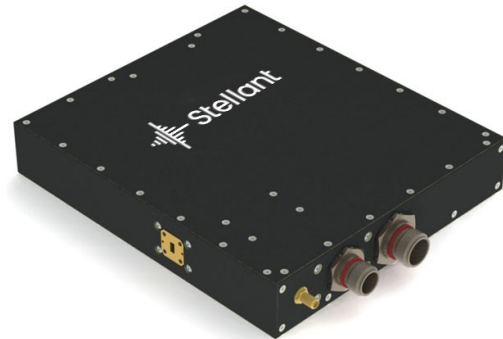


# Microwave Power Module

## M1291

The M1291 is a low-noise, compact, high-efficiency millimeter wave amplifiers for airborne, shipboard and ground military Ka-Band communications applications. This MPM contains a TWT, an SSA and a power supply. For applications requiring high linearity, an alternate version is available with 50 W of linear output power.



### SPECIFICATIONS

Performance	
Frequency	30 - 31 GHz
RF Output Power	50 W min
RF Input Power	-20 dBm max
Small Signal Gain	50 dBm min
Spurious	-45 dBc max (>1 MHz from carrier)
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

Mechanical Description	
Dimensions	See outline
Weight	10.8 lb max
RF Input Connector	29 mm (K) female
RF Output Connector	WR-28
Control Input Connector	D38999/24WC35PN
PN Power Input Connector	D38999/20WA35PN

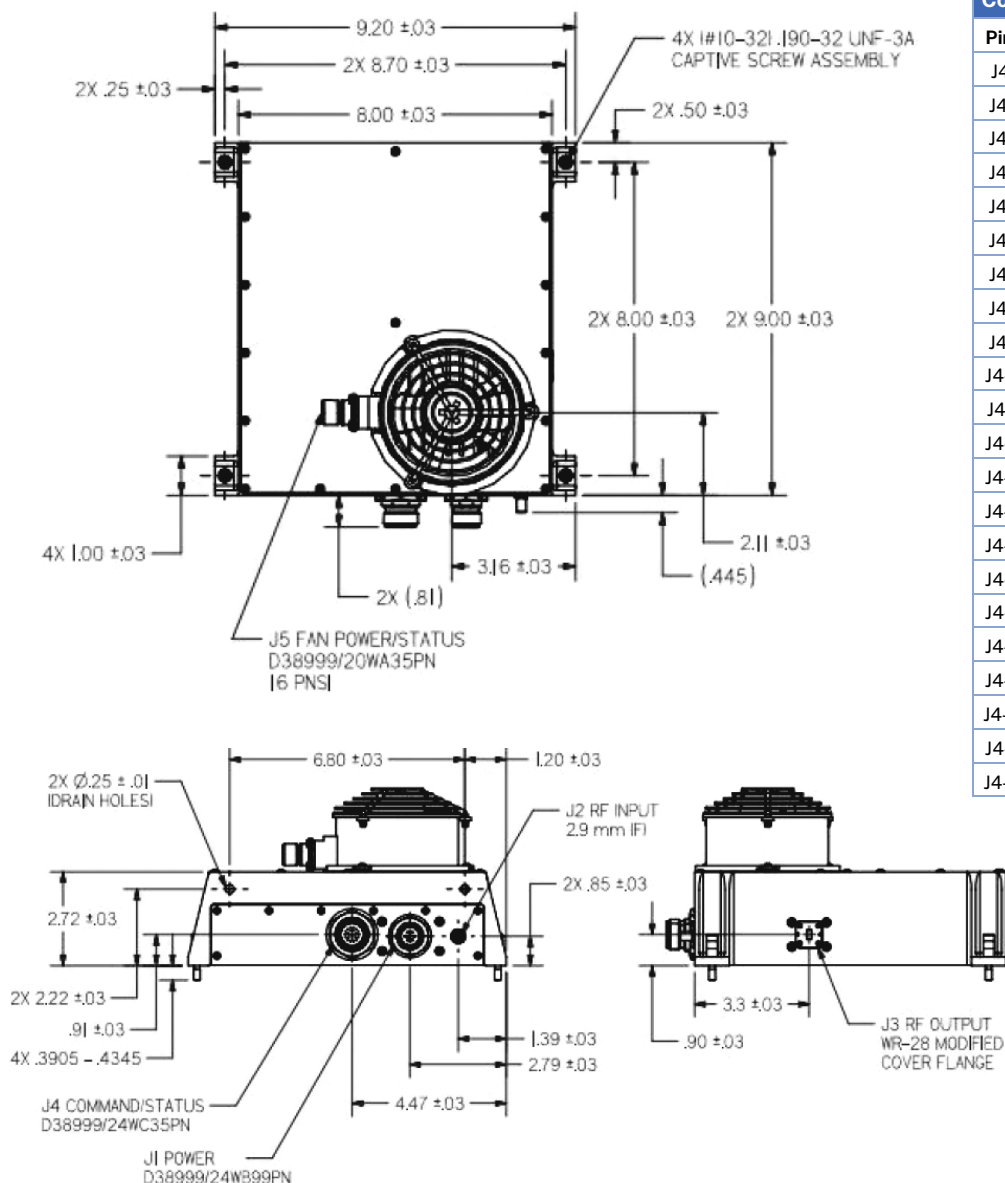
Environment	
Temperature	-40°C to +85°C
Cooling	Conduction
Altitude	50,000 ft
Humidity	Up to 100% with condensation
Shock	20 g, 11 msec
Acceleration	8 g
Vibration	+3 dB/octave from 20-80 Hz
	0.04 g <sup>2</sup> /Hz from 80-350 Hz
	-3 dB/octave from 350-2,000 Hz

Interface	
Prime power, operating	270 VDC (250 - 280 VDC) 380 max
Prime power, standby	50 W max
Controls	HV on/off, RF on/off
Digital indicators	Warm-up complete
	Fault
	High-voltage
Analog monitor	Helix current

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## M1291

### Outline Drawing



Control, Monitor and Indicator Signals		
Pin #	Function	Signal Format
J4-1	Reserved	
J4-2	Reserved	
J4-3	Analog Ground	Ground
J4-4	Spare	
J4-5	Spare	
J4-6	Spare	
J4-7	Helix Current Sense Output	Analog
J4-8	Battle Override Input	TTL
J4-9	Spare	
J4-10	Spare	
J4-11	Spare	
J4-12	Spare	
J4-13	RF Control (Blanking) Input	TTL
J4-14	Signal Return	Digital
J4-15	Signal Return	Digital
J4-16	High Voltage Indicator	TTL
J4-17	High Voltage Control Input	TTL
J4-18	MPM State (Fault) Output	TTL
J4-19	Warm-up Indicator	TTL
J4-20	Spare	
J4-21	Spare	
J4-22	Spare	

Power Connector Input		
Pin #	Function	Signal Format
J1-1	+270 VDC	Power
J1-2	+270 VDC Return	Power Return
J1-3	+270 VDC Return	Power Return
J1-4	+270 VDC	Power
J1-5	Spare	
J1-6	Spare	
J1-7	Safety Ground	Chassis Ground

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