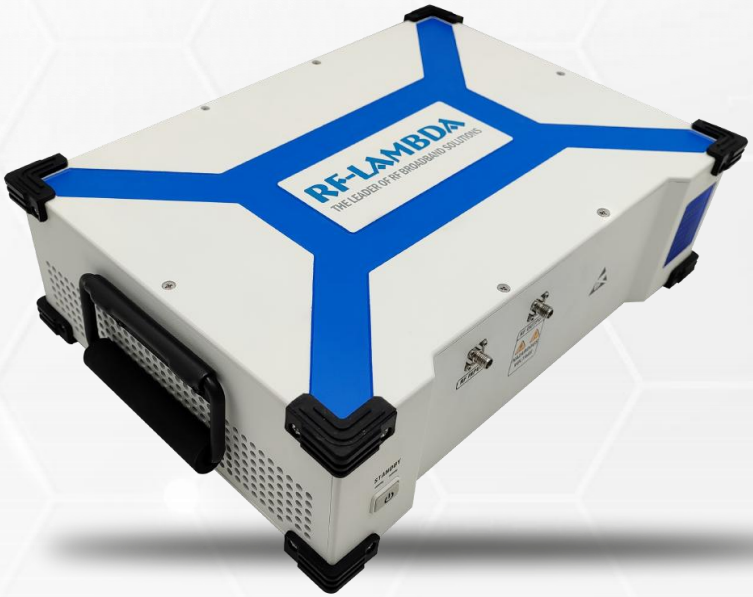
RF-LAMBDA
THE LEADER OF RF BROADBAND SOLUTIONS

10W Ultra Wide Band Bench Top Power Amplifier 26GHz – 40GHz

RAMP26G40GA



Note: Photo is for illustration purposes only. Please refer to outline drawing.

Sales: sales@rflambda.com
Technical: support@rflambda.com

Rev 5. 03-04-2026 | Subject to change without notice

PRODUCT SUMMARY

PRODUCT OVERVIEW

GENERAL DESCRIPTION

RAMP26G40GA is an ultra wide band AC power amplifier with a frequency range of 26 to 40GHz.

The power output of this amplifier is 39dBm typical. The typical small signal gain is 52dB with a flatness of ±5.0dB. The power amplifier's input connector is 2.92mm-Female and Output connector is 2.92mm-Female. The operating temperature of this product is within -30°C to +70°C.

FEATURES

- Ultra Wide Band Bench Top Power Amplifier
- Small Signal Gain 52dB Typical
- Output Saturation Power 39dBm Typical
- Supply Voltage 110/220 VAC
- 50 Ohm Matched Input / Output
- High peak to average handling capability
- High linearity
- Convenient AC Power Input
- Integrated Heat Sink and Fan

TYPICAL APPLICATIONS

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

QUALITY STANDARDS

ESD Policy

https://rflambda.com/pdf/rflambda_esd_control.pdf

Random Vibration Test Standard

https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Connector Torque Specifications

https://www.rflambda.com/pdf/Torque_Specifications.pdf

Parameter	Description
Operational Temperature	-30°C to +70°C (Case Temperature)
Thermal Shock	-40°C to +85°C (5 Cycles / 10 hours, Only internal modules tested prior to final assembly)
*Random Vibration	MIL-STD-202G, Table 214-I, Test Condition Letter C, 1.5 Hours Per Axis
High Temperature Burn In	Temperature +70°C for 72 Hours
Storage Temperature	-50°C to +105°C

*For vibration testing details please see additional information section.

RF-Lambda is ISO: 9000 certified with 25,000 ft^2 combined R&D and production space, including an ISO7 10K Clean Room to meet ISO-14644-1.

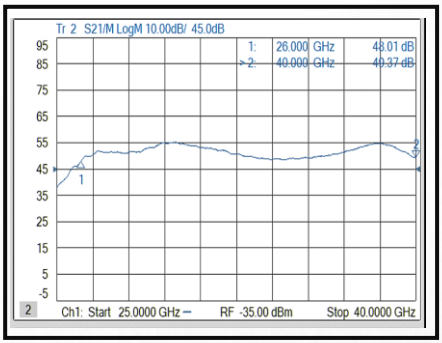
TECHNICAL DATA SPECIFICATIONS

Parameter		Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		26		30	30		40	GHz
Small Signal Gain		45	52	58	45	52	58	dB
Gain Flatness			±5.0	±6.0		±5.0	±6.0	dB
Gain Variation Over Temperature (-30°C to 70°C)			±6.0			±6.0		dB
Input Return Loss			10			10		dB
Output 1dB Compression Point (P1dB)			35.5			39		dBm
Saturated Output Power (Psat)		37.5	39		38.5	40		dBm
Supply Current (AC=220V)			0.47			0.47		A
Isolation S12			-55			-55		dB
Turn On/Off Speed (Switch Disable)	ON			150				ns
	OFF			100				ns
Turn On/Off Speed (Drain Disable)	ON			200				us
	OFF			100				us
Turn On/Off Speed (Gate Disable)	ON			1000				us
	OFF			30				us
Weight				12.8 Max				lbs.
Impedance				50				Ohms
***RF Input Power (RFIN)**				Psat – Large Signal Gain				
Supply Voltage				110 to 240				VAC

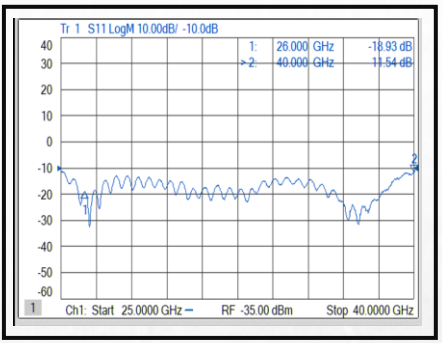
*Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier. Please reference gain and power curves.

TYPICAL PERFORMANCE PLOTS

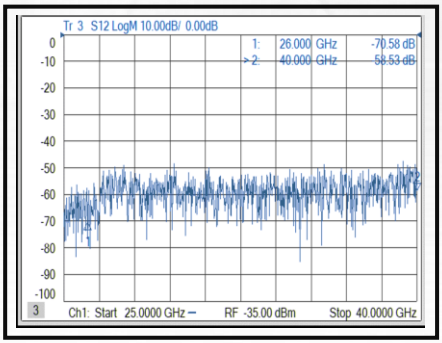
Gain @+25℃



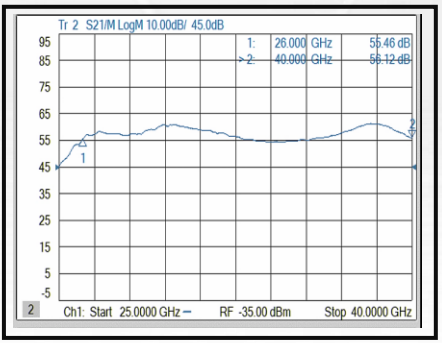
Input Return Loss@+25℃



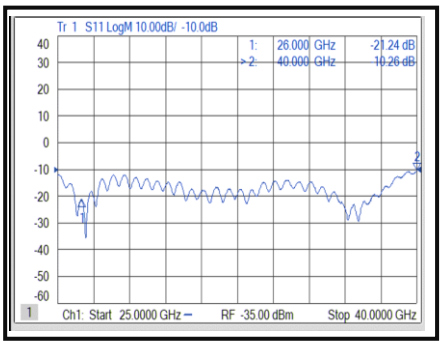
Isolation @+25℃



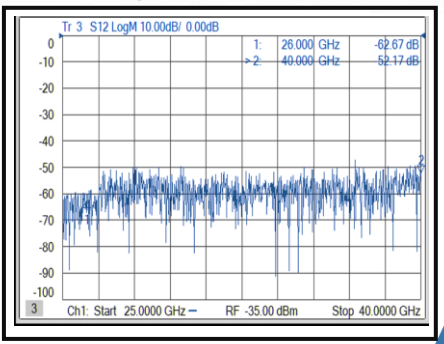
Gain@-30℃



Input Return Loss@-30℃



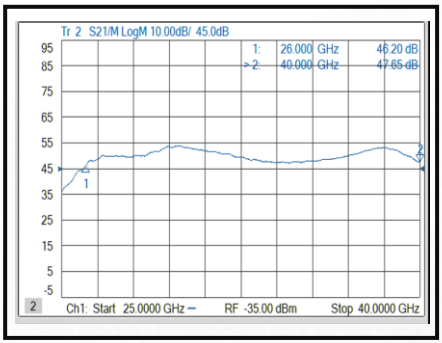
Isolation@-30℃



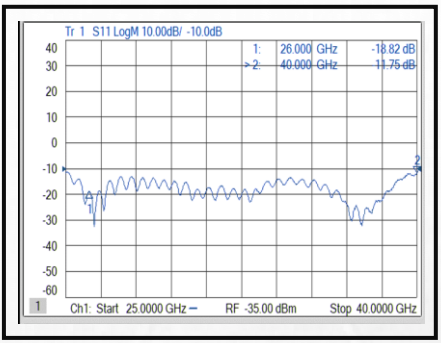
Note: Small signal VNA measurements include attenuators to protect equipment.

TYPICAL PERFORMANCE PLOTS

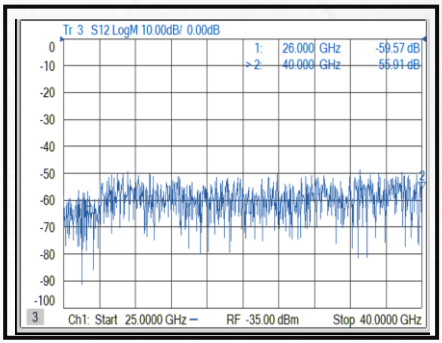
Gain@+70℃



Input Return Loss @+70℃



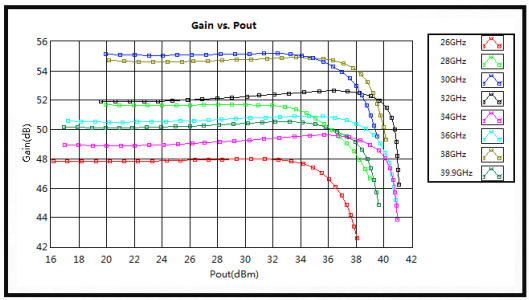
Isolation@+70℃



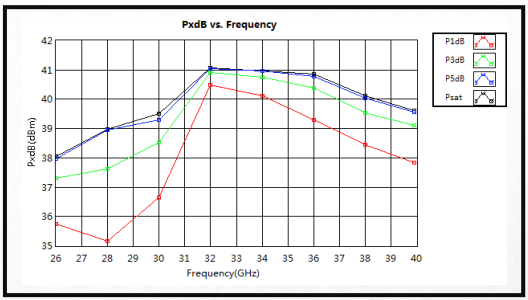
Note: Small signal VNA measurements include attenuators to protect equipment.

TYPICAL PERFORMANCE PLOTS

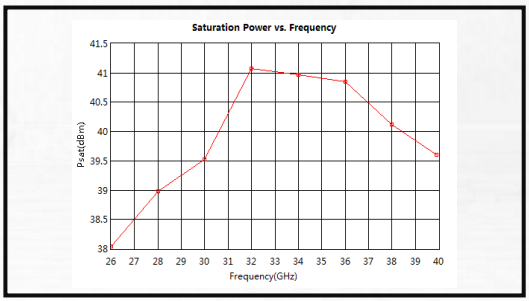
Gain vs. Output Power CW



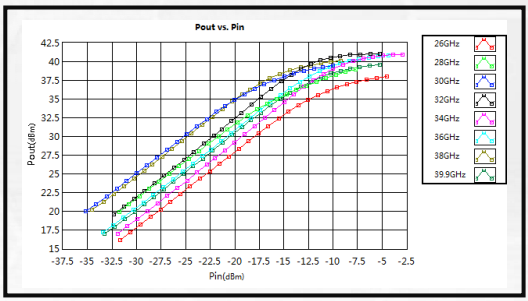
PndB vs. Frequency CW



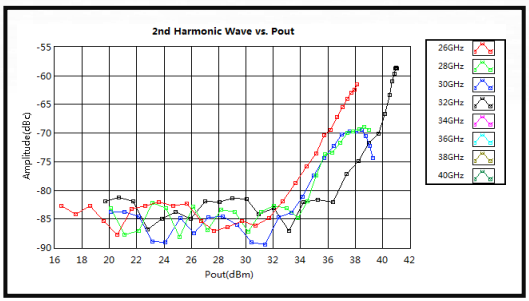
Saturation Power vs. Frequency CW



Pout vs. Pin

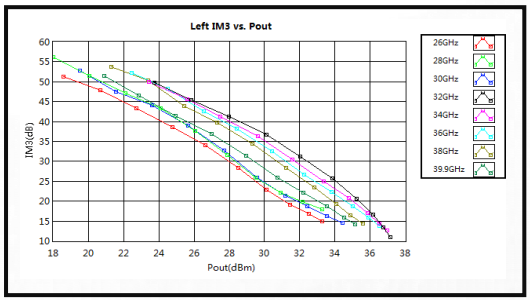


2nd Harmonics

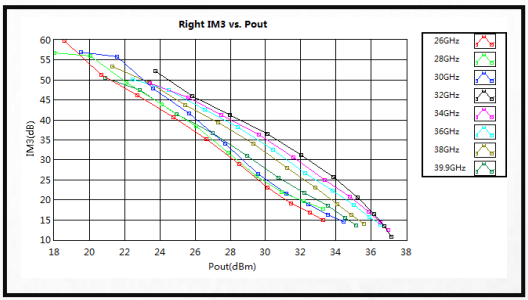


TYPICAL PERFORMANCE PLOTS

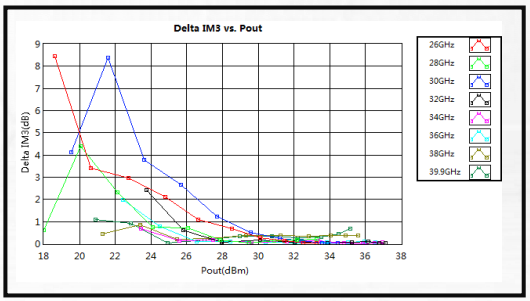
Left IM3 vs. Pout



Right IM3 vs. Pout

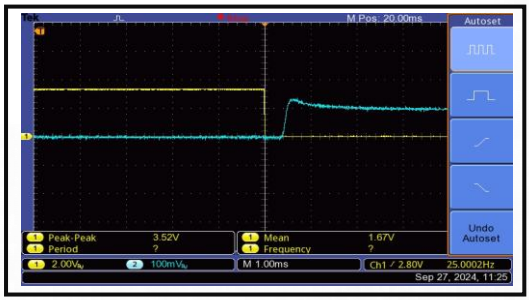


Delta IM3 vs. Pout

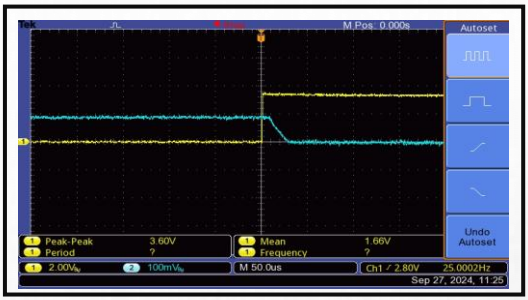


TYPICAL PERFORMANCE PLOTS

The Gates Open Time is 1 ms

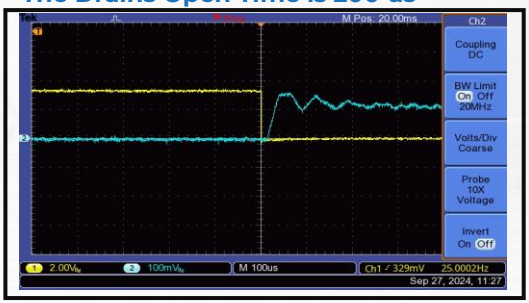


The Gates Closure Time is 30 us

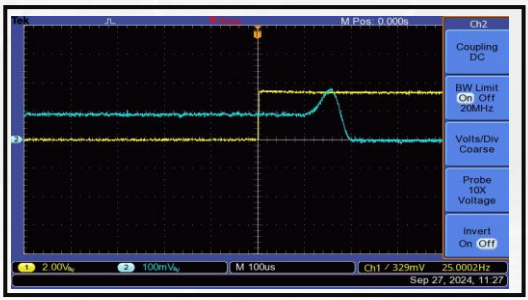


The gate control port：D-sub 15 PIN #6 (GATE_OFF).
The yellow curve is the gate control signal, the blue curve is RF output envelope.

The Drains Open Time is 200 us

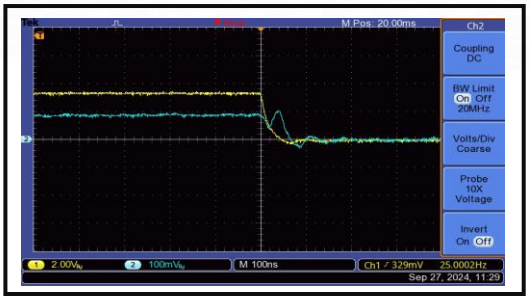


The Drains Closure Time is 100 us

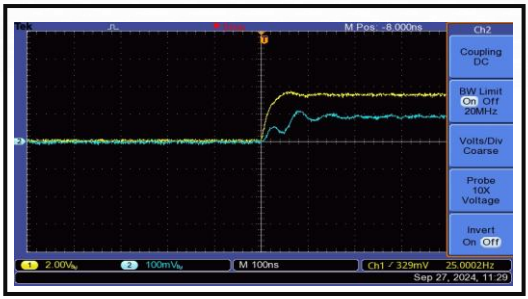


The drain control port：D-sub 15 PIN #7 (Drain _OFF).
The yellow curve is the drain control signal, the blue curve is RF output envelope.

The RF Switch On Time is 100 ns

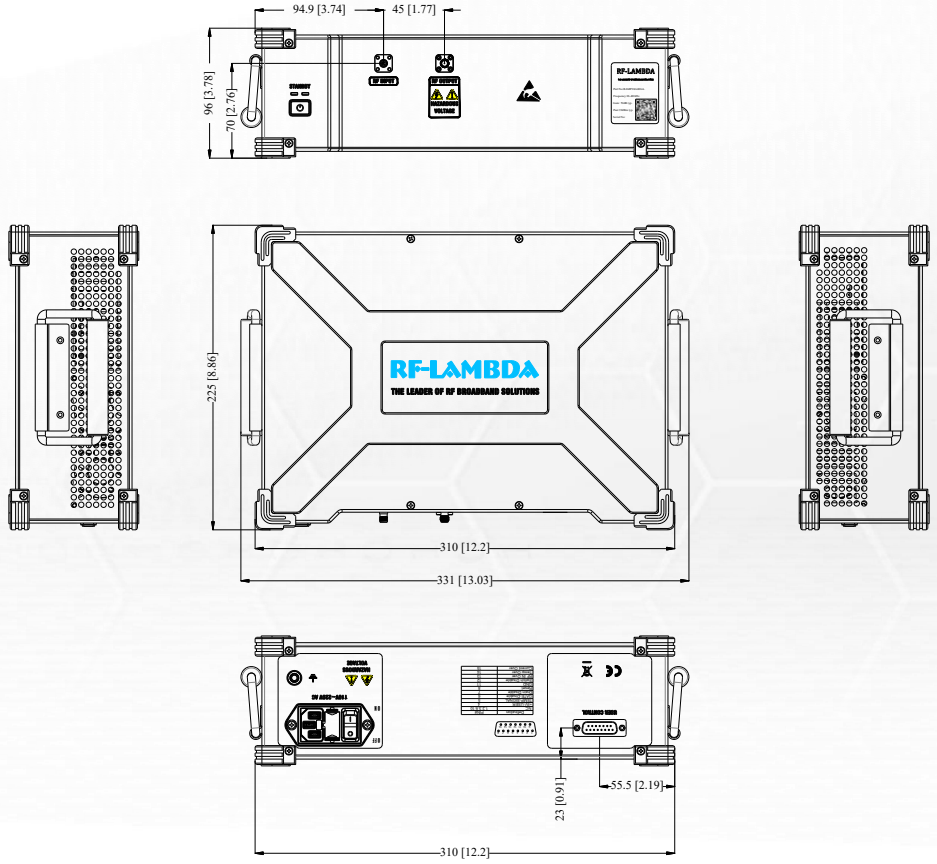


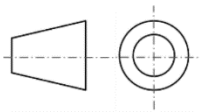
The RF Switch Off Time is 150 ns



Switch control port: D-sub 15 PIN #12 (RF_Switch_Off) .
The yellow curve is the switch control signal, the blue curve is RF output envelope.

OUTLINE DRAWING

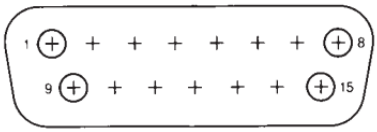




Notes:
1. Package Material: Aluminum.
2. Finish: White Paint.
3. Tolerances ±2.5 [0.1] unless otherwise specified.
4. All dimensions are in millimeters [inches].
5. Standard torque wrench must be used to secure RF connectors.

PROTECTION CONNECTOR TABLE

Male D-Sub is on the housing
The mating female part number: RFCBLADB15



Pin #	Name	Function	Initial State	Description	Applied
1,2,3, 9,10	NC	No	--	No Internal Connection	No
4	+5V-User	Power	+5V	+5V DC is supplied for reference(200mA)	Yes
5	Temp Signal	Indicator		PA carrier case temperature is represented by voltage	Yes
6	Gate Disable	Control	LOW	Applying logic HIGH disables gates of amplifiers	Yes
7	Drain Disable	Control	LOW	Applying logic HIGH disables Positive Supply Voltage of amplifiers	Yes
8	Reset	Control	HIGH	Resets PA when logic LOW is applied and released	Yes
11	GND	Ground	GND	Ground	Yes
12	Switch Disable	Control	HIGH	Applying logic LOW disconnects RF signal of amplifiers	Yes
13	RF IN Over	Indicator	LOW	Pin will be latched to logic HIGH when input signal is over limit	Yes
14	Temp Over	Indicator	LOW	Pin will be latched to logic HIGH when amplifier is driven over temperature	Yes
15	Current Over	Indicator	LOW	Pin will be latched to logic HIGH when drain current limit is reached	Yes

Notes:
- HIGH/LOW voltages are standard TTL signals 0.0V-0.8V = LOW. 2.8V-5V = HIGH. Input current is 10uA.
- Matching connector and cable will be shipped with the product.
- Applied=Yes means the feature is included. Applied=No means the feature is not included with this model.
- 5V reference supply can source 200mA.
- Indicator output signals can source 24mA.

PACKING LIST

ID	Description	QTY
1	Fig a. DB15 cable (RFCBLADB15)	1

Fig a.

ORDERING INFORMATION

Part Number	Modification	Description
RAMP26G40GA	Input connector 2.92mm-Female and Output connector 2.92mm-Female	26GHz – 40GHz Ultra Wide Band Bench Top 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.

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 any of 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.
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