



communications

Electron Devices

L5873

Helix Traveling Wave Tube

Features

- 2.5 to 8.0 GHz
- 1 kW Peak Min.
- 45 dB Gain
- PPM Focused
- Shadow Grid

Typical Operating Conditions

Duty	8%
Cathode Voltage	-8.5 KVDC
Cathode Current	1.4 A Peak
Collector Voltage	6.0 KV
Grid Voltage	180 V Peak
Grid Bias Voltage	-200 VDC
Grid Current	20 mA Peak
Filament Voltage	-6.3 VDC
Filament Current	1.8 A

Performance Characteristics (Note 1)

Frequency Range	2.5 to 8.0 GHz
Power Output	1000 W min.
Small Signal Gain (Equalized)	45 dB min.

Maximum Ratings

Duty	8.0%
Helix Current Peak with RF Drive	0.5 A
Baseplate Temperature	110°C

Mechanical Description

Dimensions	See Outline Drawing
Weight	8 lbs.
Cooling	Conduction
Mounting Position	Any

Environmental Capability (Note 2)

Shock	15 g
Vibration	10 g
Ambient temperature	- 54° to + 100°C
Altitude	70,000 feet

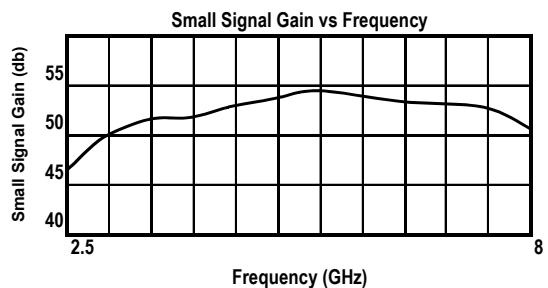
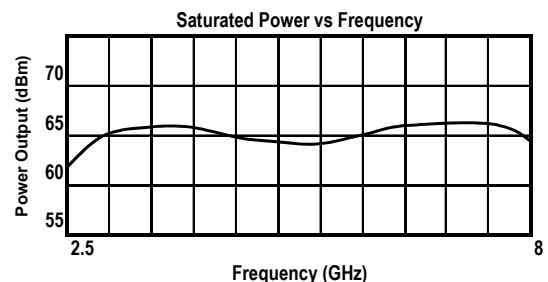
Power Supply Requirements

Cathode Voltage Range	-8.3 to -9.3 KVDC
Cathode Current, Max	2.0 A Peak
Grid Voltage Range	+120 to +300 VDC
Grid Bias Voltage	-200 VDC
Grid Current	20 mA Peak
Filament Voltage	-6.3 VDC
Filament Current	1.5 to 2.5 A



The L5873 is a broadband traveling wave tube having a minimum peak power output of 1000 watts over the frequency range of 2.5 to 8.0 GHz at a maximum duty cycle of 8%. The tube has a metal ceramic vacuum envelope, a non-intercepting grid, a depressed collector, and utilizes periodic permanent magnet focusing. DS58731203

Typical Performance*



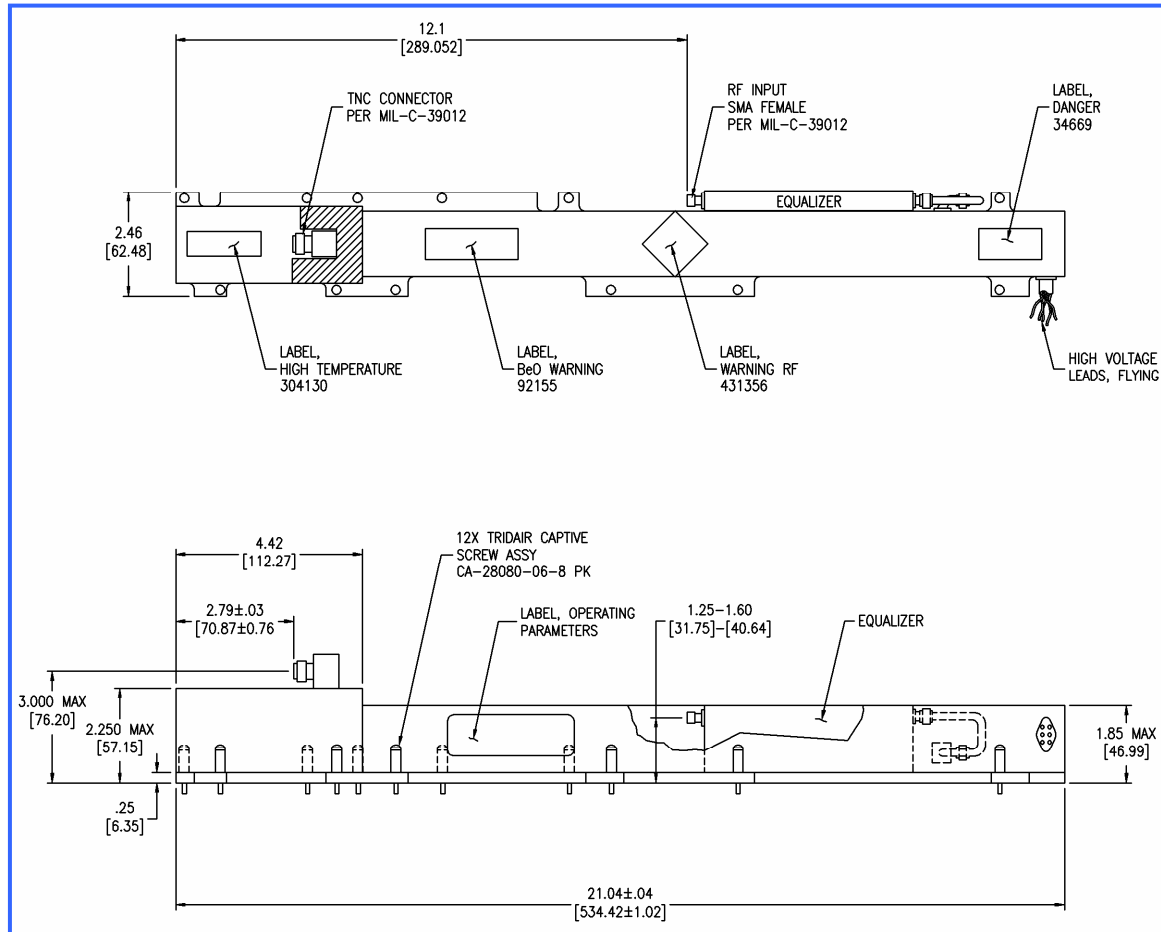
*Equalized Curves

Notes:

1. Other performance characteristics available upon request.
2. Designed for MIL-SPEC operation. Environmental and screening testing available upon request.
3. All voltages are with respect to cathode

Cleared by DoD/DFOISR for public release under 04-S-0490 on 2/3/04

L5873 Outline Drawing



Current detailed outline drawings are available on request. Specifications and features are subject to change without notice.