



communications

Electron Devices

L6024

Mini-Traveling Wave Tube

Preliminary Data

Features

- 40.0 to 46.0 GHz
- 40 Watts Minimum
- 30 dB Gain Minimum

Performance Characteristics

Frequency.....	40.0 to 46.0 GHz
RF Output Power.....	40 W min
RF Input Power.....	22 dBm max
Small Signal Gain.....	30 dB min
Gain Tracking.....	±2.5 dB
AM/PM Conversion.....	6°/dB max
Noise Power Density	
Beam On	-30 dBm/MHz

Typical Operating Conditions

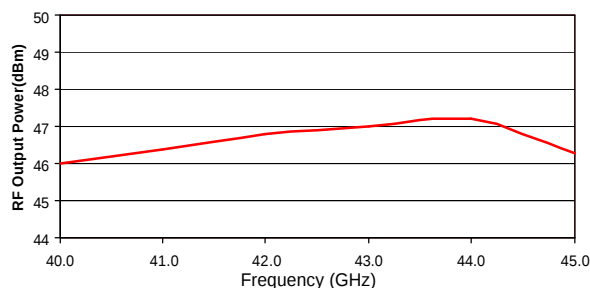
Duty.....	CW
Cathode Voltage	-7600 VDC
Cathode Current.....	100 mA
Helix Current-DC.....	<1 mA
Helix Current-RF	<2 mA
Anode Voltage	-1800 VDC
Anode Current.....	<0.1 mA
Focus Electrode Voltage (On).....	-15 VDC
Focus Electrode Voltage (Off).....	-1000 V
Focus Electrode Current.....	1 mA max
Filament Voltage	-6.3 VDC
Filament Current	0.5A
Collector 1 Voltage.....	2800 VDC
Collector 1 Current	20 mA max
Collector 2 Voltage.....	2100 VDC
Collector 2 Current	100 mA max
Prime Power.....	<300 watts
All voltages, except the anode, are with respect to cathode.	

Mechanical Description

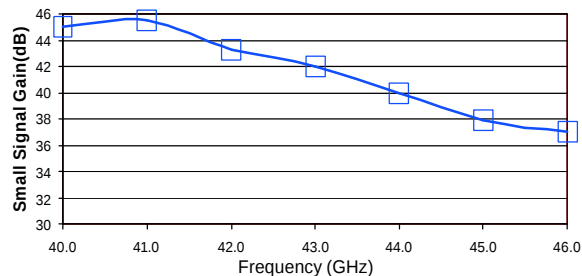
Dimensions (Unpackaged).....	7.0" x 1.5" x 1.2"
Weight	<1.5 lbs
Cooling.....	Conduction
RF Input Connector.....	2.4 mm jack
RF Output Connector	WR 22

The L6024 is an unpackaged helix traveling tube with a power output of 40 watts minimum over the frequency range of 40.0 to 46.0 GHz. The tube has a metal-ceramic vacuum envelope, a beam control element, a multi-stage depressed collector for high efficiency and utilizes periodic permanent magnet focusing. The L-6024 is suitable for use in airborne and shipboard applications. DS60240804

Saturated Power Out vs. Freq.



Small Signal Gain vs. Freq.



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