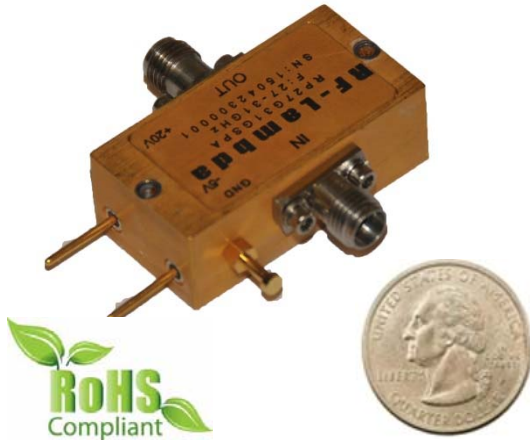




### 9W Power Amplifier 26.2GHz~34GHz



- High output power > +39.5 dBm
- Aerospace and military application
- High Peak to average handle capability
- High Linearity and low noise figure
- All specifications can be modified upon request

Parameter	Min	Typ	Max	Units
Frequency Range	26.2 ~ 34			GHz
Gain	20	25	26	dB
Gain Variation Over Temperature		5		dB
Input Return Loss		10		
Output Return Loss		12		
Output Power For 1dB Compression (P-1dB)	36	37	38	dBm
Output Power For dB Compression (P-3dB)	36	38	39.5	
IM3 @ Pout/Tone = 33 dBm		-42		dBc
IM5 @ Pout/Tone = 33 dBm		-42		dBc
Supply Current (I <sub>dd</sub> ) (V <sub>dd</sub> =+20V)		280	2000	mA
Power Supply		20		V
Isolation S <sub>12</sub>		55		dB
Input Max (10:1 VSWR, CW)		25dBm		dBm
Weight	55			g
Impedance	50			Ohms
Input /Output Connector	2.92-Female			
Finishing	Gold plating			
Material	Aluminum/copper			

\* P1dB, P3dB and Psat power testing signal: 200µs pulse width with 10% duty cycle.

\* For average CW power testing, a 5dB back off from Psat is required unless water/oil cooling system is applied.

9W Power Amplifier 26.2GHz-34GHz



# RF-LAMBDA

The power beyond expectations

RP27G34GSPA

9W Power Amplifier 26.2GHz-34GHz

Absolute Maximum Ratings	
Supply Voltage	+22Vdc
RF Input Continuous Wave Power	25dBm
Storage Temperature(C°)	-50 to +125

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) Connect ground.
Step 2	Connect -5V biasing
Step 4	Connect +20V biasing
Power OFF Procedure	
Step 2	Turn off +20V biasing
Step 3	Turn off -5V biasing
Step 4	Remove RF connection and then ground

Environment Specifications	
Operational Temperature (C°)	-45 ~ +85(Case Temperature must be less than 85C all time)
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) ( Optional )
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msc half sin wave,3 axis both directions

Note: The operating temperature for the unit is specified at the package base. It is the user's responsibility to ensure the part is in an environment capable of maintaining the temperature within the specified limits

Ordering Information		
Part No	ECCN	Description
RP27G34GSPA	3A001.b.2.c	26.2GHz~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 of RF-Lambda amplifiers will go through power and temperature stress testing. Due to fragile of the die, IC or MMIC, those are not covered by warranty. Any damage to those will NOT be free to repair.



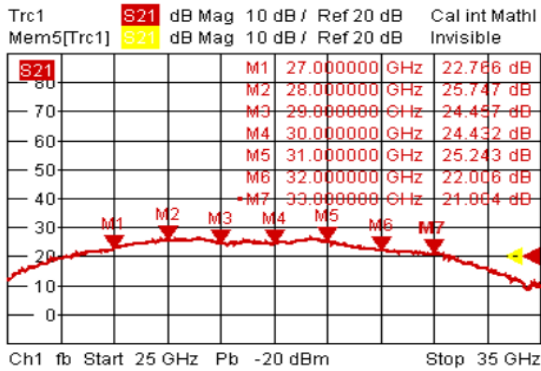
# RF-LAMBDA

The power beyond expectations

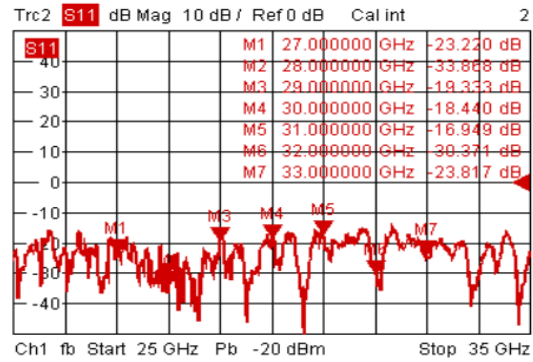
RP27G34GSPA

9W Power Amplifier 26.2GHz-34GHz

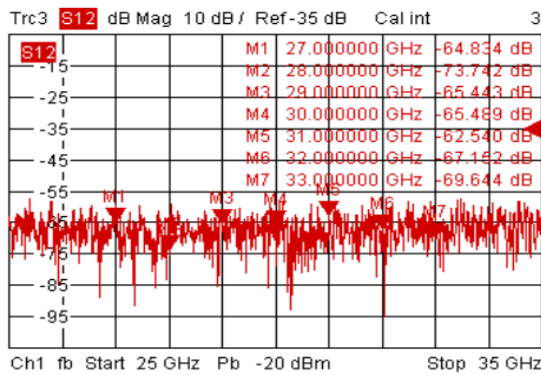
### Gain



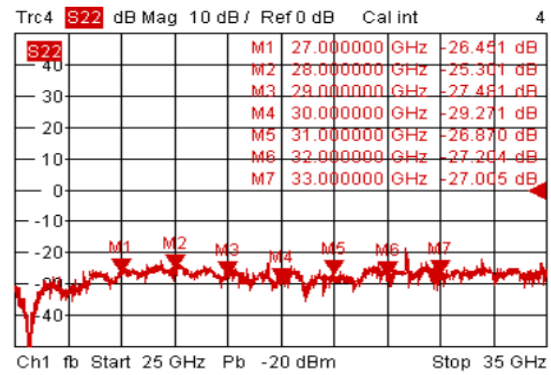
### Input Return Loss



### Insertion Loss



### Output Return Loss



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

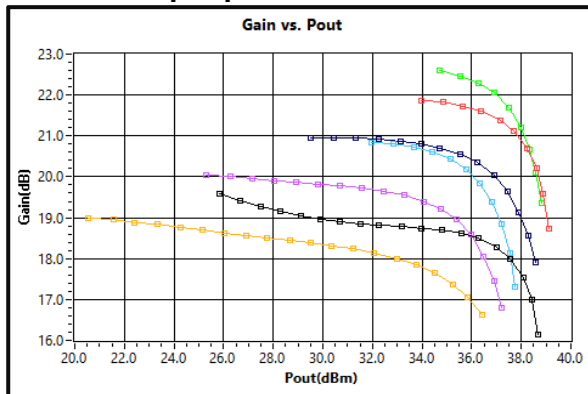


# RF-LAMBDA

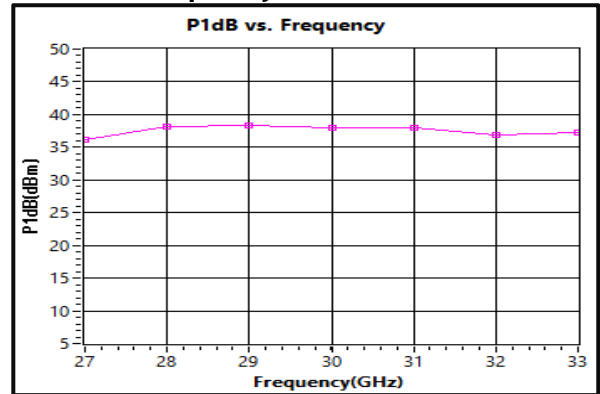
The power beyond expectations

RP27G34GSPA

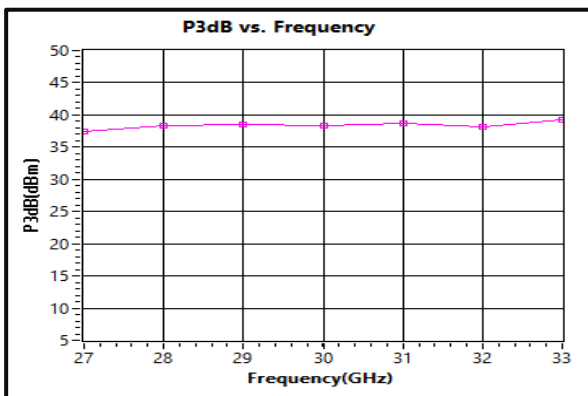
## Gain vs. output power



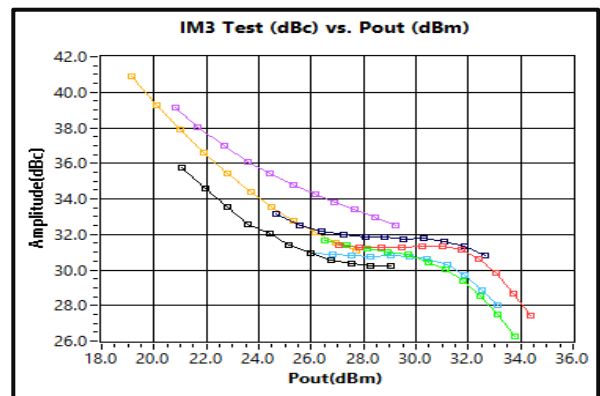
## P1dB vs. Frequency



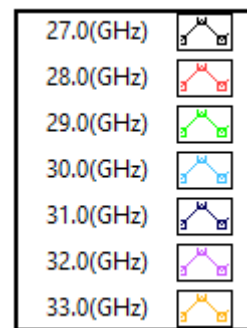
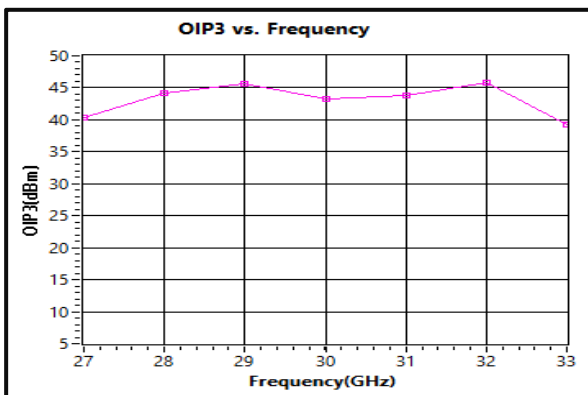
## P3dB vs. Frequency



## P5dB vs. Frequency



## Output Third Order Intercept (IP3)



9W Power Amplifier 26.2GHz-34GHz

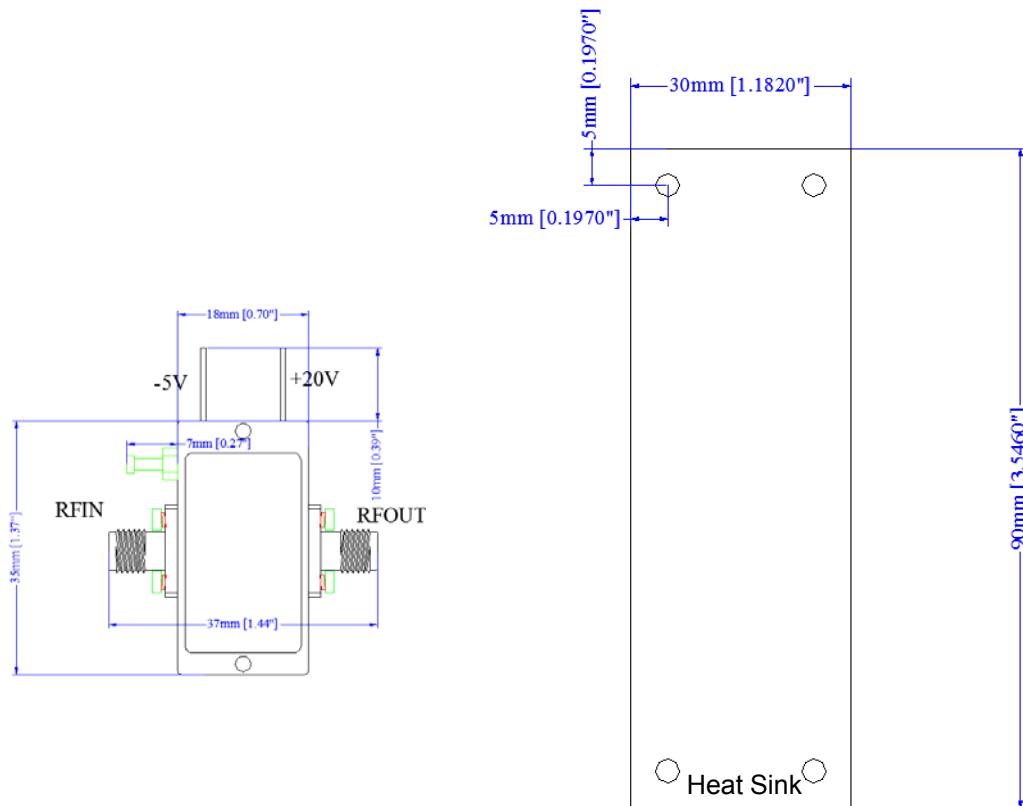


# RF-LAMBDA

The power beyond expectations

RP27G34GSPA

9W Power Amplifier 26.2GHz-34GHz



\*\*\*Heat Sink and cooling fan required during operation\*\*\*



## Important Notice

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