Wide Band Benchtop Amplifier
27GHz-34GHz

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

RoHS Compliant

Features

- Wideband A/C Power Amplifier
- Gain: 50dB Typical
- Psat: 38dBm Typical
- Convenient A/C Power Input

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test and Measurement

Electrical Specifications, T_A = +25°C, Vcc = 110/220 VAC

Parameter	Typical			Units
Frequency Range	27 ~ 30	30 ~ 32	32 ~ 34	GHz
Gain	50	48	40	dB
Input Return Loss	14			dB
Output Return Loss	10			dB
Output 1dB Compression Point (P1dB)	35	34	33	dBm
Saturated Output Power (Psat)	38	37	35	dBm
Output Third Order Intercept (IP3)	43	40	36	dBm
Supply Voltage	110/220 VAC			V
Isolation S12	65	63	55	dB
Maximum Input Power	Psat – Gain			dBm
Weight	8375			g
Impedance	50			Ohms
Input / Output Connectors	2.92mm – Female			
Finish	Black Painted Finish			
Material	Aluminum / Copper			

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RF-LAMBDA INC. www.rflambda.com
Sales: sales@rflambda.com Technical : support@rflambda.com

Absolute Maximum Ratings	
Supply Voltage	110/220 VAC
RF Input Power	Psat – Gain

Note: 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.

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	Connect Ground Pin
Step 3	Connect VDC
Power OFF Procedure	
Step 1	Turn Off VDC
Step 2	Remove RF Connection
Step 3	Remove Ground

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45℃~+55℃ (Case Temperature less than 85C)
Storage Temperature		-50℃~+125℃
Thermal Shock		1 Hour@ -45℃ → 1 Hour @ +85℃ (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85℃ 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	MIL-STD-883 (For Hermetically Sealed Units)

Ordering Information	
Part No.	**Description**
RAMP27G34GA	**27GHz~34GHz 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.

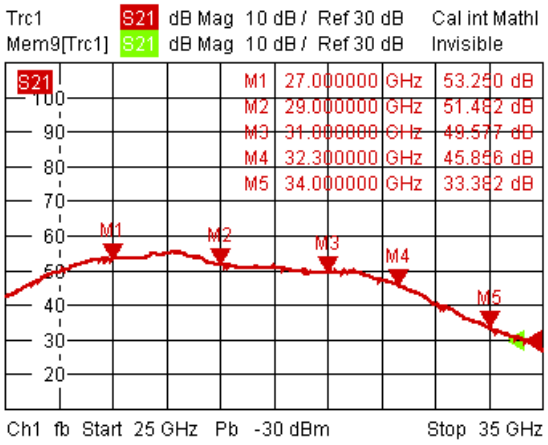
Amplifiers do not contain Thermal protection, Reverse DC polarity or Over voltage protection with the exception of a few models. Please inquire.

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

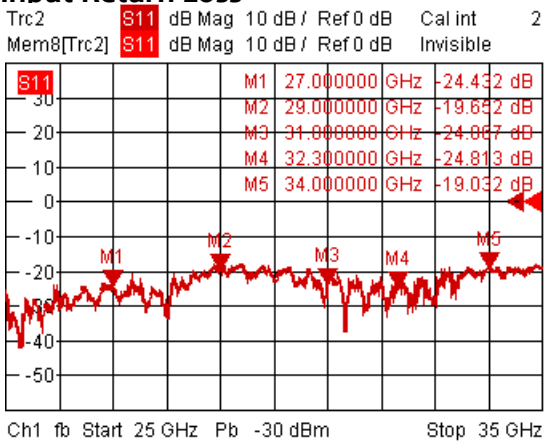
What is not covered with warranty?

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.

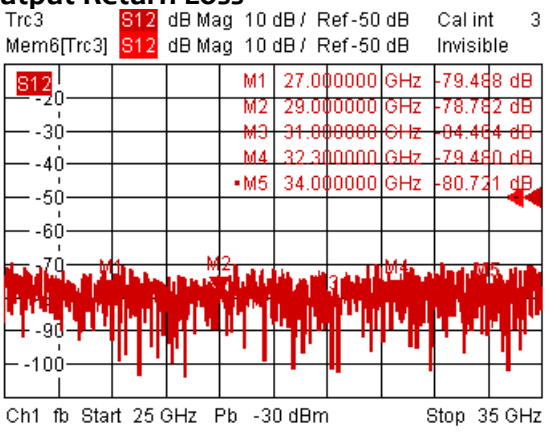
Gain



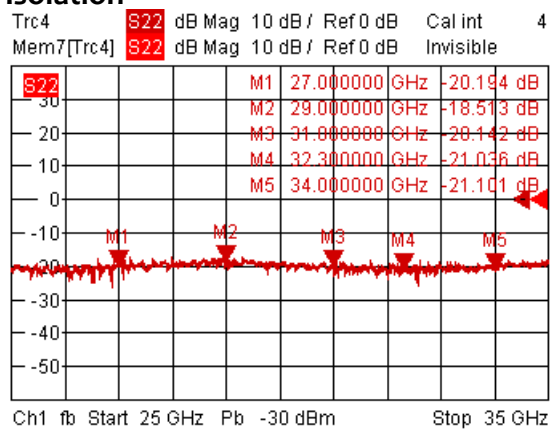
Input Return Loss



Output Return Loss



Isolation



Note: Input/output return loss measurements include attenuators to protect equipment

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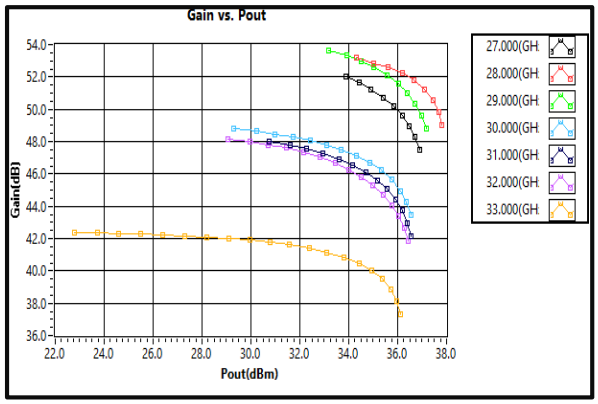
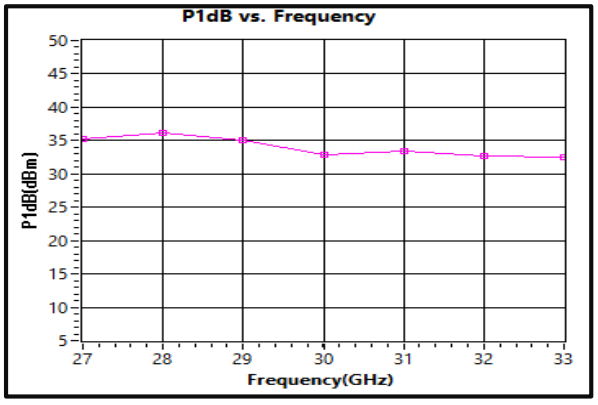
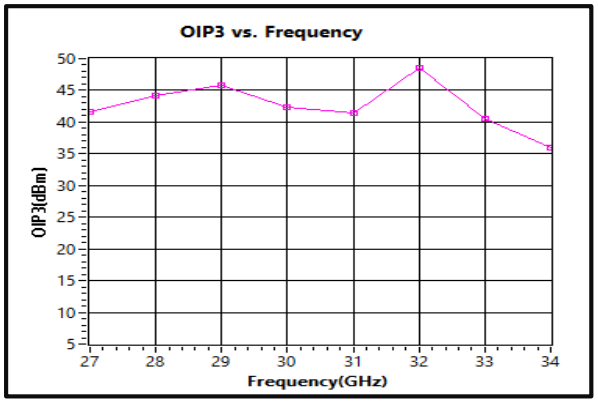
Gain vs. Output Power



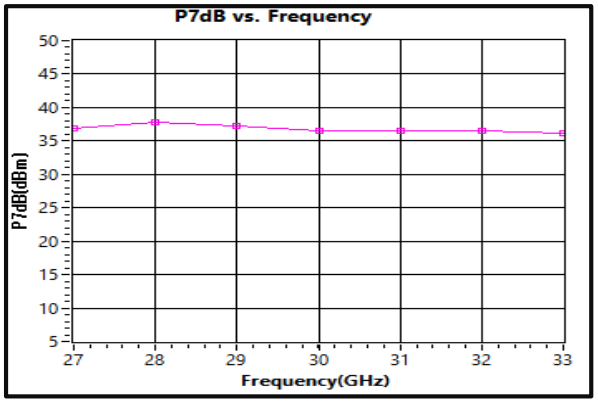
P1dB vs. Frequency



Output Third Order Intercept (IP3)



P7dB vs. Frequency



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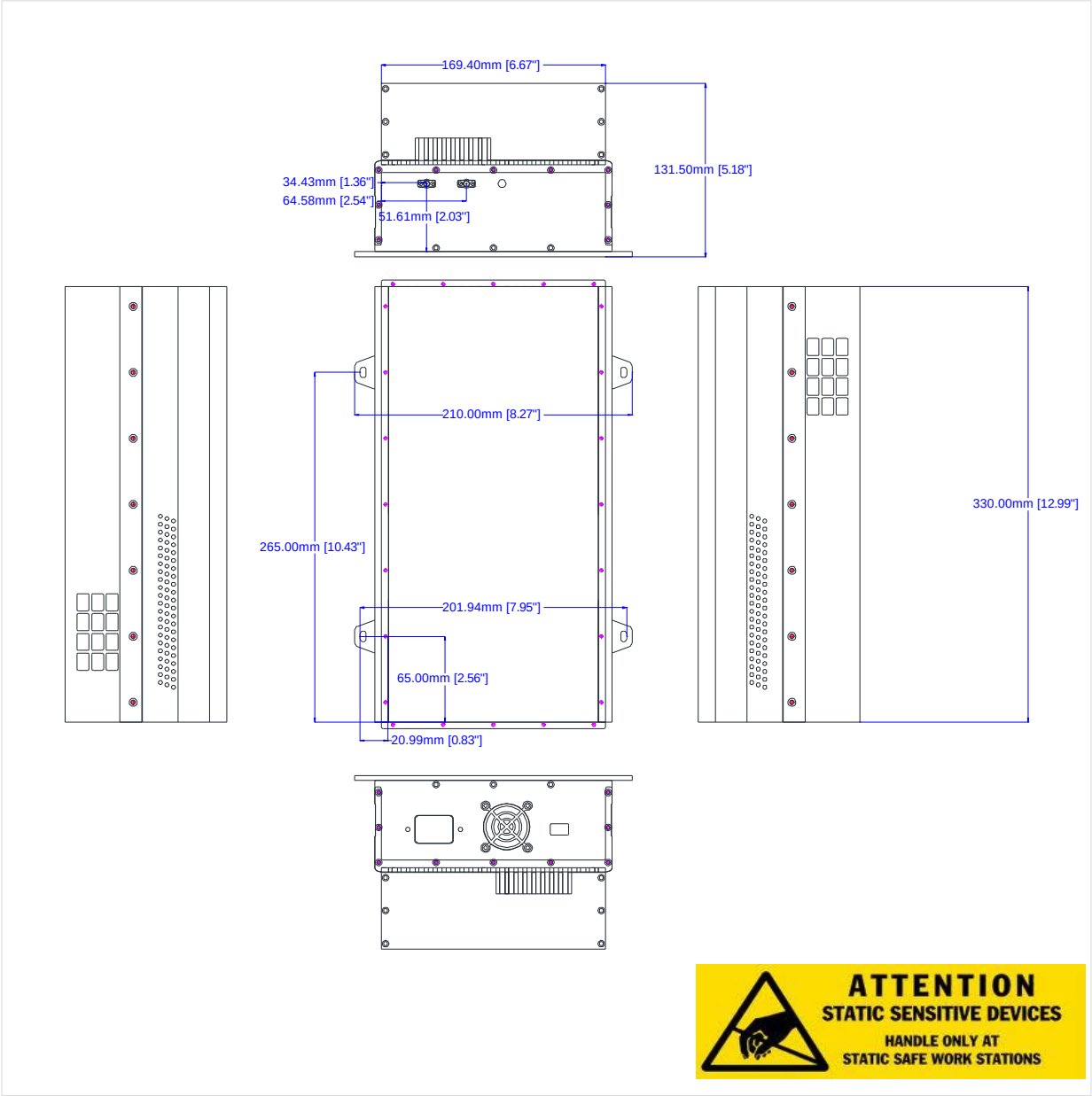
Outline Drawing

All Dimensions in mm [inches]



Important Notice

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