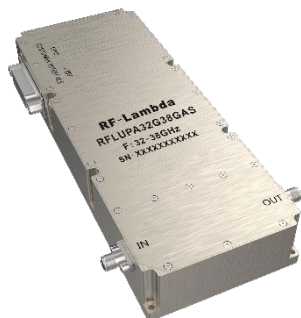


Wide Band Solid State Power Amplifier 37GHz ~ 43GHz



Note: The photo is for illustration purposes only.
Please refer to the outline drawing

Features

- Solid State Power Amplifier
- Gain: 45dB typical
- Output Power: +38.5dBm typical
- Supply Voltage: +28V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

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

Parameter	Min.	Typ.	Max.	Units
Frequency Range	37		43	GHz
Gain	42	45		dB
Gain Flatness		±4.0		dB
Gain Variation Over Temperature (-40°C~+70°C)		±3.0		dB
Input VSWR		2.0		: 1
Output 1dB Compression Point (P1dB)		34		dBm
Saturated Output Power (Psat) CW		38.5		dBm
IM3		-30		dBc
Isolation S12		-65		dB
Supply Current (Vcc=+28V)		3	5	A
Amplifier Weight	/			ounces
Weight (Including Heat sink)	/			ounces
Impedance	50			Ohms
Input / Output Connectors	2.4mm-Female			
Finish	Nickel Plated			
Material	Aluminum / Copper			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

Absolute Maximum Ratings

Operating Voltage	+30V
RF Input Power	+5dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +28V biasing
Power OFF Procedure	
Step 1	Turn off +28V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C~+70°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°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 +85°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
RFLUPA37G43GAS	37-43GHz 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.

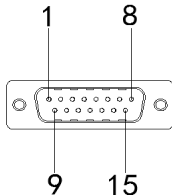
Amplifiers do not contain Thermal protection, Reverse DC polarity or Over voltage protection with the exception of a few models. Please inquire.

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.

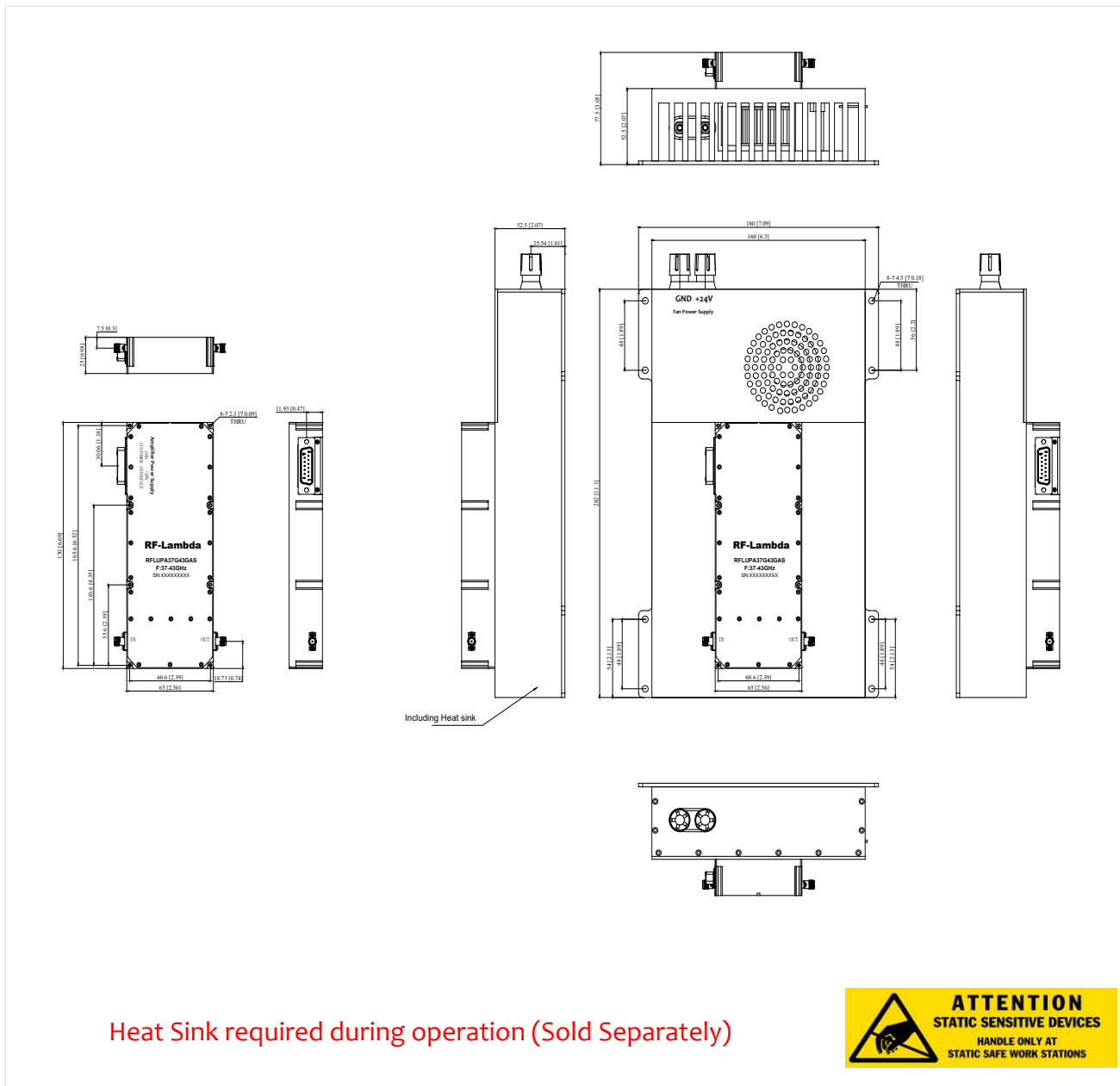
Interface Connector

D-sub 15					
PIN #	NAME	FUNCTION	Initial State	Description	Applied
1	RESET	Control	HIGH	Resets PA when logic LOW is applied and released (Internally Pulled-High +3.3V)	Yes
2	AMP_OFF	Control	LOW	Applying logic HIGH disables Positive Supply Voltage of amplifiers	Yes
3	GATE_OFF	Control	LOW	Applying logic HIGH disables gates of amplifiers	Yes
4	TEMP_SIGNAL	Indicator		Display temperature signal	Yes
5	+5V_USER	Power Supply	+5V	Supply +5V power to user	Yes
6,7,8	GND	Ground	GND	Ground	Yes
9	Current Over	Indicator	LOW	Pin will be latched to logic HIGH when Current Limit is reached	Yes
10	Temp Over	Indicator	LOW	Pin will be latched to logic HIGH when driven over Temperature	Yes
11	RF IN Over	Indicator	LOW	Pin will be latched to logic HIGH when input signal is over limit	Yes
12	NC				No
13	NC				No
14,15	VDD	Power Supply	+28V	+28V DC is supply Voltage	Yes

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

Outline Drawing:

All Dimensions in mm [inches]



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Important Notice

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