The 12AX4GTB is a heater-cathode-type single diode intended for use as the damping diode in the horizontal-deflection circuit of television receivers. It is particularly useful in autotransformer deflection systems in which high pulse voltages are applied to the cathode of the damper tube.

Except for heater ratings, the 12AX4GTB is identical to the 6AX4GTB and is unilaterally interchangeable with the 12AX4GTA.

**Direct Interelectrode Capacitances - Approx.**

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathode to plate and heater</td>
<td>8.5 μF</td>
</tr>
<tr>
<td>Plate to cathode and heater</td>
<td>5.0 μF</td>
</tr>
<tr>
<td>Heater to cathode</td>
<td>4.0 μF</td>
</tr>
</tbody>
</table>

**Ratings**

Interpreted according to design maximum system TV damper service

- **Heater Voltage**: 12.6 Vols
- **Maximum Peak Inverse Plate Voltage**: 5000 Vols
- **Maximum Plate Dissipation**: 5.3 Watts
- **Maximum Steady-State Peak Plate Current**: 1000 MA.
- **Maximum DC Output Current**: 165 MA.
- **Maximum Heater-Cathode Voltage**:
  - Heater positive with respect to cathode DC component: 100 Vols
  - Total DC and Peak Vols
  - Heater negative with respect to cathode DC component: 900 Vols
  - Total DC and Peak Vols
- **Heater Warm-Up Time (Approx.)***: 11.0 Seconds

*Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated voltage after applying 1/4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance of value 3 times the nominal heater operating resistance.

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

AVERAGE CHARACTERISTICS

HEATER VOLTAGE 12.6 VOLTS
HEATER CURRENT 0.6±1% AMP.
TUBE VOLTAGE DROP I_p=250 MA. DC 32 VOLTS

NOTE:
OPERATION OF THIS TUBE AS A POWER RECTIFIER IS NOT RECOMMENDED.

FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGIE ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGIE DEVICE 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.