

Wide Band EMC Benchtop Power Amplifier 18GHz ~26.5GHz



Features

- Wideband Power Amplifier
- Gain: 48dB
- Output Power +44dBm typical
- Supply Voltage: 110V/220V AC

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, $T_A = +25^{\circ}\text{C}$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	18		26.5	GHz
Gain	45	48		dB
Gain Flatness		± 5		dB
Gain Variation Over Temperature ($0^{\circ}\text{C} \sim +50^{\circ}\text{C}$)		± 3		dB
Input VSWR		2		:1
Output 1dB Compression Point (P1dB)		40		dBm
Saturated Output Power (Psat) (CW)		44		dBm
Isolation S12		60		dB
Supply Current (110V/ 220V AC)		2		A
Efficiency at Psat		10		%
Weight	-			ounces
Impedance	50			Ohms
Input / Output Connectors	Input SMA-Female/Output WR42			
Finish	Black Painted Finish			

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Absolute Maximum Ratings

Operating Voltage	230VAC
RF Input Power	+5dBm

Biasing Up Procedure

Step 1	Connect input and output with 50 Ohm source/load. (in band VSWR<1.9:1 or >10dB return loss)
Step 2	Turn on AC power
Step 3	Enable RF output
Power OFF Procedure	
Step 1	Turn off RF output power
Step 2	Turn Off AC power
Step 3	Disconnect input and output

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	0°C~+50°C (Ambient Temperature)
Storage Temperature	-40°C~+85°C
Thermal Shock	0°C → +50°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +50°C for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

Ordering Information

Part No.	Description
RAMP18G26GB	18-26.5GHz Power Amplifier

Amplifier Use

Ensure that the amplifier input and output ports are safely terminated into a proper 50 ohm load before turning on the power. Never operate the amplifier without a load. A proper 50 ohm load is defined as a load with impedance less than 1.9:1 or return loss larger than 10dB relative to 50 Ohm within the specified operating band width.

Power Supply Requirements

Power supply must be able to provide adequate current for the amplifier. Power supply should be able to provide 1.5 times the typical current or 1.2 times the maximum current (whichever is greater).

In most cases, RF - Lambda amplifiers will withstand severe mismatches without damage. However, operation with poor loads is discouraged. If prolonged operation with poor or unknown loads is expected, an external device such as an isolator or circulator should be used to protect the amplifier.

Ensure that the power is off when connecting or disconnecting the input or output of the amp.

Prevent overdriving the amplifier. Do not exceed the recommended input power level.

Adequate heat-sinking required for RF amplifier modules. Please inquire.

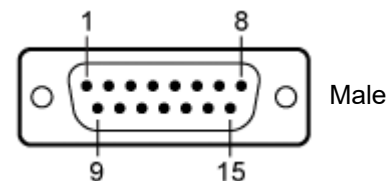
Amplifiers do not contain Thermal protection, Reverse DC polarity or Over voltage protection with the exception of a few models. Please inquire.

Proper electrostatic discharge (ESD) precautions are recommended to avoid performance degradation or loss of functionality.

What is not covered with warranty?

Each RF - Lambda amplifier will go through power and temperature stress testing. Since the die, ICs or MMICs are fragile, these are not covered by warranty. Any damage to these will NOT be free to repair.

User Control Connector on Rear Panel



Pin #	Name	Function	Initial State	Description	Applied
1	Reset	Control		Resets PA when logic <u>LOW</u> is applied and released	Yes
2	Driver Disable	Control	LOW	Applying logic <u>HIGH</u> disables driver of amplifiers	Yes
3	Drain Disable	Control	LOW	Applying logic <u>HIGH</u> disables drain of amplifiers	Yes
4	RF IN Over	Indicator	LOW	Pin will be latched to logic <u>HIGH</u> when input signal is over limit	No
5	Temp Over	Indicator	LOW	Pin will be latched to logic <u>HIGH</u> when amplifier is driven over temperature	Yes
6	Current Over	Indicator	LOW	Pin will be latched to logic <u>HIGH</u> when drain current limit is reached	Yes
7	ID Imbalance	Indicator	LOW	Pin will be latched to logic <u>HIGH</u> when an imbalance in the drain current of the combining branches occurs	Yes
8	PA input power	Indicator		PA input power is represented by voltage	No
9	PA output power	Indicator		PA output power is represented by voltage	No
10	PA output reflection power	Indicator		PA output reflection power is represented by voltage	No
11	VSWR	Indicator	LOW	Pin will be latched to logic <u>HIGH</u> when output reflection is over limit	No
13	+5V	Power Supply	+5V	+5V DC is supplied for reference	Yes
14	GND	Ground	GND	Ground	Yes
15	GND	Ground	GND	Ground	Yes

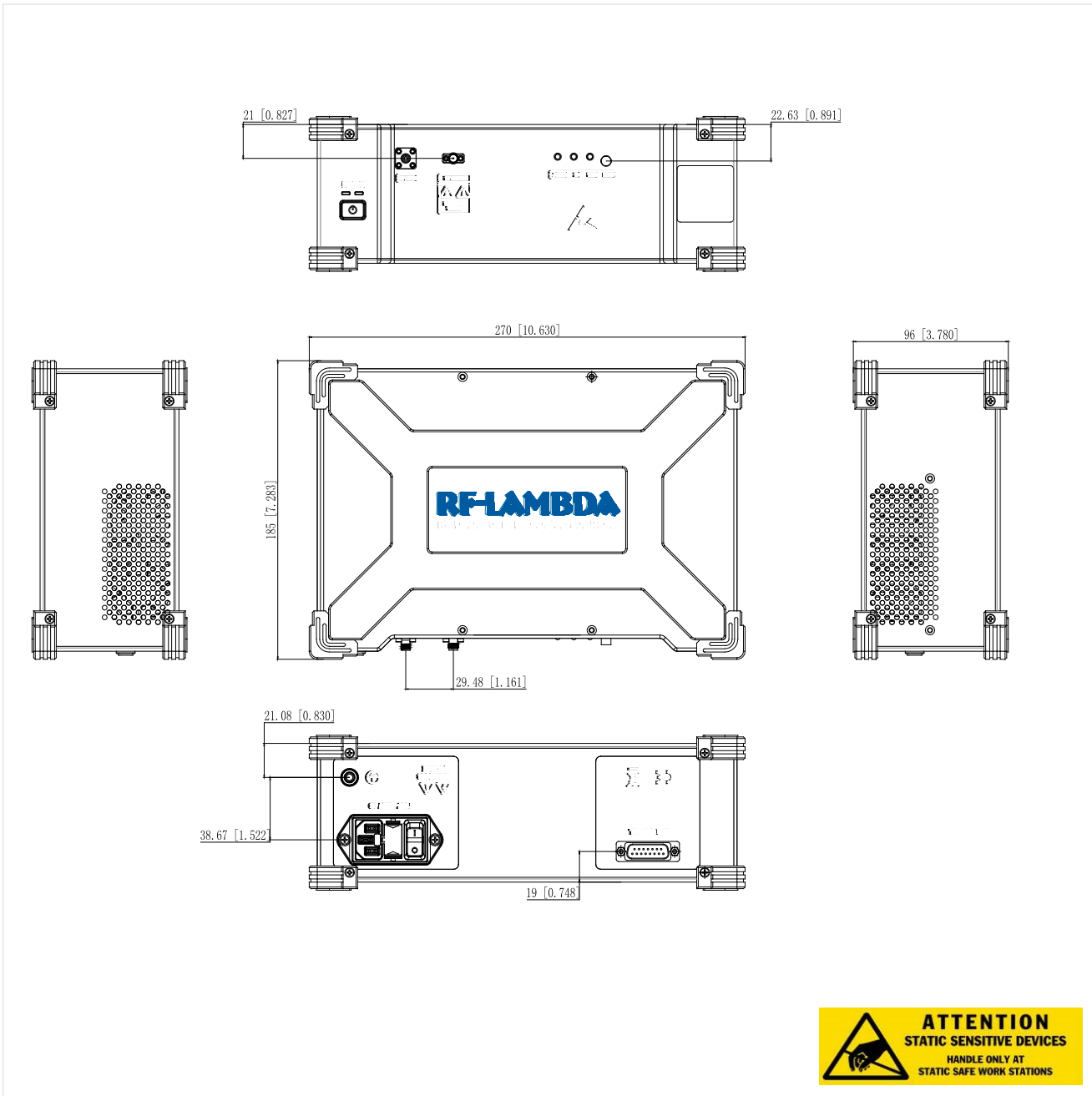
HIGH/LOW voltages are standard TTL signals:
0.0V-0.8V = LOW
2V-5V = HIGH

Notes:

DB15 cable is configured for power connection port by default(RFCBLADB15)

Amplifier Outline Drawing:

All Dimensions in mm [inches]



Important Notice

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