LOW MU POWER TRIODE TYPE 7328A

The 7328A is a three element tube designed for service as a modulator or AF amplifier. Electrical characteristics make it particularly suitable for Class AB₁ or AB₂ circuits. The anode is capable of dissipating 20 KW CCS with forced air cooling. The cathode is a single phase, thoriated tungsten filament.

ELECTRICAL:
- Cathode: Thoriated Tungsten Filament
- Voltage: 7.0 Volts
- Current: 245 Amperes
- Starting Current (max.): 1000 Amperes
- Amplification Factor: Grid Volts = -450, Plate Amperes = 5.0
- Maximum Usable Cathode Current: 20 Amperes

Direct Inter-electrode Capacitance:
- Grid to Plate: 78 µfd
- Grid to Filament: 68 µfd
- Plate to Filament: 7 µfd

MECHANICAL:
- Mounting Position: Vertical, Anode Down
- Type: Forced Air
- Amount Required: 10 1.5 20 Kilowatts
- Air Flow: 800 1250 1700 CFM
- Static Pressure: 2.0 3.5 6.0 In. H₂O
- Maximum Incoming Air Temperature: 45°C
- Maximum Seal Temperature: 180°C
- Net Weight: 72 Pounds

MAXIMUM RATINGS:
- Absolute Maximum Values
  - DC Plate Voltage: 10 max. Kilovolts
  - DC Plate Current: 10 max. Amperes
  - Plate Power Input (Note 1): 50 max. Kilowatts
  - Plate Dissipation (Note 1): 20 max. Kilowatts
  - Grid Dissipation: 300° Max. Watts

TYPICAL OPERATING CHARACTERISTICS:
- (Values for Two Tubes)
  - AF Power Amplifier & Modulator Service
    - Class AB₁ Operation
      - DC Plate Voltage: 8 9 10 Kilovolts
      - DC Grid Voltage: -1700 -1900 -2200 Volts
      - Peak AF Grid-to-Grid Voltage: 3350 3750 4350 Volts
      - Zero Signal DC Plate Current: 0.5 0.5 0.5 Amperes
      - Maximum Signal DC Plate Current: 6.4 7.4 8.2 Amperes
      - Effective Plate-to-Plate Load Impedance: 2400 2400 2400 Ohms
      - Driving Power: 0 0 0 Watts
      - Maximum Signal Power Output: 30 39.5 49.5 Kilowatts
    - Class AB₂ Operation
      - DC Plate Voltage: 8 9 10 Kilovolts
      - DC Grid Voltage: -1700 -1900 -2200 Volts
      - Peak AF Grid-to-Grid Voltage: 3700 4100 4700 Volts
      - Zero Signal DC Plate Current: 0.5 0.5 0.5 Amperes
      - Maximum Signal DC Plate Current: 7.4 8.4 9.3 Amperes
      - Effective Plate-to-Plate Load Impedance: 2400 2400 2400 Ohms
      - Driving Power: 50 55 61 Watts
      - Maximum Signal Power Output: 40 51 65 Kilowatts

Note 1:
- Radial Key Slot
  - 1/4 X 5/16 Deep
- Located Perpendicularly to Line Thru Grid Terminals ± 2.5°.
PULSE SERVICE

MAXIMUM RATINGS:

Absolute Maximum Values

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage</td>
<td>20 max. Kilovolts</td>
</tr>
<tr>
<td>DC Grid Voltage</td>
<td>-6000 max. Volts</td>
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<tr>
<td>Peak Positive Grid Voltage</td>
<td>2500 max. Volts</td>
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<tr>
<td>Peak Pulse Plate Current</td>
<td>88 max. Amperes</td>
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<tr>
<td>Peak Pulse Grid Current</td>
<td>12 max. Amperes</td>
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<tr>
<td>Plate Dissipation</td>
<td>800 20 max. Kilowatts</td>
</tr>
<tr>
<td>Grid Dissipation</td>
<td>350 100 max. Watts</td>
</tr>
<tr>
<td>Pulse Length</td>
<td>2000 0.01 max. μseconds</td>
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<tr>
<td>Duty Factor</td>
<td>0.01 max.</td>
</tr>
<tr>
<td>Peak Pulse Cathode Current (Note 2)</td>
<td>100 max. Amperes</td>
</tr>
</tbody>
</table>

X-Ray Warnings: The Maximum Ratings of the 7328A permit operation at voltages in excess of 16 KV. Therefore equipment design considerations should include the possible generation of soft x-rays.

1. Averaged over any AF cycle of sine wave form.

2. A maximum of 160 amperes is permitted with 7.6 volts applied to filament. Continuous operation at elevated filament temperature will reduce length of service received.

AVERAGE CONSTANT CURRENT CHARACTERISTICS

![Graph showing average constant current characteristics for filament conditions.](image)

WESTINGHOUSE ELECTRIC CORPORATION, ELECTRONIC TUBE DIVISION, ELMIRA, NEW YORK
AVERAGE PLATE CHARACTERISTICS

Rated Filament Conditions

Plate Amperes

Plate Kilovolts

CE-A1046