6CK4

TRIODE

FOR TV VERTICAL-DEFLECTION AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6CK4 is a low-mu triode designed for use as the vertical-deflection amplifier in television receivers.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC .................. 6.3 ± 10% Volts
Heater Current .................................. 1.25 Amperes
Direct Interelectrode Capacitances*
  Grid to Plate ................................ 6.5 µµf
  Input ........................................ 8.0 µµf
  Output ...................................... 1.8 µµf

MECHANICAL
Mounting Position—Any
Envelope—T-9, Glass
Base—B6-60, Short Intermediate-Shell Octal 6-Pin

MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Vertical-Deflection Amplifier†</th>
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<tbody>
<tr>
<td>DC Plate Voltage .................. 550 Volts</td>
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<tr>
<td>Peak Positive Pulse Plate Voltage 2000‡ Volts</td>
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<tr>
<td>Peak Negative Grid Voltage ........ 250 Volts</td>
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<tr>
<td>Plate Dissipation .................. 12§ Watts</td>
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<tr>
<td>DC Cathode Current ................ 100 Milliamperes</td>
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<tr>
<td>Peak Cathode Current .............. 350 Milliamperes</td>
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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 Circuit Resistance
  With Cathode Bias .................. 2.2 Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded by a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage ........................................ 100 250 250 Volts
Grid Voltage ........................................ 0† -38 -28 Volts
Amplification Factor ................................. 6.6
Plate Resistance, approximate ....................... 1200 Ohms
Transconductance .................................... 5500 Micromhos
Plate Current ....................................... 125 10 40 Milliamperes
Grid Voltage, approximate
\[ I_b = 0.5 \text{ Milliamperes} \] ................................ -50 Volts

* 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.