



Electron Devices

M1300

Millimeter Wave Power Module

Features

- 30 to 36 GHz
- 50 Watts Minimum
- Integral Air Cooling

Performance Characteristics

Frequency.....	30 to 36 GHz
RF Output Power	50 Watts (min)
RF Input Power	0 dBm (max)
Small Signal Gain	52 dB (min)
PRF	50 KHz (max)
Pulse Width.....	100 nsec (min)
Duty Cycle.....	0% to 100% (CW)
Noise Power Density Beam On	-30 dBm/MHz
Beam Off.....	-90 dBm/MHz
Intermodulation 7 dB backoff	-21 dBc (max)
AM/PM Conversion	.6°/dB (max)
Harmonics	-15 dBc (max)
Spurious.....	-30 dBc (max)
Spectral Purity.....	-30 dBc (max)

Environment

Temperature	-40 to +70° C
Cooling.....	Integral air cooling
Altitude	50,000 ft.
Humidity.....	Up to 95%, non-condensating
Shock	20 g, 11 msec
Acceleration	10 g's
Vibration.....	6 grms, 20-2000 Hz
	80-350 Hz: Mil-Std-810, Method 514.4
	+3dB/octave from 20 to 80 Hz
	-3dB/octave from 350 to 2000 Hz

Interface

Prime Power	28 ± 3 VDC 350 Watts (max)
Controls.....	HV on/off, RF on/off, Battle Override
Indicators	Warm-up Complete Indicator
	RF on/off Indicator
	Fault Indicator

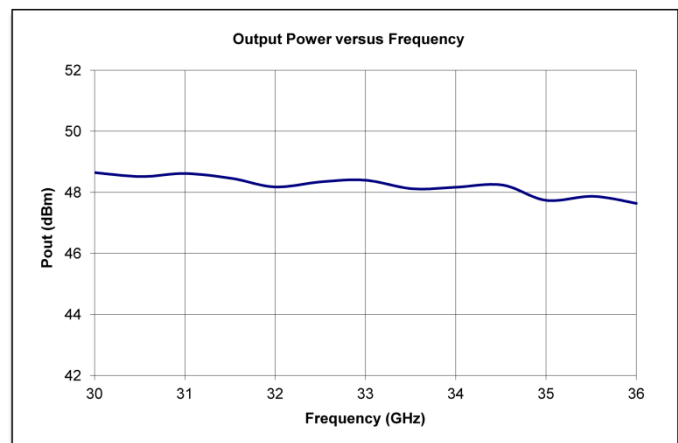
Mechanical Description

Dimensions	7.5" x 8.5" x 2.6"
Weight	7.5 lbs (max)
RF Input Connector.....	2.9 mm (K) female
RF Output Connector.....	WR-28
Power/CTRL Connector.....	12 pin Circular Connector (MS3122E14-12P)



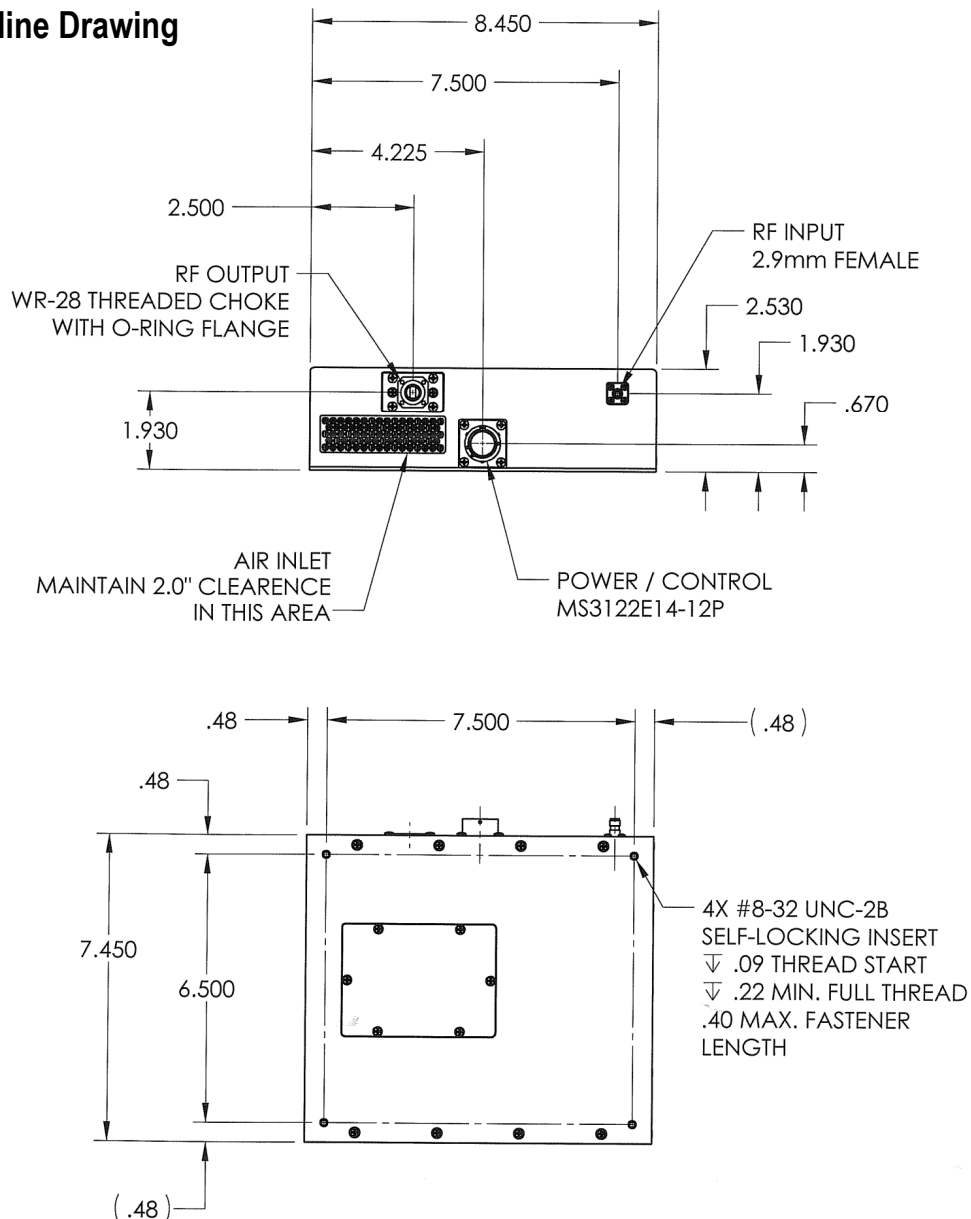
The M1300 represents the state of the art in low noise, compact, high efficiency, wideband, millimeter wave amplifiers for airborne, shipboard, and ground military applications. This MPM contains a TWT, SSA, power supply and integral air cooling within a single package for a variety of applications. DS13000713

Typical Performance



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M1300 Outline Drawing



DC Input Power and Control Connector		
Pin	Description	Notes
A	HV ON/OFF COMMAND	TTL HIGH = HV ON
B	BATTLE OVERRIDE COMMAND	TTL HIGH = BATTLE OVERRIDE
C	WARM UP INDICATOR	TTL LOW = WARM UP (HV DISABLED)
D	RF ON/OFF INDICATOR	TTL HIGH = RF ON
E	RF ON/OFF COMMAND	TTL HIGH = RF ON
F	FAULT INDICATOR	TTL HIGH = FAULT (HV, RF OFF)
G	SIGNAL RETURN (GROUND)	
H	EXTERNAL SYNCHRONIZATION	200nsec PULSE WIDTH TTL SIGNAL- POSITIVE EDGE TRIGGERED (400kHz±5%)
I	N/A	
J	+28 VDC	
K	+28 VDC	
L	+28 VDC RETURN	GROUND
M	+28 VDC RETURN	GROUND

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960 Industrial Road, San Carlos, CA 94070
(650) 591-8411 Fax: (650) 508-1956
Web Site: www.L-3com.com/edd
E-mail: scl.marketing@L-3com.com