Manufacturer's Designation:
JEDEC Designation: 7208A
Manufacturer: Western Electric Company

September 20, 1960

GENERAL CHARACTERISTICS

The 7208A is a pulsed magnetron oscillator tube which operates at a tunable frequency of 15500 to 17500 Mc. The peak power output is approximately 125 kilowatts and the tube is forced-air cooled. The tube uses an integral magnet.

GENERAL ELECTRICAL DATA

Pre-heat Heater Voltage.......................... 12.6 ± 5% volts
Pre-heat Heater Current at 12.6 Volts........ 3.25 ± 0.25 amperes
Minimum Pre-heat Time.......................... 270 seconds
Heater Cold Resistance.......................... 0.4 ohm (approximately)
Anode-Cathode Capacitance...................... 14μF (approximately)

ABSOLUTE MAXIMUM RATINGS

Heater Voltage........................................ 13.0 volts
Heater Current........................................ 3.5 amperes
Heater Surge Current.............................. 13.6 amperes
Peak Anode Current................................ 20 amperes
Peak Anode Voltage................................. 20 kilovolts
Average Power Input................................ 350 watts
Duty Cycle............................................. 0.001
Pulse Duration........................................ 3.3 microseconds
Rate of Rise of Anode Voltage (above 50% point). 120 KV/μsec
Output Circuit Pressurization.................... 15 psia min., 45 psia max.
Maximum Altitude without Pressurization
Output Circuit........................................ sea level
Input Terminals...................................... sea level
Body Temperature................................... 150°C
Cathode Stem Temperature......................... 300°C
VSWR (Magnetron Load)............................. 1.5:1 max.

TYPICAL OPERATING RATINGS

Frequency.............................................. 15500 to 17500 Mc.
Peak Anode Voltage at 17.5 kmc.................... 17.5 ± 1.5 kv
Pulling Figure (VSWR 1.5/1)....................... 6 Mc.
Pushing Factor....................................... -Mc/a

from JEDEC release #2989, Oct. 10, 1960
### TYPICAL OPERATING RATINGS (Continued)

<table>
<thead>
<tr>
<th>Current Pulse Duration</th>
<th>Duty Factor</th>
<th>Peak Anode Current</th>
<th>Stability % Missing Pulses</th>
<th>Peak Power Output</th>
<th>Voltage Rate-of-Rise</th>
<th>RF Band Width at 1/4 po pts.</th>
<th>Heater Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>µsec</td>
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<tr>
<td>0.25</td>
<td>0.0007</td>
<td>19</td>
<td>1% max.</td>
<td>125 min.</td>
<td>100</td>
<td>4.5 Mc</td>
<td>8.5</td>
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<tr>
<td>3</td>
<td>0.001</td>
<td>19</td>
<td>1% max.</td>
<td>125 min.</td>
<td>100</td>
<td>0.6 Mc</td>
<td>6.8</td>
</tr>
</tbody>
</table>

### GENERAL MECHANICAL CHARACTERISTICS

- Mounting Position: any
- Mounting Support: See 4 hole Mounting Plate in outline drawing
- Weight: 14 lbs. Max.
- Coupling between Tube and Load:
  - Waveguide (RG91/U) per outline drawing. The mating flange may be UG419/U cover flange or a modified (clearance holes instead of tapped 6-32) UG541/U choke flange.
- Cooling Data
  - To limit rise in body temperature to 100°C for a dissipation 200 watts - 10 cfm.
  - Recommended cathode stem temperature 225°C ± 25°C.