

### General Characteristics

The ~~6244A~~<sup>7824</sup> 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 |

