12BV7
PENTODE
FOR TV VIDEO AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 12BV7 is a miniature power pentode designed primarily for use as the video output amplifier in television receivers. In application and characteristics it is related to the 12BY7. Like the 12BY7 it features high transconductance, high power sensitivity, and low interelectrode capacitances. It can deliver relatively large output voltages with low values of plate-supply voltage and plate load resistance.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC ................. 12.6 6.3 Volts
Heater Current ......................... 0.3 0.6 Amperes
Direct Interelectrode Capacitances*
  Grid-Number 1 to Plate .............. 0.055 μf
  Input ................................ 11 μf
  Output ................................ 3.0 μf

MECHANICAL
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES
Plate Voltage ................................ 0.300 Volts
Screen Voltage .......................... 0.175 Volts
Negative DC Grid-Number 1 Voltage .... 0.50 Volts
Plate Dissipation ....................... 0.625 Watts
Screen Dissipation ..................... 1.0 Watts
Heater-Cathode Voltage
  Heater Positive with Respect to Cathode
    DC Component ...................... 0.100 Volts
    Total DC and Peak ................ 0.200 Volts
  Heater Negative with Respect to Cathode
    Total DC and Peak ................ 0.200 Volts
Grid-Number 1 Circuit Resistance
  With Fixed Bias ..................... 0.25 Megohms
  With Cathode Bias .................. 1.0 Megohms

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GENERAL ELECTRIC

Supersedes ET-T1315, dated 4-56
CHARACTERISTICS AND TYPICAL OPERATION

CLASS A\textsubscript{1} AMPLIFIER

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>0.250</td>
</tr>
<tr>
<td>Suppressor, Connected to Cathode at Socket</td>
<td>250 Volts</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>0.180</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage</td>
<td>-0.8</td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>68</td>
</tr>
<tr>
<td>Plate Resistance, approximate</td>
<td>88000 Ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>13000 Micromhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>0.5\textsuperscript{\dagger}</td>
</tr>
<tr>
<td>Screen Current</td>
<td>27</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage, approximate</td>
<td>-12 Volts</td>
</tr>
<tr>
<td>Triode Amplification Factor</td>
<td>28</td>
</tr>
</tbody>
</table>

* Without external shield.
\textsuperscript{\dagger} Minimum.

AVERAGE PLATE CHARACTERISTICS

\[
E_{f} = \text{RATED VALUE} \\
E_{e2} = 150 \text{ VOLTS}
\]

![Graph of average plate characteristics](image)
$E_f = \text{RATED VALUE}$
$E_b = 250 \text{ VOLTS}$
AVERAGE TRANSFER CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 250 \text{ VOLTS} \]

GRID-NUMBER 1 VOLTAGE IN VOLTS

TRANSCONDUCANCE IN MICROMOS