The 10JA5 is a compactron beam-power pentode primarily designed for use as the vertical-deflection amplifier in color television receivers.

**GENERAL**

**ELECTRICAL**

Cathode - Coated Unipotential

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Characteristics and Ratings</td>
<td></td>
</tr>
<tr>
<td>Heater Voltage, AC or DC</td>
<td>10.5</td>
</tr>
<tr>
<td>Heater Current</td>
<td>0.6 ± 0.04 Amperes</td>
</tr>
<tr>
<td>Heater Warm-up Time, average</td>
<td>11 Seconds</td>
</tr>
<tr>
<td>Direct Inter-electrode Capacitance</td>
<td></td>
</tr>
<tr>
<td>Grid-Number 1 to Plate: (g1 to p)</td>
<td>0.66 pf</td>
</tr>
<tr>
<td>Input: g1 to (h + k + g2 + b.p.)</td>
<td>14 pf</td>
</tr>
<tr>
<td>Output: p to (h + k + g2 + b.p.)</td>
<td>7.5 pf</td>
</tr>
</tbody>
</table>

**MECHANICAL**

Operating Position - Any

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Envelope - T-12, Glass</td>
<td></td>
</tr>
<tr>
<td>Base - E12-74, Button 12-Pin</td>
<td></td>
</tr>
<tr>
<td>Outline Drawing - EIA 12-57</td>
<td></td>
</tr>
<tr>
<td>Maximum Diameter</td>
<td>1.563 inches</td>
</tr>
<tr>
<td>Minimum Diameter</td>
<td>1.437 inches</td>
</tr>
<tr>
<td>Maximum Over-all Length</td>
<td>3.125 inches</td>
</tr>
<tr>
<td>Maximum Seated Height</td>
<td>2.750 inches</td>
</tr>
<tr>
<td>Minimum Seated Height</td>
<td>2.500 inches</td>
</tr>
</tbody>
</table>

**PHYSICAL DIMENSIONS**

- **EIA 12-57**
  - 1.563" MAX.
  - 1.437" MIN.
  - 3.125" MAX.
  - 2.750" MAX.
  - 2.500" MIN.

**TERMINAL CONNECTIONS**

- Pin 1 - Heater
- Pin 2 - Grid Number 1
- Pin 3 - Grid Number 2 (Screen)
- Pin 4 - Cathode and Beam Plates
- Pin 5 - No Connection
- Pin 6 - Plate
- Pin 7 - No Connection
- Pin 8 - No Connection
- Pin 9 - Grid Number 1
- Pin 10 - Grid Number 2 (Screen)
- Pin 11 - Cathode and Beam Plates
- Pin 12 - Heater

**BASE DIAGRAM**

- NC
- 6
- 7
- 8
- 9
- 10
- 11
- 12

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.
MAXIMUM RATINGS

VERTICAL-DEFLECTION AMPLIFIER SERVICE — DESIGN-MAXIMUM VALUES

DC Plate Voltage ................................................................. 400 Volts
Peak Pulse Plate Voltage .................................................... 2500 Volts
Screen Voltage ................................................................. 300 Volts
Peak Negative Grid-Number 1 Voltage .................................... 250 Volts
Plate Dissipation † .............................................................. 19 Watts
Screen Dissipation ............................................................. 2.75 Watts
DC Cathode Current ............................................................ 110 Milliamperes
Peak Cathode Current .......................................................... 260 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
  With Fixed Bias ................................................................. 1.0 Megohms
  With Cathode Bias ............................................................ 2.2 Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron 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, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with 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, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage ......................................................................... 45 135 Volts
Screen Voltage ..................................................................... 125 125 Volts
Grid-Number Voltage ......................................................... 0‡ -10 Volts
Plate Resistance, approximate .............................................. --- 12000 Ohms
Transconductance ............................................................... --- 10300 Micromhos
Plate Current ....................................................................... 210 95 Milliamperes
Screen Current ..................................................................... 20 4.2 Milliamperes
Grid-Number Voltage, approximate 1b = 100 Microamperes .............................. --- -33 Volts

NOTES

- Heater voltage for a bogey tube at If = 0.600 amperes.
- The equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.
- The time required for the voltage across the heater to reach 80 percent of the bogey value after applying 4 times the bogey heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the bogey heater voltage divided by the bogey heater current.
- Without external shield.
- Socket terminals 5, 7, and 8 should not be used as tie points.
- 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.
- 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.
AVERAGE TRANSFER CHARACTERISTICS

EF = RATED VALUE
EB = 135 VOLTS

GRID-NUMBER 1 VOLTAGE IN VOLS

PLATE CURRENT IN MILLIAMPS

AVERAGE TRANSFER CHARACTERISTICS

EF = RATED VALUE
EB = 135 VOLTS

GRID-NUMBER 1 VOLTAGE IN VOLS

SCREEN CURRENT IN MILLIAMPS

K-55611-TD373-3

K-55611-TD373-4