RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFLUPA02G06GB

Wide Band High Power
Solid State Power Amplifier 2GHz~6GHz

RoHS Compliant

Features

- Gain: 42 dB min
- Output power +47dBm typical
- High P1dB: +45dB m Full Band
- Supply Voltage: +28V @ 7 Amax
- 50 Ohm Matched Input / Output
- Size: 13.19" x 16.14" x2.34"

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test Instrument
- Fiber Optics

Electrical Specifications, TA = +25°C, Vcc = +28V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	2		6	GHz
Gain	41	50	53	dB
Gain Flatness		±5		dB
Gain Variation Over Temperature (-45 ~ +85)		±6		dB
Input Return Loss		10		dB
Output Power for 1 dB Compression (P1dB)	44	45		dBm
Saturated Output Power (Psat)		46		dBm
Isolation S12		/		dB
DC Quiescent Current (No RF Input Power)		7000	8000	mA
DC Current (Vcc=+28V) at Pout=P1dB				A
Efficiency at P1dB (RF Output Power / DC Power Consumption)	25	30		%
Max Input Power (No damage)			8	dBm
Weight	/			ounces
Impedance	50			Ohms
Input / Output Connectors	SMA - Female			
Finishing	Standard: Black Paint			
	Option: Gold 80 micron; Nickel 180 micron thickness			
Material	Aluminum/copper			
Package Sealing	Epoxy Sealing (Standard)			
	Hermetically Seal (Option with extra charge)			

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Control and Alarm Indicators

#	NAME	Function	TYPE	Color	DESCRIPTION
1	RESET	Control	INPUT	-	Front Panel Manual reset button
2	HV_ON	Control	INPUT	-	PA will be turned on when button is pressed. PA will be turned off when pressed again.
3	POWER	Indication	Display	Red	When PA is turned on , this LED will be red.
4	PIN	Indication	Display	Red	PA will first shut down and LED will be red when input overdrive condition is detected.
5	TEM	Indication	Display	Red	PA will first shut down then LED will be red when over temperature condition is detected
6	ID	Indication	Display	Red	PA will first shut down then LED will be red when Current Limit is reached
7	FWD	Indication	Display	Red	PA will first shut down then LED will be red upon output power overdrive
8	REV	Indication	Display	Red	PA will first shut down then LED will be red when high reverse power is detected

Application Note

Steps for Use

Step 1. RF Input and output ports must be fully connected or terminated with 50 ohm impedance. The input RF signal must be turned off.

Step 2. After connecting the +28V DC bias, the current drawing should be about 50~100mA, all LEDs lights should be green.

Step 3. Push HV-ON button and then release. The LED PWR should change from “Green” to “Red”, and +28V Power Supply should draw 0.5~0.8A. At this point, PA is fully ready for operation.

Step 4. Turn on RF Input power.

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 of RF-Lambda amplifiers will go through power and temperature stress testing.
Due to fragile of the die, IC or MMIC, those are not covered by warranty. Any damage to those will NOT be free to repair.

Absolute Maximum Ratings

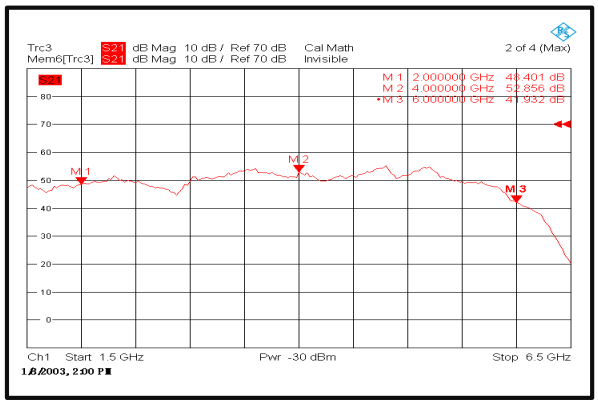
Operating Voltage	+32V
RF Input Power	8dB m

Environmental Specifications

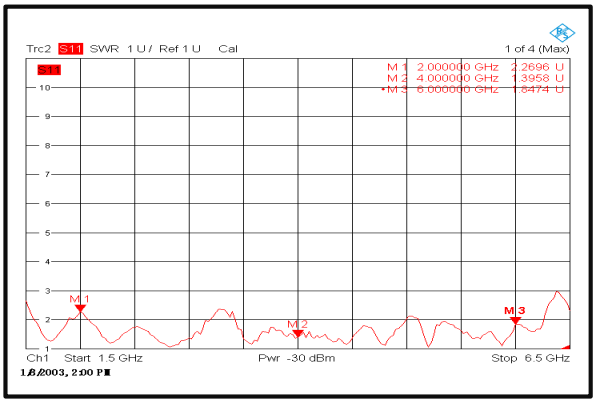
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msec half sine wave, 3 axis both directions

Typical Performance Plots

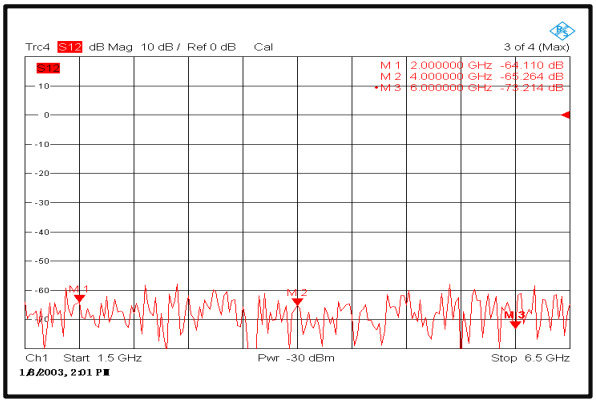
Gain



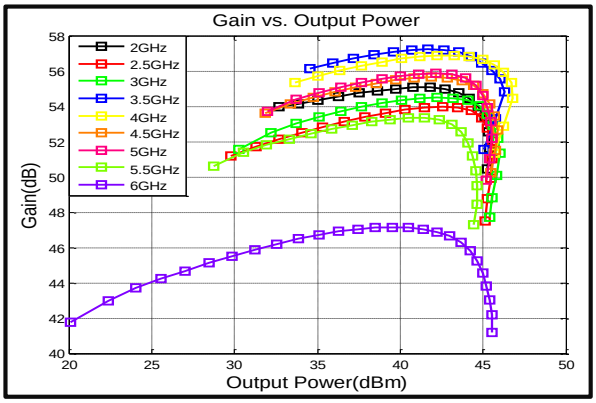
Input VSWR



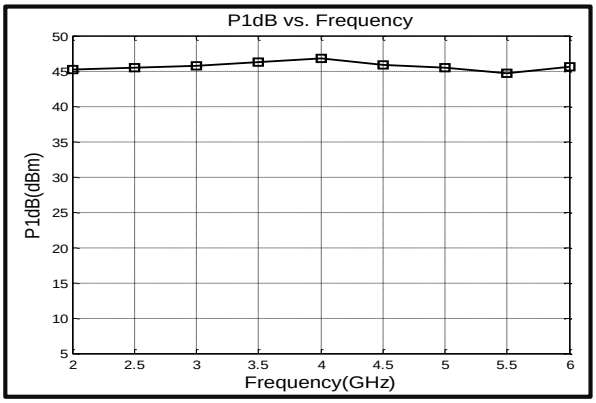
Isolation



Gain vs. Output Power



P1dB vs. Frequency



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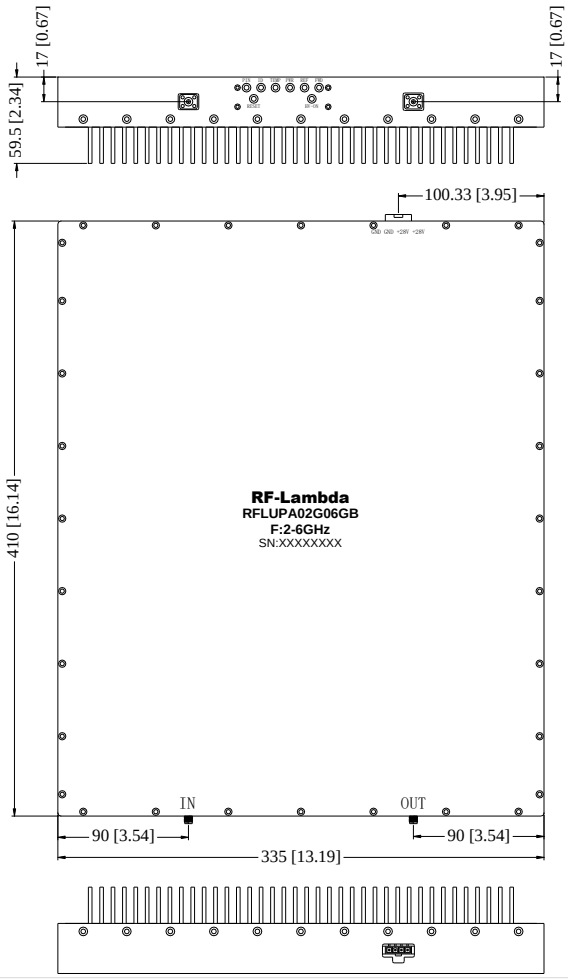
Outline Drawing:

All Dimensions in mm[inches]
Heat Sink required during operation



Ordering Information

Part No.	ECCN	Description
RFLUPA02G06GB	EAR99	2-6GHz Power Amplifier

Important Notice

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