Medium-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE
FRAME-GRID PENTODE

For Combined Oscillator-Mixer Applications
in TV Receivers Having an IF of 40 Mc

GENERAL DATA

Electrical:
Heater Characteristics and Ratings:
Voltage (AC or DC) . . . . . . . . . 6.3 ± 0.6 volts
Current at heater volts = 6.3 . . . 0.400 amp
Peak heater—cathode voltage (Each unit):
Heater negative with
respect to cathode . . . . . . . . . 200 max. volts
Heater positive with
respect to cathode . . . . . . . . . 200° max. volts
Direct Inter-electrode Capacitances:

Triode Unit:
Grid to plate . . . . . . . . . . . 1.3 pf
Grid to cathode, pentode cathode
& pentode grid No.3 & internal
shield, and heater . . . . . . . 2.4 pf
Plate to cathode, pentode cathode
& pentode grid No.3 & internal
shield, and heater . . . . . . . 2.0 pf

Pentode Unit:
Grid No.1 to plate . . . . . . . . 0.015 max. pf
Grid No.1 to cathode & grid No.3
& internal shield, grid No.2,
and heater . . . . . . . . . . . . 5.0 pf
Plate to cathode & grid No.3,
& internal shield, grid No.2,
and heater . . . . . . . . . . . . 3.4 pf
Heater to triode cathode and
pentode cathode . . . . . . . . 5.5° pf

Characteristics, Class A Amplifier:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>125</td>
<td>125 volts</td>
</tr>
<tr>
<td>Grid-No.2 Supply Voltage</td>
<td>—</td>
<td>125 volts</td>
</tr>
<tr>
<td>Cathode Resistor</td>
<td>68</td>
<td>33 ohms</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>5000</td>
<td>125000 ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>8000</td>
<td>12000 µhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>13</td>
<td>10 ma</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>—</td>
<td>2.8 ma</td>
</tr>
</tbody>
</table>
Grid-No.1 Voltage (Approx.)

for plate $\mu A =$

100 ........................................ -5 - volts
50. .......................................... -3 volts

Mechanical:

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

Pin 1 - Triode Plate
Pin 2 - Pentode
Pin 3 - Pentode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate
Pin 7 - Pentode Cathode,
Pin 8 - Triode Cathode
Pin 9 - Triode Grid

AMPLIFIER — Glass 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>280 max.</td>
<td>280 max.</td>
</tr>
<tr>
<td>GRID-No.2 SUPPLY VOLTAGE</td>
<td>-</td>
<td>280 max.</td>
</tr>
<tr>
<td>GRID-No.2 VOLTAGE</td>
<td>-</td>
<td>See Grid-No.2 Input</td>
</tr>
</tbody>
</table>

GRID-No.1 VOLTAGE:
Positive-bias value ................................ 0 max. 0 max. volts
CATHODE CURRENT .................................. 20 max. 20 max. ma

GRID-No.2 INPUT:
For grid-No.2 voltages
up to 140 volts ................................ - 0.5 max. watt
between 140 and 280 volts ........................ - See Grid-No.2 Input

PLATE DISSIPATION ................................ 2 max. 2 max. watts

Maximum Circuit Values:

<table>
<thead>
<tr>
<th></th>
<th>Triode</th>
<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. meghm</td>
</tr>
<tr>
<td>For cathode-bias operation</td>
<td>1 max.</td>
<td>0.5 max. meghm</td>
</tr>
</tbody>
</table>

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

\[b\] With external shield JEDEC No.315 connected to cathode of unit under test except as noted.

\[c\] With external shield JEDEC No.315 connected to ground.