



Electron Devices

L5928 Mini Traveling Wave Tube

Features

- **6.0 to 18.0 GHz**
- **65 Watts Minimum**
- **40 dB Gain Minimum**



Performance Characteristics

Frequency Range	6.0 - 18.0 GHz
Power Output	65 W min
Saturated Gain	40 dB min
Gain Tracking	± 3.0 dB
Phase Tracking (Midband)	$\pm 20^\circ$
Noise Power Density (Beam on) @ 11 GHz	-25 dBm/MHz
Total Integrated Noise Power Output (Beam on)	+20 dBm max
Noise Power Density (Beam off) @ 11 GHz	-80 dBm/MHz
AM/PM	7°/dB max
Harmonic Separation	-4 dBc max

Typical Operating Conditions

Duty	CW
Cathode Voltage	-4475 VDC
Helix Voltage	Ground Potential
Helix Current	15 mA
Beam Control Electrode Voltage	1000 VDC
Beam Control Electrode Current	1 mA max
Filament Voltage	6.3 VAC
Filament Current	0.5 A
Collector Voltage	2250 VDC
Collector Current	150 mA
Base Plate Temperature	105°C max

Mechanical Description

Dimensions	12.25"x1.73"x1.175"(see outline)
Weight	2.0 lbs max
Cooling	Conduction
Mounting Position	Any
Connectors	See Outline

Power Supply Requirements

Cathode Current (Max)	165 mA
Beam Control Voltage Range	0 to -1000 VDC
Filament Voltage (RMS AC or DC)	6.3 $\pm$ 0.3 V
Filament Current, Surge	3.0 A max
Collector Voltage	0.5 Ek, - 50 +200 VDC

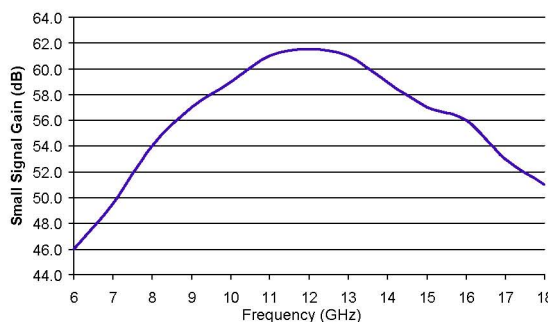
Note: All voltages are specified with respect to cathode.

The L5928 is a helix traveling wave amplifier having a power output of 65 watts minimum over the frequency range of 6.0 to 18 GHz. The tube has a metal-ceramic vacuum envelope, a beam control element and periodic permanent magnet focusing. The L5928 is suitable for use in phased array applications and is designed to meet the requirements of MIL-E-5400 and MIL-E-16400. DS59280413

Saturated Power vs. Frequency

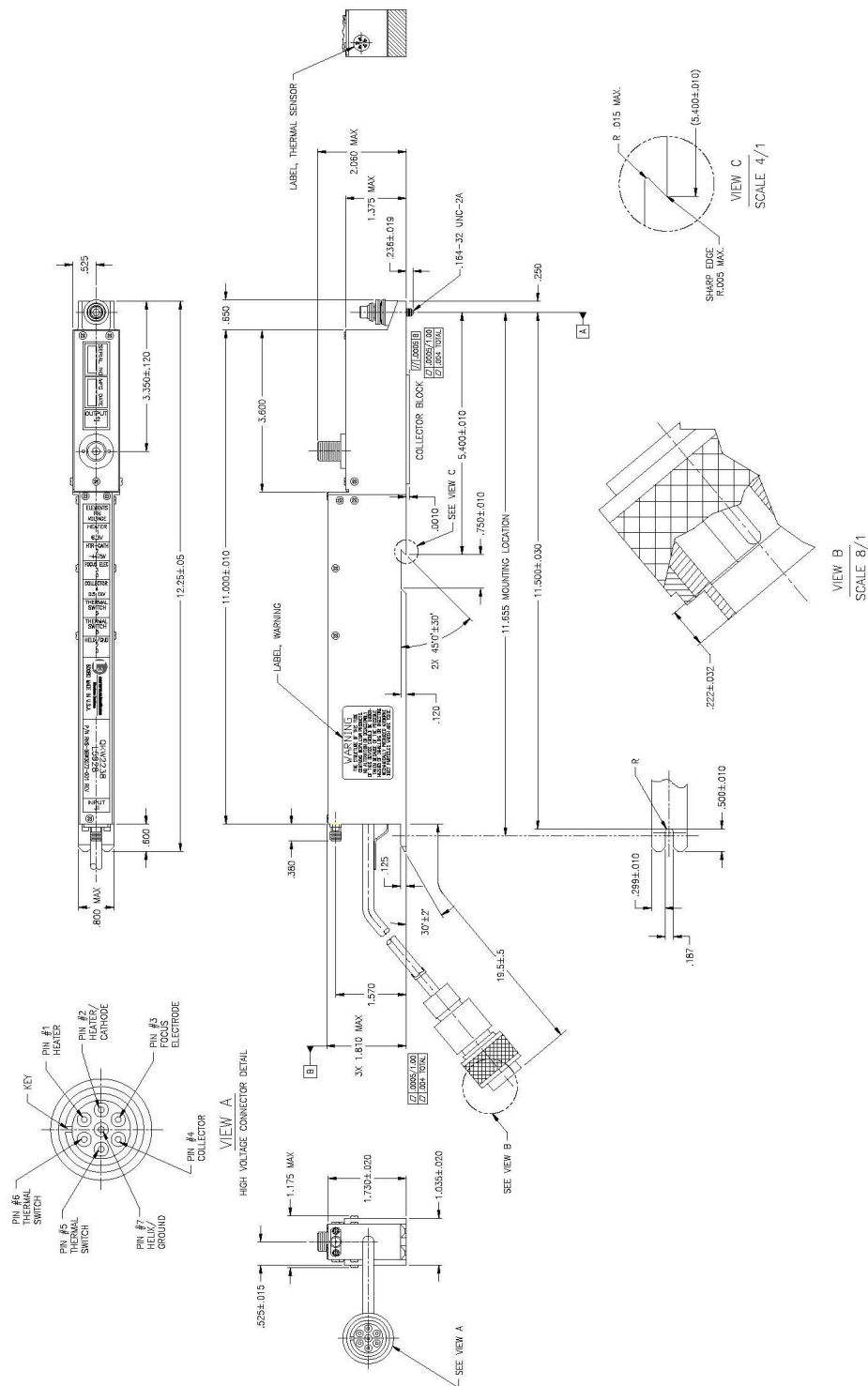


Small Signal Gain vs. Frequency Typical



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Outline Drawing L5928



3-D solid models available upon request



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