

WESTERN ELECTRIC 7208A ELECTRON TUBE

TYPE DESIGNATION REGISTRATION

September 20, 1960

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

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	14µµf (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 - 1.0 kv
Pulling Figure (VSWR 1.5/1)	6 Mc.
Pushing Factor	-Mc/a

TYPICAL OPERATING RATINGS (Continued)

Current Pulse Duration	Duty Factor	Peak Anode Current	Stability	Peak Power Output	Voltage Pulse Rate-of-Rise	RF Band Width at 1/4 po pts.	Heater Voltage
μsec		Amperes	% Missing Pulses	Kilo-watts	KV per μsec (above 50 % point)	$\sigma = 1.5:1$ worst phase K: Mc	Volts±5%
0.25	0.0007	19	1% max.	125 min.	100	4.5 Mc	8.5
3	0.001	19	1% max.	125 min.	100	0.6 Mc	6.8

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.

