Electron Devices

M1230
Low Band
Microwave Power Module

Features

- 2 GHz to 6 GHz
- 80 W output power
- Less than 90 cubic inches

L-3's M1230 represents the state of the art in low noise, compact, high efficiency, wideband microwave power amplifiers for airborne, shipboard, and ground military applications. This MPM contains a TWT, an SSA and a power supply within a single conduction-cooled package.

Performance

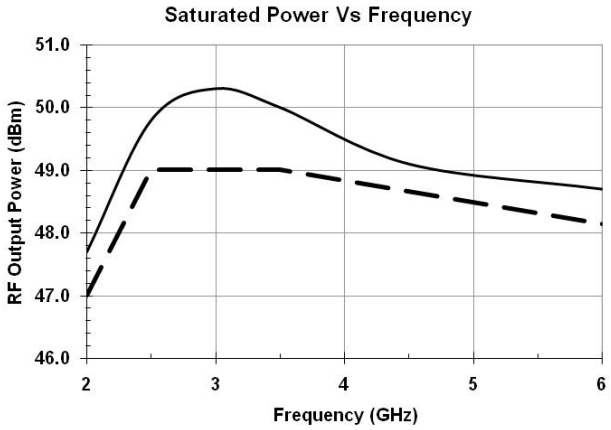
Frequency	2.0 GHz to 6.0 GHz
RF Output Power	
2.0 - 2.5 GHz	50 W to 80 W min
2.5 - 3.5 GHz	80 W min
3.5 - 6.0 GHz	80 W to 65 W min
RF Input Power	0 ± 1 dBm
Small Signal Gain	50 dB min
PRF	50 kHz max
Harmonics, 2 GHz	0 dBc max
Harmonics, 3 GHz	-7 dBc max
Harmonics, 4 GHz	-14 dBc max
AM/PM Conversion	6°/dB max
Spurious	-40 dBc max
Noise Power Density	-40 dBm/MHz max

Environment

Temperature	-40 °C to +85 °C
Cooling	Conduction
Altitude	up to 50,000 ft.
Humidity	Up to 95%
Shock	20 g, 11 msec
Acceleration	10 g
Vibration	0.01 g^2 /Hz at 20 Hz
	+3 dB/octave from 20 Hz to 80 Hz
	0.04 g^2 /Hz from 80 Hz to 350 Hz
	-3 dB/octave from 350 Hz to 2,000 Hz

Mechanical

Dimensions	See Outline
Weight	6 lb. max
RF Input Connector	SMA female
RF Output Connector	TNC female
Control Input	15 pin D-Sub male
Power Input	3 pin D-Sub male (DAMM-3W3P)



Interface

Prime Power, operating	+250 VDC to 290 VDC
	425 W max
Prime Power, standby	50 W max
Controls	High voltage on/off
	RF on/off
	Battle override
Digital Indicators	Warm-up complete indicator
	Fault indicator
	High voltage indicator
Analog Monitor	Helix Current

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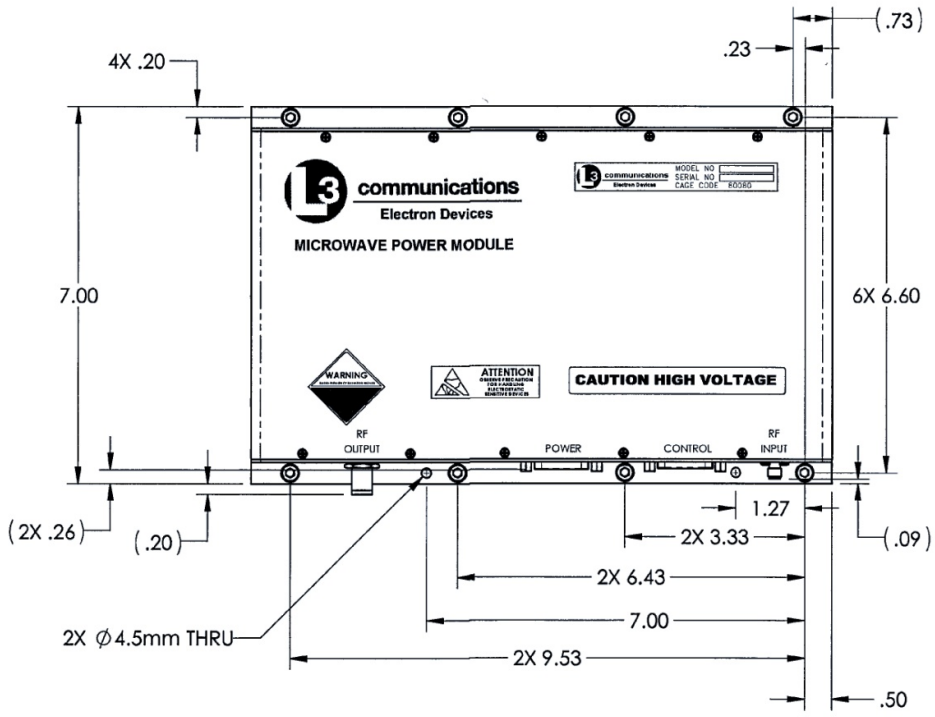
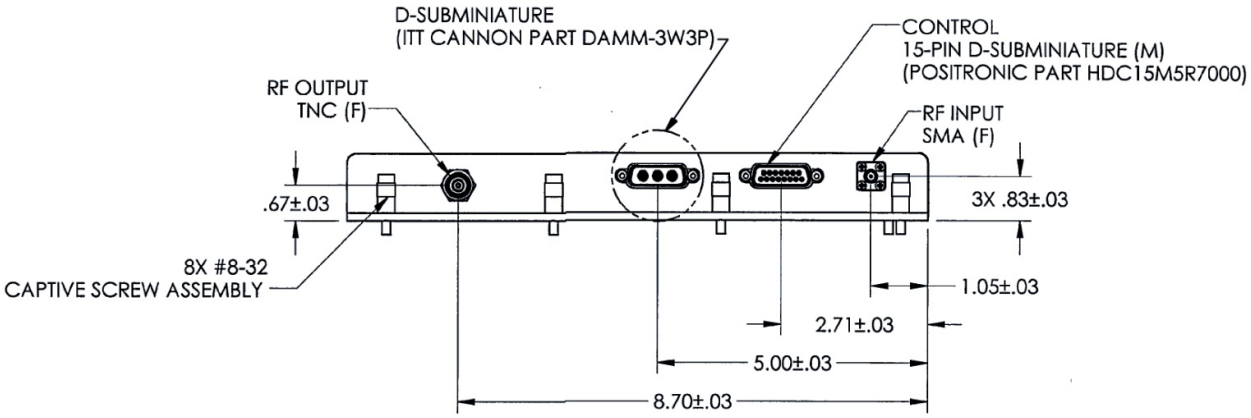
M1230 Outline Drawing





CONTROL CONNECTOR PINOUT			
PIN #	FUNCTION	SIGNAL FORMAT	NOTE
1	SPARE		
2	HELIX CURRENT SENSE RETURN	GROUND	
3	SPARE		
4	HIGH VOLTAGE CONTROL INPUT	TTL	LOGIC 1 = HV ON
5	RF CONTROL (BLANKING) INPUT	TTL	LOGIC 1 = RF ON
6	WARM-UP INDICATOR	TTL	LOGIC 1 = WARMUP
7	HIGH VOLTAGE INDICATOR	TTL	LOGIC 1 = HIGH VOLTAGE OK
8	SPARE		
9	HELIX CURRENT SENSE OUTPUT	ANALOG	56 MV/MA
10	SPARE		
11	MPM STATUS OUTPUT	TTL	LOGIC 1 = FAULT
12	LOGIC RETURN	GROUND	
13	BATTLE OVERRIDE INPUT	TTL	LOGIC 1 = OVERRIDE
14	SPARE		
15	SPARE		

POWER CONNECTOR PINOUT	
PIN #	FUNCTION
1	GROUND
2	+270 VDC RETURN
3	+270 VDC

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