The Sylvania Type 12AD7 is a High Mu Double triode rigorously controlled to provide hum and microphonic free operation in low level audio preamplifier service.

**MECHANICAL DATA**

- Bulb: T-6 ½
- Base: E9-1, Small Button 9-Pin
- Outline: 6-2
- Basing: 9A
- Cathode: Coated Unipotential
- Mounting Position: Any

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

- Heater Voltage (ac or dc): 12.6, 6.3 Volts
- Heater Current: 225, 450 Ma
- Heater-Cathode Voltage (Design Center Values)
  - Heater Negative with Respect to Cathode
    - Total DC and Peak: 200, 200 Volts Max.
  - Heater Positive with Respect to Cathode
    - DC: 100, 100 Volts Max.
    - Total DC and Peak: 200, 200 Volts Max.

**DIRECT INTERELECTRODE CAPACITANCES (Approx.)**

<table>
<thead>
<tr>
<th>Shielded</th>
<th>Unshielded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triode No. 1</td>
<td>Triode No. 2</td>
</tr>
<tr>
<td>Grid to Plate</td>
<td>1.8</td>
</tr>
<tr>
<td>Input: g to</td>
<td>1.7</td>
</tr>
<tr>
<td>(h+k+i.s.+e.s.)</td>
<td></td>
</tr>
<tr>
<td>Output: p to</td>
<td>1.6</td>
</tr>
<tr>
<td>(h+k+i.s.+e.s.)</td>
<td></td>
</tr>
</tbody>
</table>

**RATINGS (Design Center Values) Each Section**

- Plate Voltage: 300 Volts Max.
- Plate Dissipation: 1.0 Watt Max.
- Positive DC Grid Voltage: 0 Volts Max.
- Negative DC Grid Voltage: 50 Volts Max.

**CHARACTERISTICS AND TYPICAL OPERATION**

- Class A Amplifier—Each Section
  - Plate Voltage: 250 Volts
  - Grid Voltage: -2 Volts
  - Plate Current: 1.25 Ma
  - Plate Resistance: 62500 Ohms
  - Transconductance: 1600 μmhos
  - Amplification Factor: 100

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**QUICK REFERENCE DATA**

The Sylvania Type 12AD7 is a miniature, non-microphonic, high Mu double triode for audio preamplifier use. The 12AD7 features a specified maximum hum output level.
Resistance Coupled Amplifier—Each Section

Heater Voltage: 6.3 Volts
Plate Supply Voltage: 250 Volts
Unbypassed Cathode Resistance: 3300 Ohms
Grid Circuit Resistance: 470000 Ohms
Plate Load Resistance: 270000 Ohms
RMS Hum Level at Plate, Max.: 3.0 Millivolts

NOTES:

1. Section No. 1 connects to Pins 6, 7 and 8.
   Section No. 2 connects to Pins 1, 2 and 3.

2. Shield No. 315.

3. The heater sections are operated in parallel from a 6.3 volt supply balanced to ground.
AVERAGE PLATE CHARACTERISTICS

$E_f = \text{RATED VALUE}$

CURRENT IN MA

PLATE VOLTAGE
AVERAGE TRANSFER CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]

- Plate Resistance \((r_p)\) in Kilohms
- Plate Current in MA

- Curves for different values of \(E_b\): 50, 100, 150, 200, 250 Volts
AVERAGE TRANSFER CHARACTERISTICS

$E_f = \text{RATED VALUE}$

Grid Voltage vs. Current in mA for different values of $E_a$ (200 Volts, 150 Volts, 100 Volts, and 50 Volts).
AVERAGE TRANSFER CHARACTERISTICS

AMPLIFICATION FACTOR (µ) IN MICROHRS

TRANSCONDUCTANCE (g_m) IN MICROMOS

E_f = RATED VALUE

PLATE CURRENT IN MA

0 1.0 2.0 3.0 4.0

0 1000 2000 3000 4000