

VMLNA-50M/10G-21-8-SMAF

FEATURES

- ◆ Frequency Range: 50MHz ~ 10GHz
- ◆ Gain: 21dB Typ.
- ◆ Noise Figure: 1.8dB Typ.
- ◆ Output P1dB: +20dBm Typ.
- ◆ Power Supply: +8V ~ +12V
- ◆ 50 Ω Input/Output Impedance Matching



TYPICAL APPLICATIONS

- ◆ Wireless network infrastructure
- ◆ Broadband Signal Reception
- ◆ RF/Microwave Communication Networks
- ◆ Small Signal Linearity Enhancement
- ◆ Laboratory Test Assistance
- ◆ VSAT Satellite Communication Systems

RF PERFORMANCE

Parameter	Min.	Typ.	Max.	Unit
Frequency Range	0.05	-	10	GHz
Gain	-	21	-	dB
Gain Flatness	-1.5	-	+1.5	dB
P1dB Output Power	-	20	-	dBm
Noise Figure	1.1	1.8	2.7	dB
Input VSWR	-	1.6	2.7	:1
Output VSWR	-	1.4	2.0	:1
Isolation	35	-	-	dB
Input Power Range	-	-	7	dBm
Supply Voltage	-	8	-	V
Supply Current	-	85	-	mA@8V
Operating Temperature	-40	25	+85	°C
Port Impedance	-	50	-	Ω
Weight	-	36	-	g
Input/Output Connectors	Stainless Steel - SMA Female			/
Material	Aluminum Alloy Housing + Conductive Oxidation Sandblasting			/

ABSOLUTE MAXIMUM RATINGS

Parameter	Max. Rating
Maximum Operating Voltage	+15V
Maximum Input Power	+7dBm

Note: Output must not be open or short-circuited.

POWER ON/OFF SEQUENCE

Biasing Up Procedure

- Step 1 Connect GND PIN.
- Step 2 Connect input and output of the LNA.
- Step 3 Connect +8V voltage.
- Step 4 Apply power to the input.
- Step 5 Check if the LNA current is normal.

Note: If the current is abnormal during the power-up process, disconnect the RF input and power supply immediately.

Power OFF Procedure

- Step 1 Disconnect the LNA input power.
- Step 2 Turn off the +8V power supply.
- Step 3 Disconnect the ground connection.

ENVIRONMENTAL SPECIFICATIONS

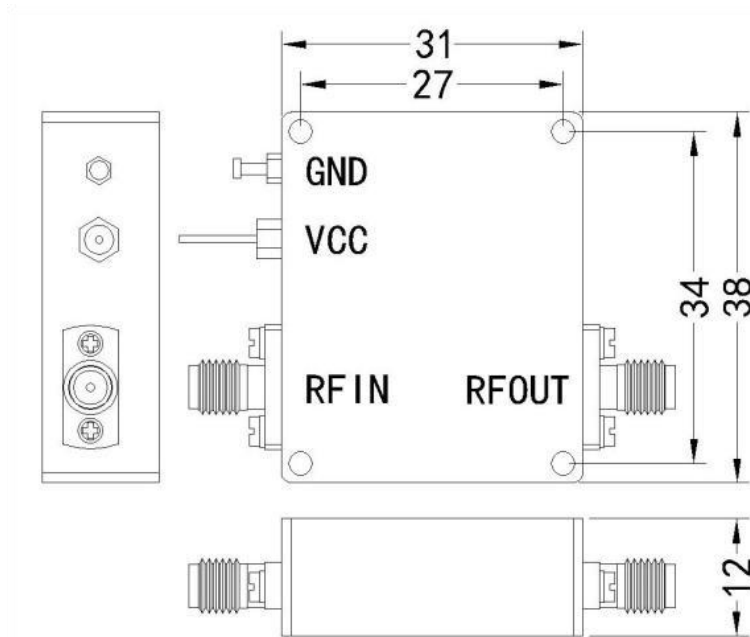
Parameter	Function
Operating Temperature	-40℃ ~ +85℃
Storage Temperature	-25℃ ~ +65℃
Altitude	30,000 feet (Epoxy sealed controlled environment)
	60,000 ft. 1.0psi min (Sealed non-controlled environment) (Optional)
Vibration	25g RMS (15 minutes, 2KHz) endurance time, 1 hour per axis
Humidity	100% Relative Humidity at 35℃, 95% Relative Humidity at 40℃
Shock	20G for 11 milliseconds half-sine wave, 3 axes bidirectional

Note: Exceeding the above limits may degrade performance or cause permanent damage to the device.

Special Statement: Before powering on the module, a load must be connected to the RF output port, otherwise it may cause permanent damage to the module. Maintain a good heat dissipation environment for optimal performance.

OUTLINE DRAWING

Unit: mm



TYPICAL PERFORMANCE CURVES

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

