

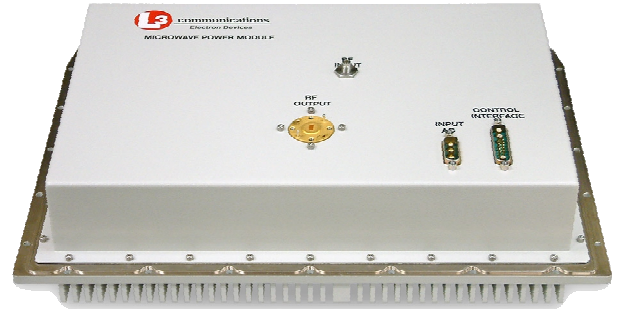


communications

Electron Devices

M1340 Q-Band Microwave Power Module

The M1340 is a Q-band Microwave Power Module capable of delivering 40 watts of RF output power over the 43.3 to 45.7 GHz frequency band for both stationary and on-the-move (OTM) satellite uplink applications. Design features include protection and control circuitry and forward/reverse RF output power monitoring. Intended for highly rugged environments, the M1340 is packaged on a finned aluminum heat sink and is designed for operation in -54° to +70°C ambient conditions. Additional input voltage (28, 270 VDC) versions are planned as are higher output power broadband model types. Please consult the factory for special subsystem packaging or reduced size/weight requirements. DS1340_0209



Frequency.....	43.3 to 45.7 GHz	Temperature	Operating:.....-54° to +70°C	
RF Input Power.....	+12 dBm typ. +18 dBm (max)		Non-Operating:-57° to +85°C	
RF Output Power.....	40 W (16dBw, 46 dBm) minimum	Humidity.....	Up to 100%, non-condensing	
Duty Cycle	100% (CW)	Altitude.....	Operating:.....Up to 10,000 ft	
Noise Power Density	-30 dBm/MHz		Non-Operating: Up to 40,000 ft	
Small Signal Gain	35 dB (min)	Vibration.....	6 grms, 20 – 2000 Hz	
Harmonics	-30 dBc (max)		MIL-STD-810, Method 514.4	
Spurious	-30 dBc (max) (AC power line)		-3 dB/octave from 80 to 200 Hz & 350 to 2000 Hz	
	-50 dBc (max) (outside of ± 1 MHz)	Shock	MIL-STD-810, Method 516.3	
Turn-On Delay	Heater120 Seconds (max)		20g, 11 mS, half sine	
	HV Turn-on...200 mS (max)	Protections.....	Cathode Under-Voltage	
Prime Power	Line frequency 50/60Hz		Cathode Warm-up	
	120 VAC +/-10%		Over Temperature	
	265 W typical, 300 W max		Line Under-Voltage	
Power Factor	0.99		Helix Over-Current	
Dimensions.....	12" x 10" x 3.5"	Control Inputs	HV on/off	(TTL, Logic 1 = ON)
Cooling	Requires forced air cooling		RF on/off.....	(TTL, Logic 1 = ON)
	100 cfm on fins (not supplied)		Battle Override	(TTL, Logic 1 = ON)
Weight	17 lbs. (max)	Control Indicators	Warm-up Indicator	(TTL, Logic 1 = timeout completed)
VSWR.....	Input:2.5:1 (max)		Operate Indicator.....	(TTL, Logic 1 = Operate)
	Output:.....2.5:1 (max)		Fault Indicator	(TTL, Logic 1 = Fault)
	Load:1.5:1 (max) (Within Spec)	Control Monitors	Helix Current Monitor	(200mV/mA)
	4.0:1 (max) (No Damage)		Forward Power Monitor	(0-5V)
Connectors	Control:.....10 pin + 3 Coax D-Sub male		Reverse Power Monitor	(0-5V)
	Power:3 pin D-Sub male			
	RF Input:.....2.4 mm female			
	RF Output:....WR-22 Waveguide			
Gain Variation	+/-1.5 dBm with constant drive, over operating temperature (max)			
Gain Stability (Time).....	+/-0.25 dB per 24hr, with constant drive & temperature (max)			
Gain Stability (Temperature)	+/-1.0 dB, over operating temperature, with constant drive (max)			

Cleared by DOD/OSR for public release
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