

Microwave Power Module

M1300

Stellant's 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 Microwave Power Module (MPM) contains a TWT, SSA, power supply and integral air cooling within a single package for a variety of applications.



KEY FEATURES

- * 30 GHz to 36 GHz
- * 50 W output power
- * Integral air cooling

PERFORMANCE

Frequency	30 GHz to 36 GHz
RF Output Power	50 W 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	-21 dBc max, 7 dB backoff
AM/PM Conversion	6 °/dB max
Harmonics	-15 dBc max
Spurious	-30 dBc max
Spectral Purity	-30 dBc max

INTERFACE

Prime Power	28 ± 3 VDC
	350 W max
Controls	Beam on/off, battle override
	Synchronization
Indicators	Warm-up complete indicator
	Operate indicator
	Fault indicator

ENVIRONMENT

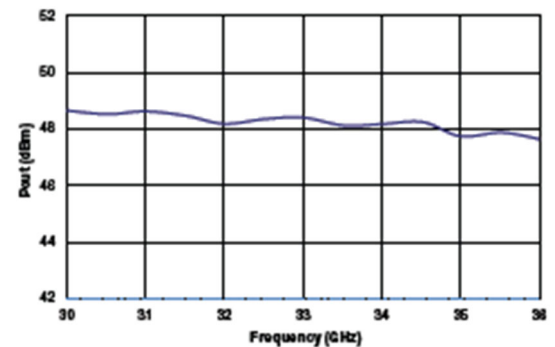
Temperature	-40 °C to +70 °C
Cooling	Integral air cooling
Altitude	50,000 ft.
Humidity	Up to 95%, non-condensating
Shock	20 g, 11 ms
Acceleration	10 g
Vibration	6 grms, 20 Hz to 2,000 Hz
	80 Hz to 350 Hz: MIL-STD-810, Method 514.4
	+3 dB/octave from 20 Hz to 80 Hz
	-3 dB/octave from 350 Hz to 2,000 Hz

MECHANICAL DESCRIPTION

Dimensions	See outline
Weight	7.5 lb. max
RF Input Connector	2.9 mm (K) female
RF Output Connector	WR-28
Power/CTRL Connector	12-pin circular connector (MS3122E14-12P)

TYPICAL PERFORMANCE

Output Power vs. Frequency

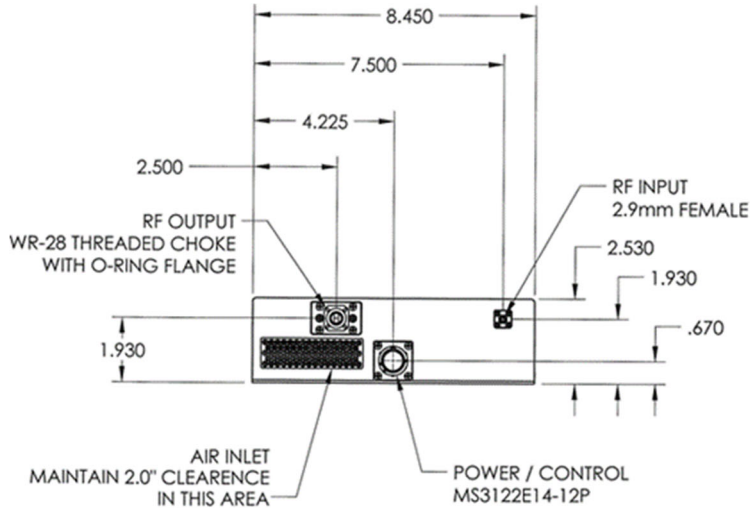


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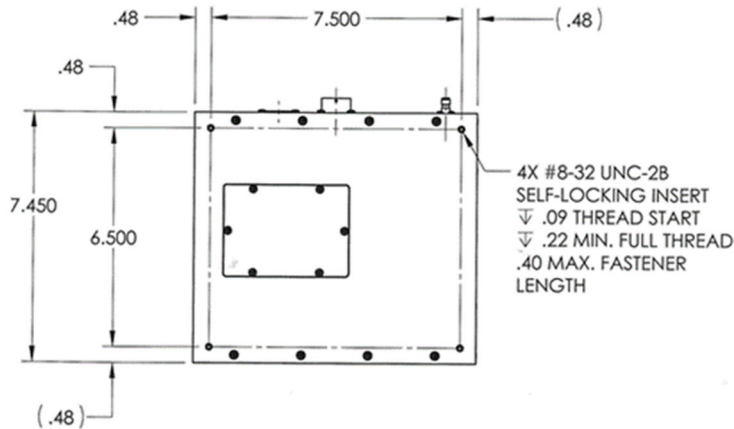
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Outline Drawing- All Dimensions in Inches

Side View



Top View



DC INPUT POWER AND CONTROL CONNECTOR			
PIN #	FUNCTION	SIGNAL	NOTES
A	HV ON/OFF COMMAND	TTL HIGH	RF 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	TTL	200 nSEC PULSE WIDTH TTL SIGNAL- POSITIVE EDGE TRIGGERED (400 kHz ± 5%)
I	N/A		
J	+28 VDC		
K	+28 VDC		
L	+28 VDC RETURN	GROUND	
M	+28 VDC RETURN	GROUND	

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