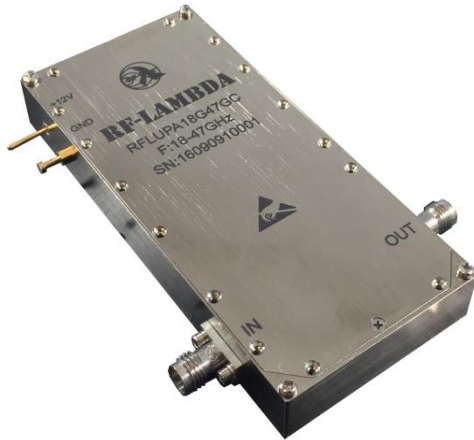




**Wide Band Power Amplifier  
18GHz~45GHz**



**Features**

- Gain: 35dB typical
- Output power +26dBm typical
- High P1dB: +24 dBm Full Band
- Supply Voltage: +12V
- 50 Ohm Matched Input / Output

**Typical Applications**

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

The photo is only to show the package type.  
The actual part will be screened with RFLUPA18G45GCK and Vcc = +12V

**Electrical Specifications, TA = +25°C, Vcc = +12V**

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	18		26	26		40	GHz
Gain	30	35		32	38		dB
Gain Flatness		±3.0			±2.5		dB
Gain Variation Over Temperature (-45 ~ +85)		±1.5			±1.5		dB
Noise Figure		5.0	6.0		5.5	7.5	dB
Input VSWR		2.0	2.5		2.3	3.0	: 1
Output 1 dB Compression Point (P1dB)	24	26		24	28		dBm
Saturated Output Power (Psat)		27			29		dBm
Output Third Order Intercept (IP3)		34			34		dBm
Isolation S12		-55			-50		dB
Supply Current (Vcc=+12V)		560	1100		560	1100	mA
Weight	10.7						ounces
Impedance	50						Ohms
Input / Output Connectors	2.92mm - Female						
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum / Copper						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Sealed (Optional)						

**Wide Band Power Amplifier 18GHz~45GHz**



**Absolute Maximum Ratings**

Operating Voltage	+13V
RF Input Power (RFIN)	+14dB m

**Biassing Up Procedure**

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
<b>Power OFF Procedure</b>	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

**Ordering Information**

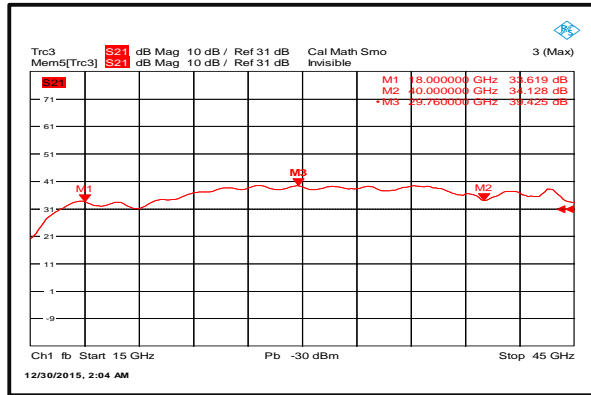
Part No.	ECCN	Description
RFLUPA18G45GCK	EAR99	18-45GHz Power Amplifier

**Environmental Specifications**

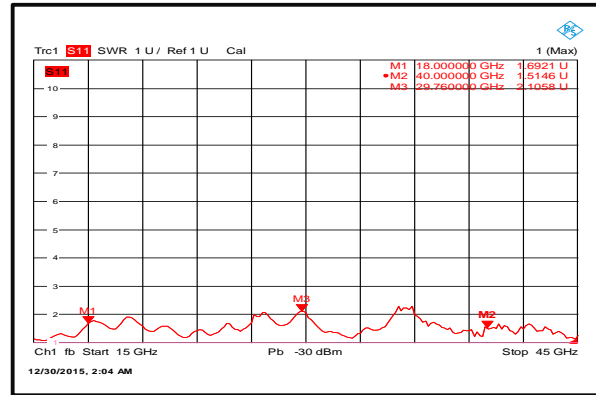
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

**Typical Performance Plots**

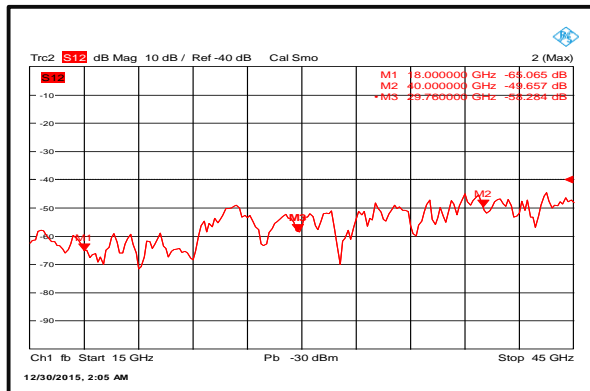
**Gain**



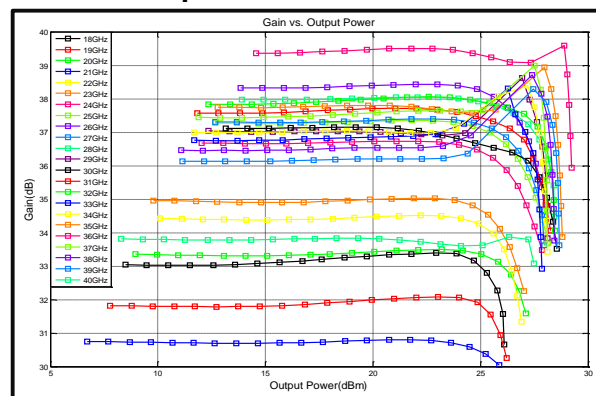
**Input VSWR**



**Isolation**



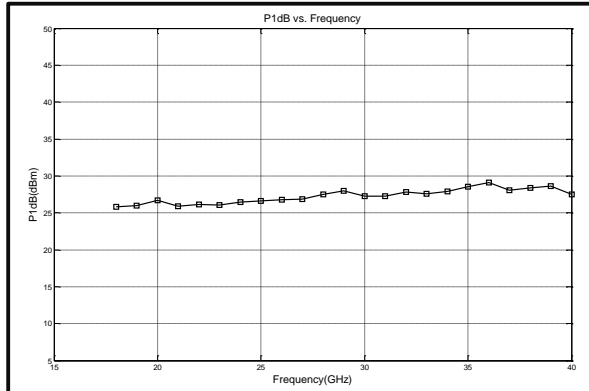
**Gain vs. Output Power**



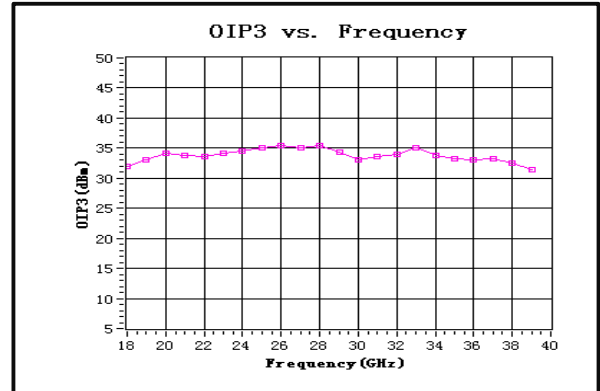
**Wide Band Power Amplifier 18GHz~45GHz**



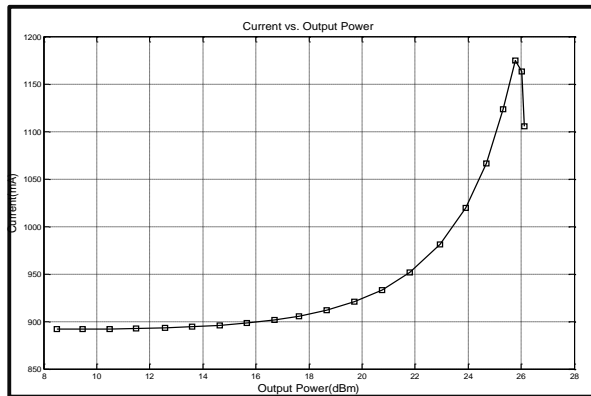
### P1dB vs. Frequency



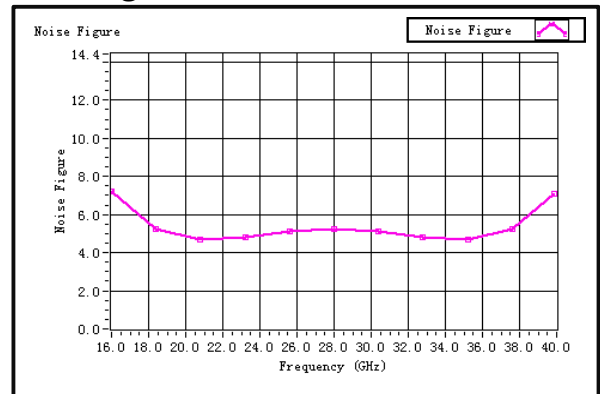
### Output Third Order Intercept (IP3)



### Current



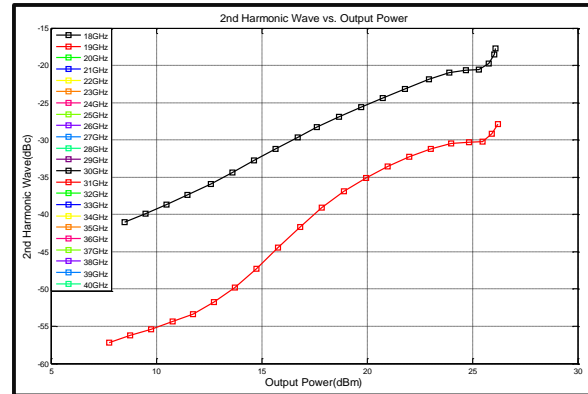
### Noise Figure



Wide Band Power Amplifier 18GHz~45GHz



### 2nd Harmonic Wave Output 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 RF - Lambda amplifier will go through power and temperature stress testing.

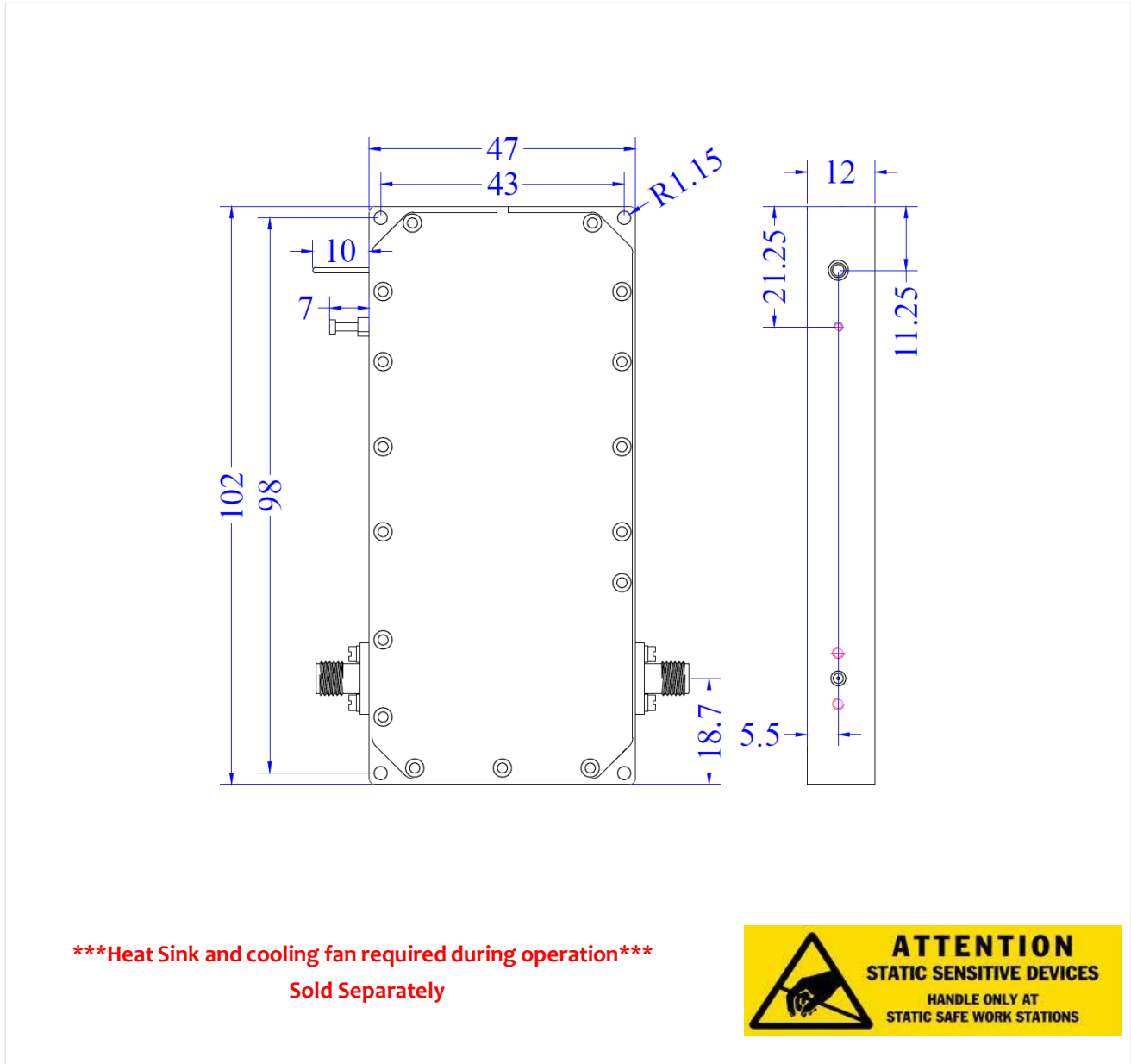
Since the die, ICs or MMICs are fragile, these are not covered by warranty. Any damage to these will NOT be free to repair.

Wide Band Power Amplifier 18GHz~45GHz



**Amplifier Outline Drawing:**

All Dimensions in mm



Wide Band Power Amplifier 18GHz~45GHz

**Important Notice**

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.