6AV5-GA—12AV5-GA
17AV5-GA—25AV5-GA

BEAM PENTODE

FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6AV5-GA is a beam pentode designed primarily for use as the horizontal-deflection amplifier in television receivers. The tube exhibits high permeance, high plate current at low plate and screen voltages, and a high ratio of plate to screen current.

Except for heater ratings, the 12AV5-GA, 17AV5-GA, and 25AV5-GA are identical to the 6AV5-GA. In addition, the 12AV5-GA and 17AV5-GA, which feature a controlled heater warm-up characteristic, are especially suited for use in television receivers with series-connected heaters.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential 6AV5-GA 12AV5-GA 17AV5-GA 25AV5-GA
Heater Voltage, AC or DC 6.3 12.6 16.8 25.0 Volts
Heater Current 1.2 0.6 0.45 0.3 Amperes
Heater Warm-up Time* 11 11 11 Seconds
Direct Inter-electrode Capacitances, approximate†
   Grid-Number 1 to Plate 0.5 µf
   Input 14 µf
   Output 7.0 µf

MECHANICAL
Mounting Position—Any
Envelope—T-11, or T-12, Glass
Base—B6-112 or B6-120, Short Medium-Shell Octal 6-Pin

MAXIMUM RATINGS

HORIZONTAL-DEFLECTION AMPLIFIER SERVICE‡

DESIGN-CENTER VALUES UNLESS OTHERWISE INDICATED
DC Plate-Supply Voltage (Boost + DC Power Supply) 550 Volts
Peak Positive Pulse Plate Voltage 5500§ Volts
Peak Negative Pulse Plate Voltage 1250 Volts
Screen Voltage 175 Volts
Peak Negative Grid-Number 1 Voltage 300 Volts
Plate DissipationΔ 11 Watts
Screen Dissipation 2.5 Watts
DC Cathode Current 110 Milliamperes
Peak Cathode Current 400 Milliamperes
Heater-Cathode Voltage
   Heater Positive with Respect to Cathode
      DC Component 100 Volts
      Total DC and Peak 200 Volts
   Heater Negative with Respect to Cathode
      Total DC and Peak 200 Volts
   Grid-Number 1 Circuit Resistance 0.47 Megohms
   Bulb Temperature at Hottest Point 210 °C

GENERAL ELECTRIC

Supersedes ET-T902 dated 12-54
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>60</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>150</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage</td>
<td>-22.5 V</td>
</tr>
<tr>
<td>Plate Resistance, approximate</td>
<td>14500 Ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>5900 Micromhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>26</td>
</tr>
<tr>
<td>Screen Current</td>
<td>57</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage, approximate</td>
<td>2.1 Milliamperes</td>
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<tr>
<td>I₀ = 1.0 Milliamperes</td>
<td>-43</td>
</tr>
<tr>
<td>Triode Amplification Factor**</td>
<td>4.3</td>
</tr>
</tbody>
</table>

* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† Without external shield.

‡ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

§ Value given is to be considered as an Absolute Maximum Rating. In this case, the combined effect of supply voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause the rated value to be exceeded.

△ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

◆ Applied for short interval (two seconds maximum) so as not to damage tube.

**Triode connection (screen tied to plate) with Eb = Ec2 = 150 volts and Ec1 = -22.5 volts.