.
AVERAGE CHARACTERISTICS
Pentode Unit

$E_t = 6.3$ VOLTS
GRID-No. 2 VOLTS = 125

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

92CM-12560
AVERAGE CHARACTERISTICS
Pentode Unit

$E_f = 6.3$ VOLTS
PLATE VOLTS = 125
GRID-NO. 2 VOLTS = 125

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

GRID-NO. 1 VOLTS

TRANSCONDUCTANCE ($g_m$) — MICROMOS

92CM-12558