RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RAMP07G03GE

7W ACPR Emission Compressed Linear Power Amplifier AC 110V/220V 0.7GHz~ 3GHz

RoHS Compliant

Features

- Gain: 41dB Typical
- Output power: +36dBm Typical
- 50 Ohm Matched
- AC 110V/220V powered

Typical Applications

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

Electrical Specifications, TA = +25°C

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.7		3.0	GHz
Gain	39	41		dB
Gain Flatness		±1.0	±1.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±0.6	±1.0	dB
Input VSWR		1.5	2.0	:1
Output 1 dB Compression Point (P1dB)	34	36		dBm
Saturated Output Power (Psat)		38		dBm
Supply Current		700	1200	mA
Isolation S12		-60		dB
Weight	106.2			ounces
Impedance	50			Ohms
Input / Output Connectors	SMA - Female			
Finish	Black Paint			
Material	Aluminum			

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Absolute Maximum Ratings	
Supply Voltage	AC 110~230V
RF Input Power (RFIN)	+2dBm

Note: Maximum RF input power is defined to protect the amplifier from damage.
Input power may be increased at the users own risk to achieve the full output power of the amplifier. Please reference gain and power curves and monitor the temperature.

Ordering Information	
Part No.	Description
RAMP07G03GE	0.7GHz ~ 3GHz Power Amplifier

Biasing Up Procedure	
Step 1	Connect input and output with 50 Ohm source and load with in band return loss better than 10dB.
Step 2	Connect AC Plug
Step 3	Flip switch to "ON" position
Power OFF Procedure	
Step 1	Flip switch to "OFF" position
Step 2	Remove AC Plug
Step 3	Remove RF Connection

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45℃~+85℃
Storage Temperature		-55℃~+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)

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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.

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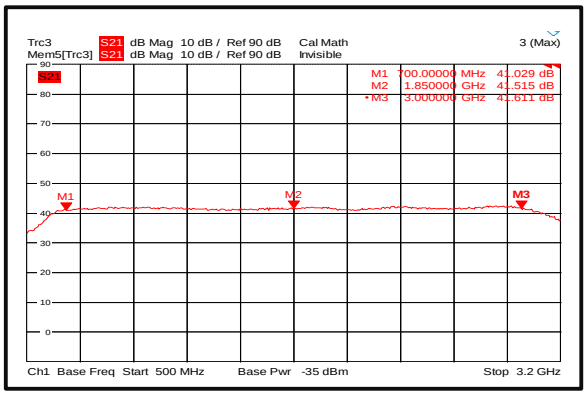
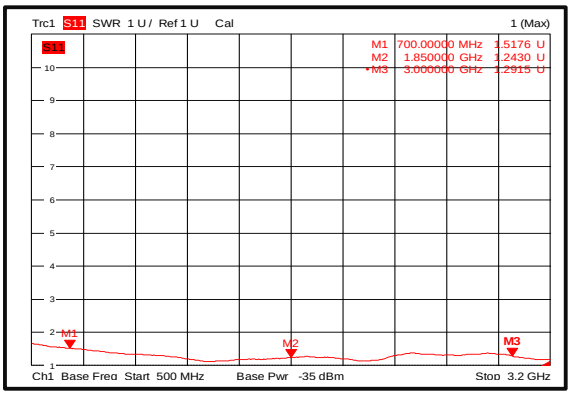
Typical Performance Plots

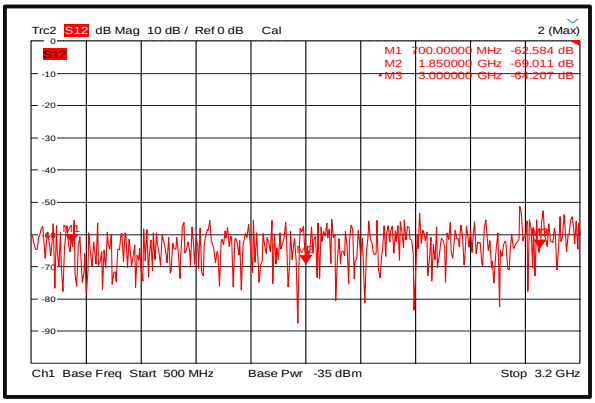
Gain



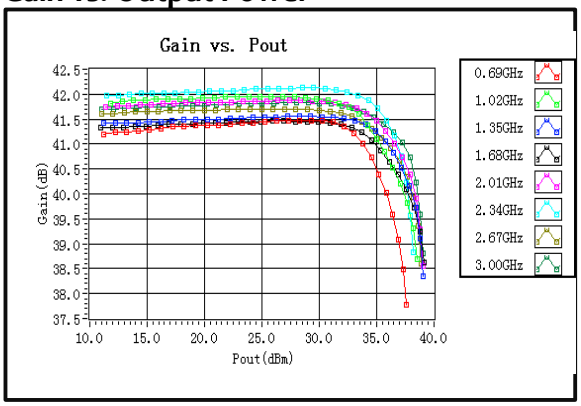
Input VSWR



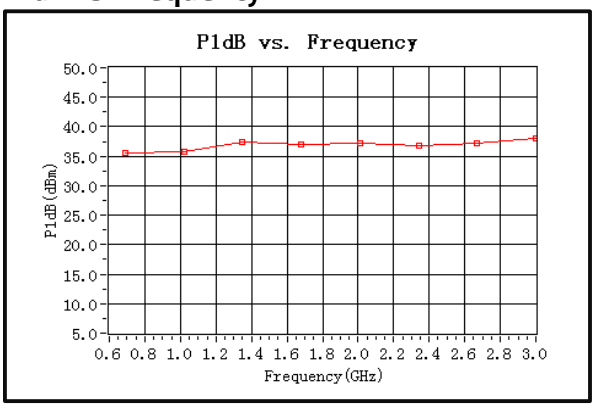
Isolation



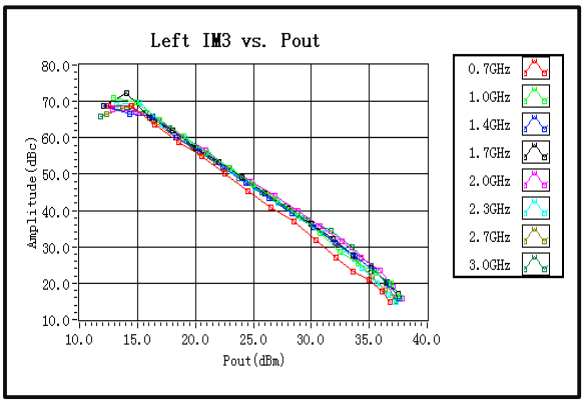
Gain vs. Output Power



P1dB vs. Frequency



Left IM3 vs. Pout



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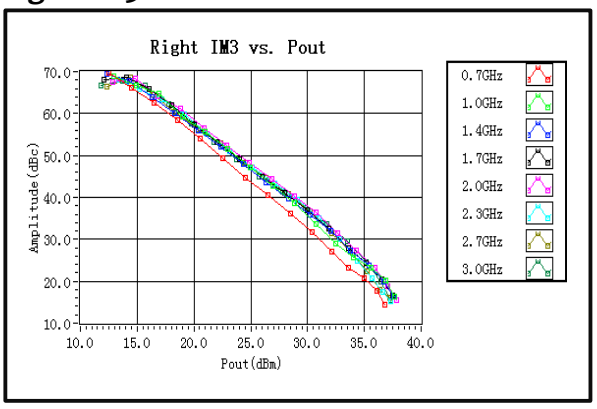
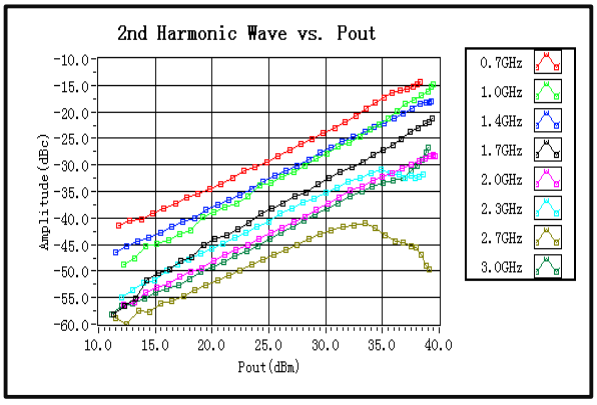
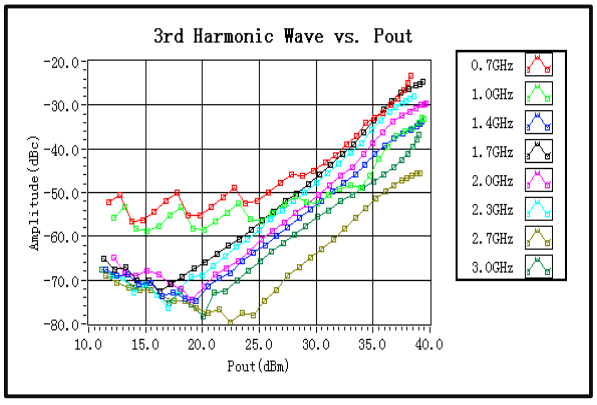
Right IM3 vs. Pout



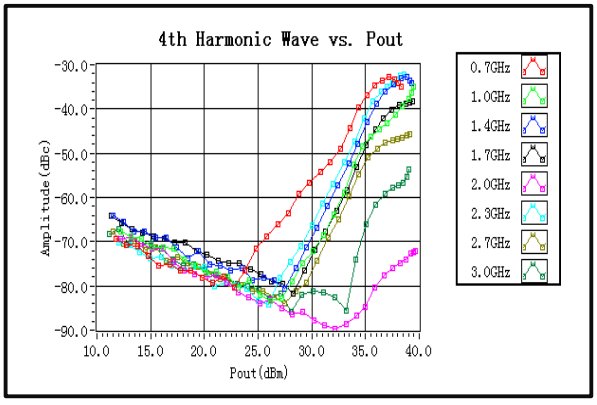
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power

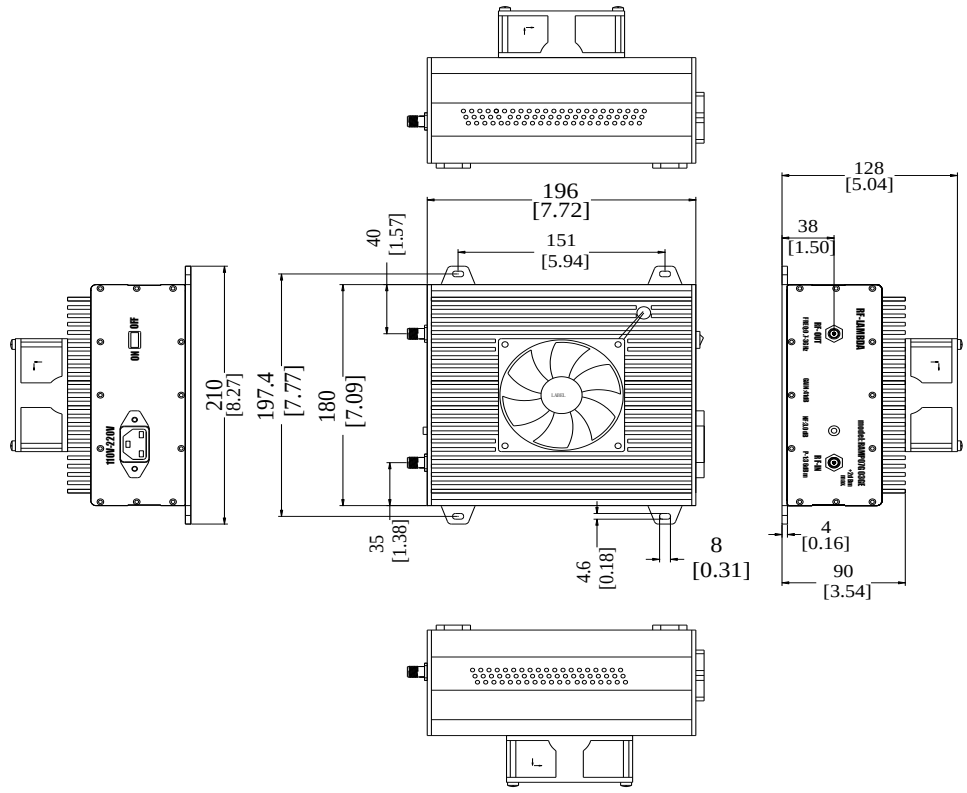


4th Harmonic Wave Output Power



Outline Drawing:

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



Important Notice

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