



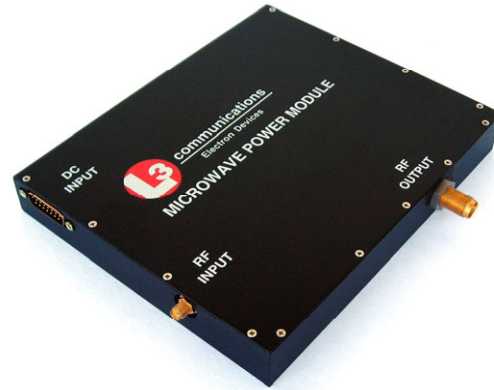
**communications**

Electron Devices

# M1231 Ku-Band Microwave Power Module

- **Features**
- **80 Watts Output Power**
- **20 - 35% Efficiency**
- **<50 Cubic Inches**

The M1231 represents the state of the art in low noise, compact, high efficiency, Ku-band RF amplifiers for airborne, shipboard, and ground military communication applications. This MPM contains a TWT, an SSA and power supply within a single conduction-cooled package. DS12310304



## Performance Characteristics

Frequency .....	12.75 to 14.5 GHz
RF Output Power .....	80 Watts (min)
RF Input Power .....	0 ± 1 dBm
Small Signal Gain .....	50 dB (min)
PRF .....	50 kHz (max)
Harmonics @ 6 GHz .....	-11 dBc (max)
AM/PM Conversion .....	.6°/dB (max)
Spurious .....	-50 dBc (max)
Spectral Purity .....	-45 dBc (max)
Noise Power Density .....	-40 dBm/MHz (max)

## Environment

Temperature .....	-54 to +85°C
Underneath TWT Collector .....	+95°C max
Cooling .....	Conduction
Altitude .....	70,000 feet
Humidity .....	Up to 100%, with condensation
Shock .....	20 g, 11 msec
Acceleration .....	10 g's
Vibration .....	0.04 g <sup>2</sup> /Hz from 80 to 350 Hz
	-3dB/octave 20 to 80 Hz
	-3dB/octave 350 to 2000 Hz

## Mechanical Description

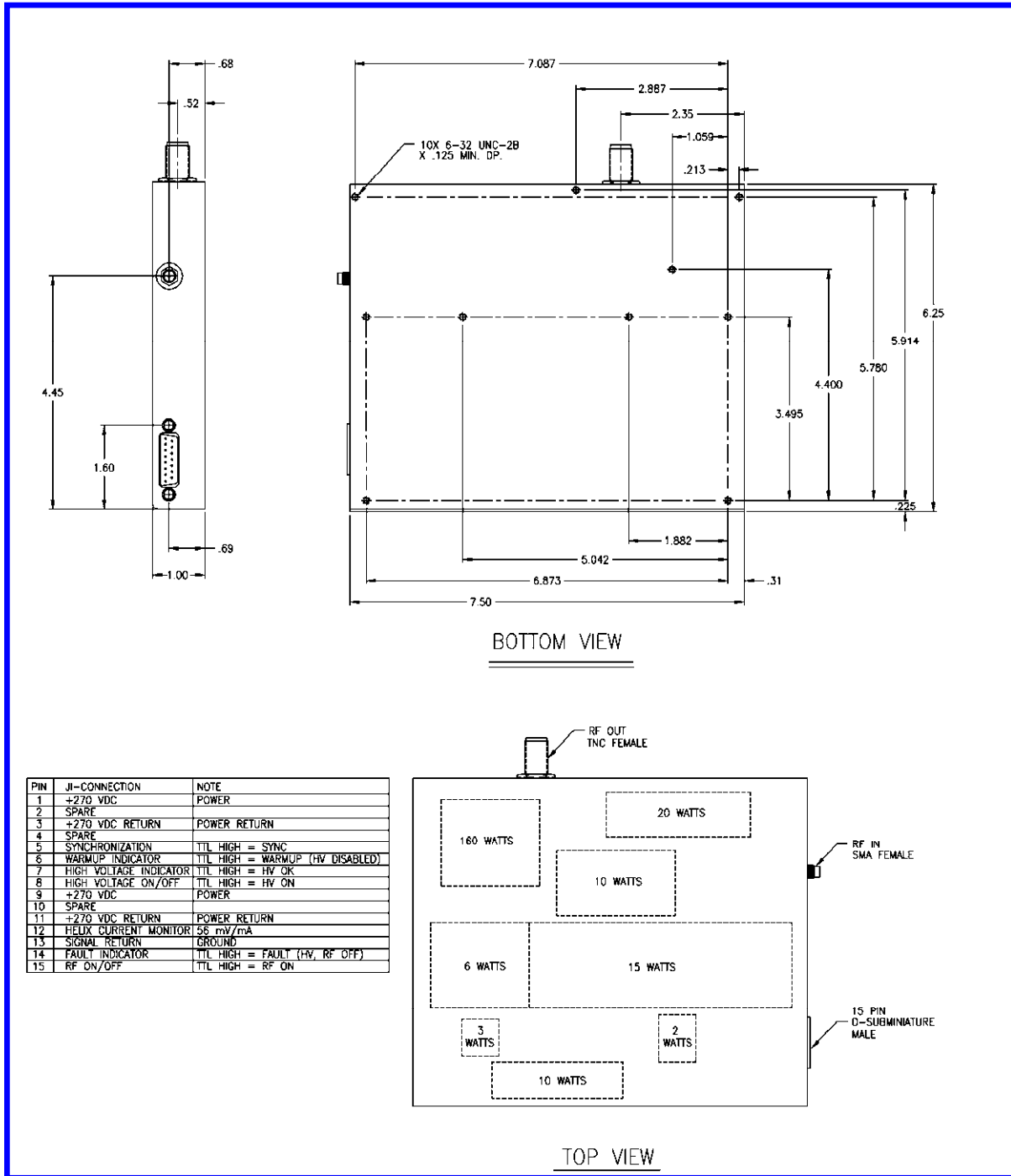
Dimensions .....	7.5" x 6.25" x 1.0"
Weight .....	3.75 lbs (max)
RF Input Connector .....	SMA
RF Output Connector .....	TNC
DC Input .....	15-Pin D-Subminiature

## Interface

Prime Power, operating .....	270 VDC
.....	325 Watts (max)
Prime Power, standby .....	40 Watts (max)
Controls .....	Standby/Operate, Radiate
Digital Indicators .....	Warm-up Complete Indicator
	Fault Indicator
	High Voltage Indicator
Analog Monitor .....	Helix Current

Cleared by DoD/DFOISR for public  
release under 04-S-1319 dated 5-24-04

# M1231 Outline Drawing



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