Electron Devices

M1292
Millimeter Microwave Power Module

Features

- ***28.5 GHz to 40 GHz***
- ***RF Output Power 80 Watts min (28.5 GHz to 36 GHz)***
  40 Watts min (36 GHz to 40 GHz)

Performance

Frequency	28.5 GHz to 40 GHz
RF Output Power	80 W min (28.5 GHz to 36 GHz) 40 W min (36 GHz to 40 GHz)
RF Input Power	0 dBm max
Small Signal Gain	50 dB min
Spurious (>1 MHz from carrier)	-45 dBc max
Noise Power Density Beam On	-30 dBm/MHz
Beam Off	-90 dBm/MHz
VSWR Input	2.0:1 max
Output	2.0:1 max
Load (no damage)	3.0:1 max

Interface

Prime Power (operating)	28 VDC ± 3 VDC 380 W max
Prime Power (standby)	35 W max
Controls	HV on/off, RF on/off
Digital Indicators	Warm-up complete indicator Fault indicator High voltage indicator
Analog Monitor	Helix current

Environment

Temperature	-40 °C to +85 °C
Cooling	Conduction
Altitude	50,000 ft.
Humidity	Up to 100%, with condensation
Shock	20 g, 11 ms
Acceleration	8 g
Vibration	+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

L-3's M1292 represents the state of the art in low noise, compact, high-efficiency, millimeter wave amplifiers for airborne, shipboard, and ground-based defense applications. This MPM contains a TWT, an SSA and a power supply.

Mechanical Description

Dimensions	See outline
Weight	7.7 lb. max
RF Input Connector	2.9 mm (K) female
RF Output Connector	WR-28
Control Input Connector	D38999/20WC35PN
Power Input Connector	D38999/20WB99PN

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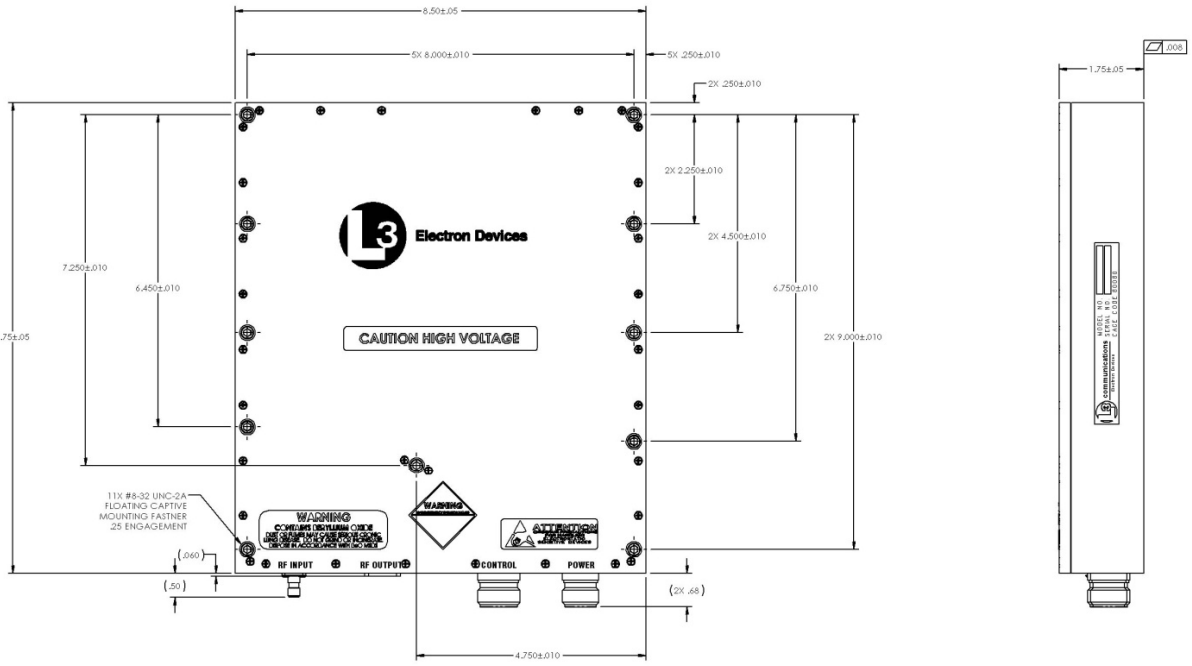
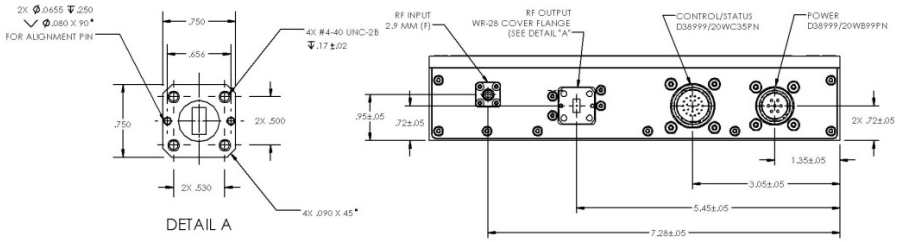
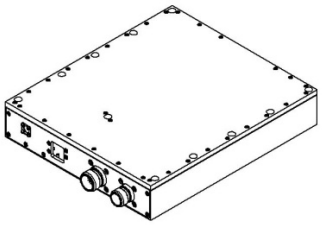
M1292 Outline Drawing (measurements in inches)







CONTROL CONNECTOR PINOUT			
PIN #	FUNCTION	SIGNAL FORMAT	NOTE
1	SPARE		
2	HELIX CURRENT SENSE RETURN	GROUND	
3	LOGIC RETURN	GROUND	
4	LOGIC RETURN	GROUND	
5	HELIX CURRENT SENSE OUTPUT	ANALOG	200 mV/mA
6	SPARE		
7	SPARE		
8	BATTLE OVERRIDE INPUT	TTL	LOGIC 1 = OVERRIDE
9	SPARE		
10	SPARE		
11	RF CONTROL (BLANKING) INPUT	TTL	LOGIC 1 = BEAM ON
12	SPARE		
13	SPARE		
14	SPARE		
15	SPARE		
16	HIGH VOLTAGE INDICATOR	TTL	LOGIC 1 = HV OK
17	HIGH VOLTAGE CONTROL INPUT	TTL	LOGIC 1 = HV ON
18	MPM STATUS (FAULT) OUTPUT	TTL	LOGIC 1 = FAULT (HV, RF OFF)
19	WARM-UP INDICATOR	TTL	LOGIC 1 = WARM-UP (HV DISABLED)
20	SPARE		
21	SPARE		
22	SPARE		

POWER CONNECTOR PINOUT		
PIN #	FUNCTION	SIGNAL FORMAT
A to C	+28 VDC	POWER
G	CHASSIS GROUND	
D to F	+28 VDC RETURN	POWER RETURN

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