

General Characteristics

The ~~7824~~⁷⁸²⁴ traveling wave tube employing a helix type wave propagating structure is for oscillator operation in the 5400 to 5900 mc frequency range. The power output is approximately 50 milliwatts and the tube is convection cooled. It is designed for CW service. It is primarily intended for AM, and/or FM modulation. The matching circuit in RG 55/U coaxial line is used. The matching circuit is integral with the tube. A uniform magnetic field is used to control the electron beam. This is not integral with the tube. The focusing field is provided by a solenoid.

MECHANICAL DATA

Envelope	Metal Capsule
Power Connector	Winchester PM6P
RF Connector	Type "N" Jack
Cathode	Unipotential Oxide
Focusing	Electromagnetic
Cooling	Convection
Mounting Position	Any
Weight (approx.)	12 oz.

ELECTRICAL DATA

Heater Characteristics

Voltage	6.3 - 5% V
Current	.77 Amps.

Ratings (Absolute Maximum)

Collector voltage with respect to Helix	200 Vdc
Helix, 2nd anode voltage	900 Vdc
Helix, 2nd anode current	3 mAdc
1st Anode voltage	250 Vdc
Focus Electrode voltage	0 Vdc
Anode current	1 mAdc
Cathode current	10 mAdc
Collector temperature	200 °C.

Typical Operation

Conditions:

Magnetic focusing field density	800 Gauss
Minimum uniform length	5.75 Inches
Focus Electrode Voltage	0 Vdc
Voltage to stop oscillation	-10 Vdc
Collector voltage with respect to helix	150 Vdc
Helix, 2nd anode voltage	570-740 Vdc
1st anode voltage	180 Vdc

Characteristics

	Min	Max	
Frequency	5400	5900	mc
1st anode current		.5	ma
Helix, 2nd anode current		1	ma
Cathode current		7.5	ma
Collector current		6.8	ma
RF output	50		mW

