



Electron Devices

L6139 Mini Traveling Wave Tube

Features

- **6.0 to 18.0 GHz**
- **100 Watts Minimum**
- **25 dB Gain Minimum**

Performance Characteristics

Frequency.....	6.0 to 18.0 GHz
RF Output Power	
6.0 - 7.9 GHz.....	100 - 125 W min.
7.9 - 15.5 GHz.....	125 W min.
15.5 - 18.0 GHz.....	125 - 100 W min.
RF Input Power.....	30 dBm max
Small Signal Gain.....	25 dB min
Noise Power Density-Beam On.....	-45 dBm/MHz
AM/PM Conversion.....	TBD
Harmonic Separation at 6 GHz.....	-4 dBc min

Typical Operating Conditions

Duty	CW
Cathode Voltage.....	-4200 VDC
Cathode Current.....	220 mA
Helix Current-DC.....	1 mA
Helix Current-RF.....	10 mA max
Beam Control Electrode Voltage-Off.....	-1500 VDC
Beam Control Electrode Current.....	1 mA max
Filament Voltage.....	-6.3 VDC
Filament Current.....	0.6 A
Collector 1 Voltage.....	2520 VDC
Collector 1 Current.....	100 mA max
Collector 2 Voltage.....	1680 VDC
Collector 2 Current.....	140 mA max
Collector 3 Voltage.....	1050 VDC
Collector 3 Current.....	160 mA max
Collector 4 Voltage.....	620 VDC
Collector 4 Current.....	220 mA max
Prime Power.....	400 watts

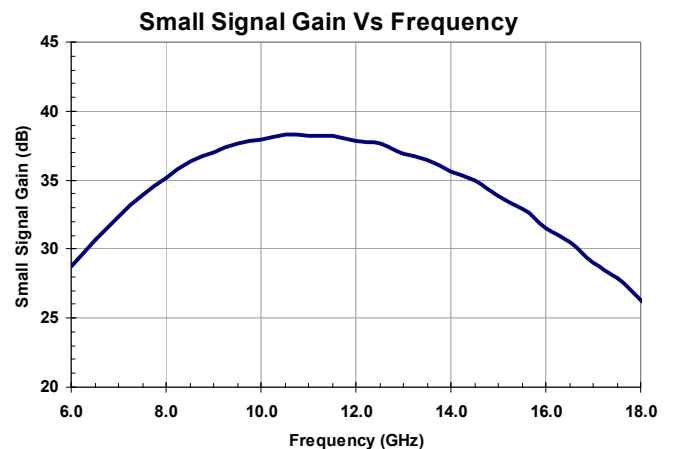
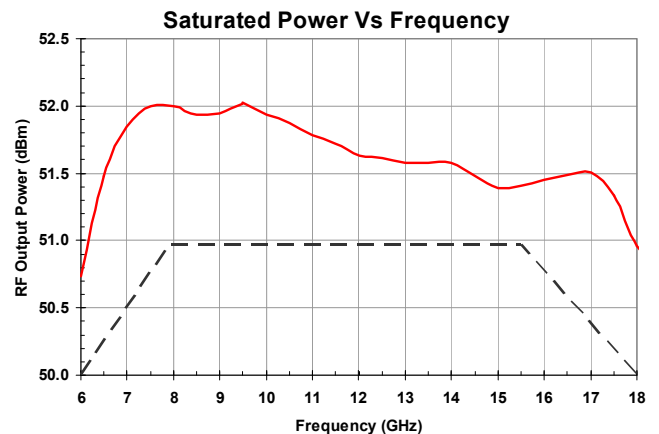
Mechanical Description

Dimensions*	7.5" x 1.1" x 1.1"
Weight	< 1.0 lbs
Cooling	Conduction
Baseplate Temperature.....	-54° C to +110° C
RF Input Connector.....	SMA
RF Output Connector.....	TNC

All voltages are with respect to cathode

*Unpackaged

The L6139 is an unpackaged helix traveling tube with a power output of 100 to 140 watts over the frequency range of 6.0 to 18.0 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 L6139 is suitable for use in military and commercial applications. DS61390611



Cleared by DoD/OSR for public release
under 11-S-2793 dated 7/6/11.