



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R05G09GSM

Wide Band Low Noise Amplifier 5GHz ~ 9GHz



Features

- Gain: 21.5dB Typical
- Noise Figure: 1.1dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +10V & -5V

Typical Applications

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

Electrical Specifications, TA = +25°C , Vcc = +10V, Vgg = -5V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	5		9	GHz
Gain		21.5		dB
Gain Flatness		±1.5		dB
Gain Variation Over Temperature (-45°C~+85°C)		±1.5		dB
Noise Figure		1.1		dB
Input VSWR		1.5		: 1
Output VSWR		1.5		: 1
Output 1dB Compression Point (P1dB)		20		dBm
Saturated Output Power (Psat)		24		dBm
Output Third Order Intercept (IP3)		30		dBm
Supply Current (Vcc=+10V)		80		mA
Isolation S12		/		dB
Weight	/			Ounces
Impedance	50			Ohms
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Copper			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Operating Voltages	+11V,-5V
RF Input Power	Psat - Gain

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect -5V biasing
Step 4	Connect +10V biasing
Power OFF Procedure	
Step 1	Turn off +10V biasing
Step 2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

Environmental Specifications and Test Standards

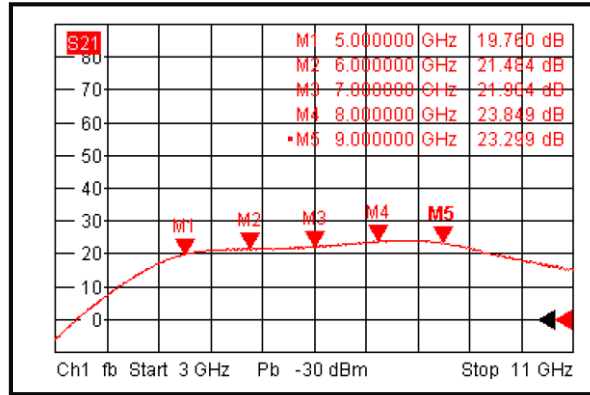
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 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)
Random Vibration	MIL-STD-202	Test Method 214A. Test Condition I. Test Condition Letter C. Duration 15 minutes

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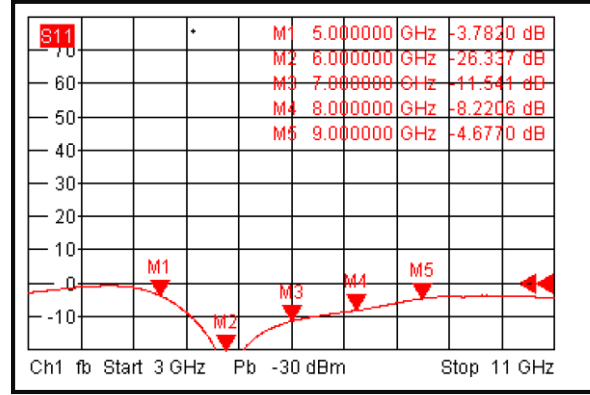


Typical Performance Plots

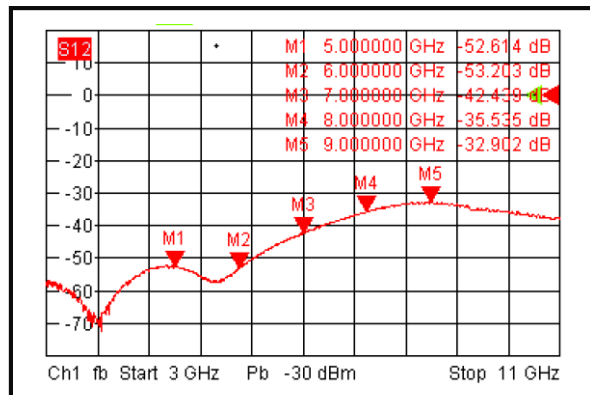
Gain



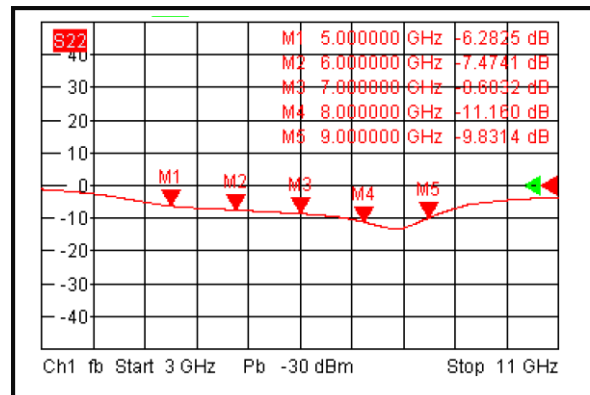
Input Return Loss



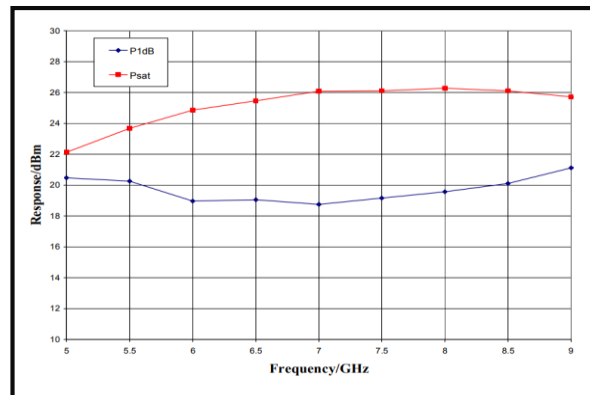
Isolation



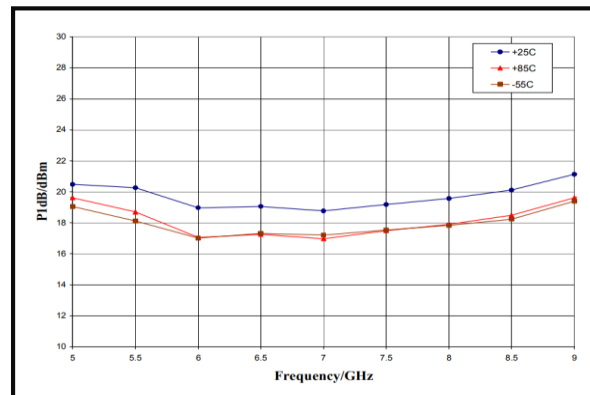
Output Return Loss



Output Power

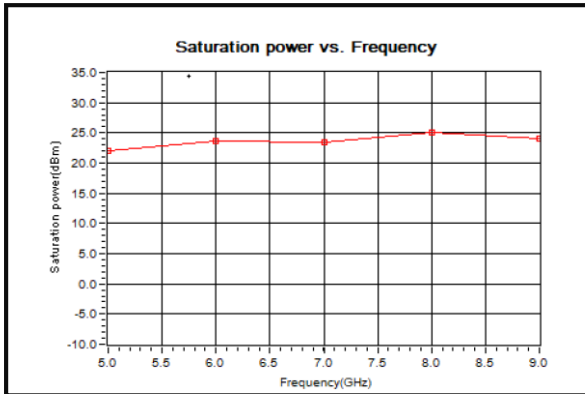


P1dB vs. Frequency

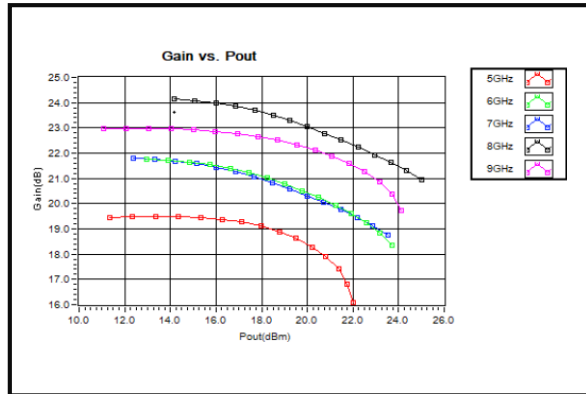




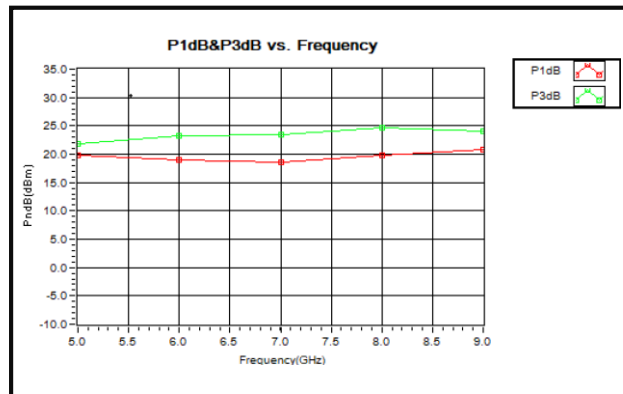
Psat vs. Frequency



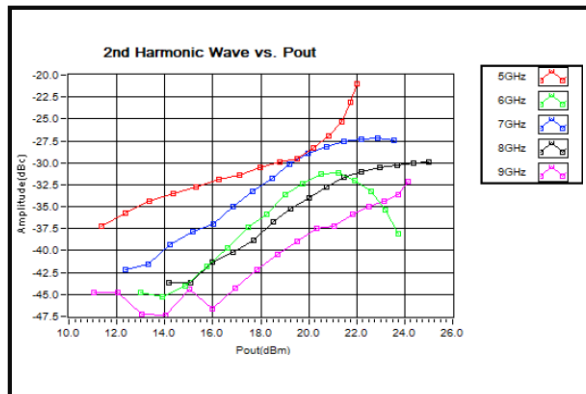
Gain vs. Pout



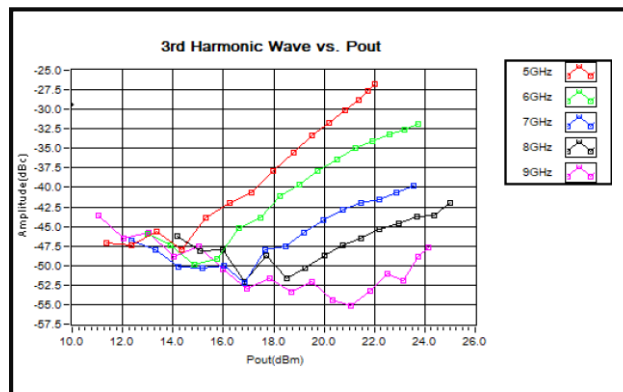
PxdB vs. Frequency



2nd Harmonic vs. Pout

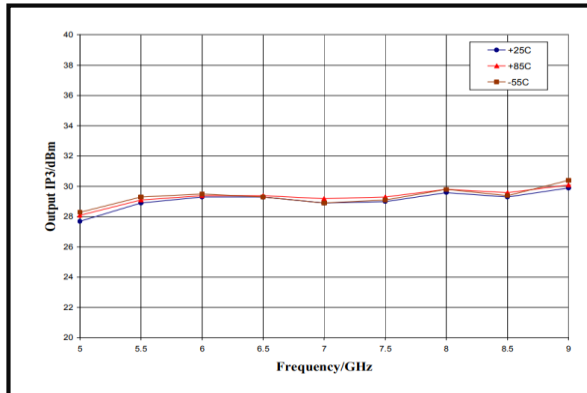


3rd Harmonic vs. Pout

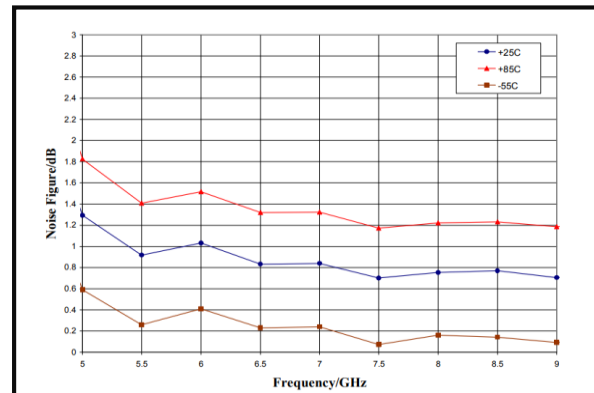




Output Third Order Intercept (IP₃)



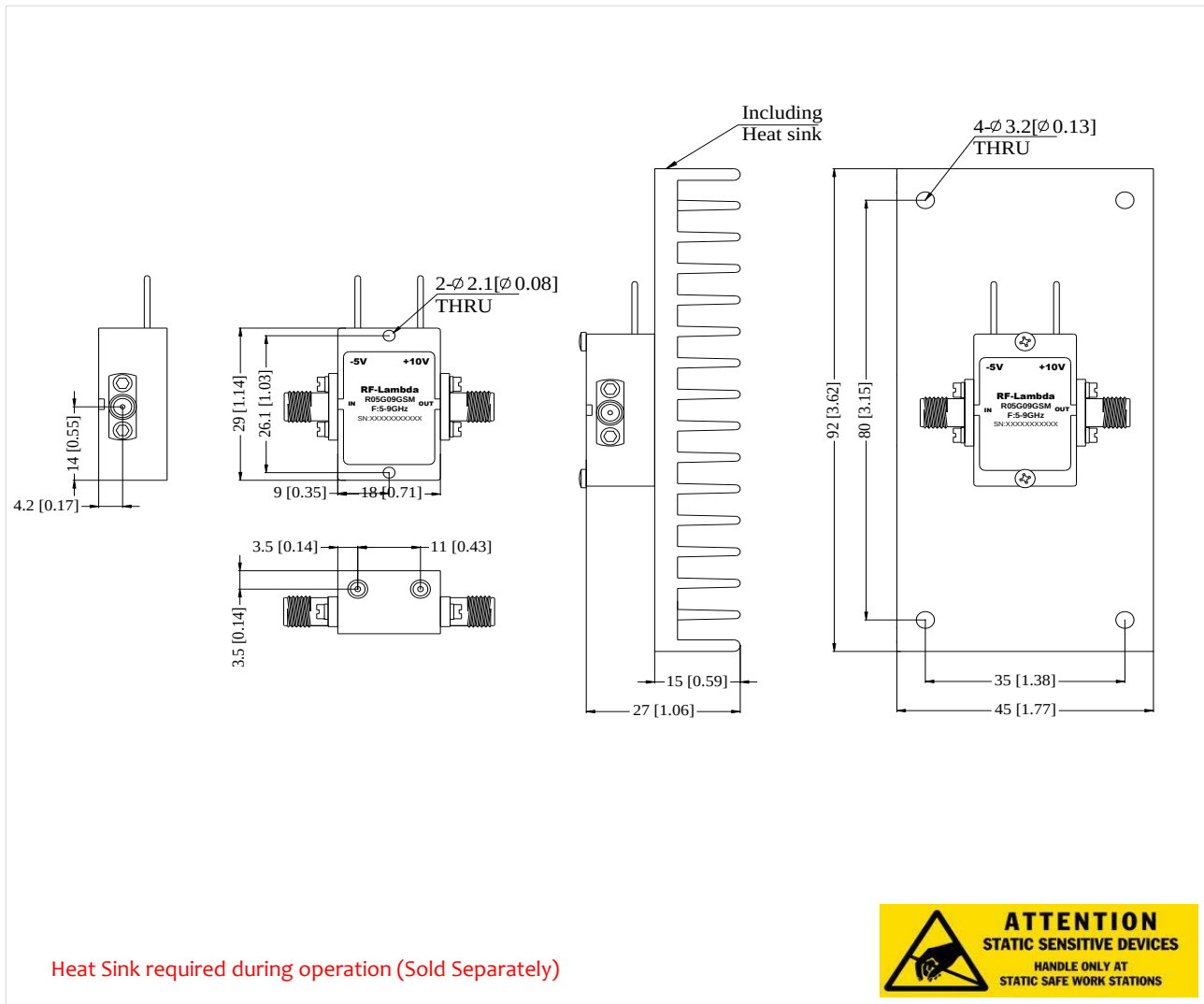
Noise Figure vs. Temperature





Outline Drawing:

All Dimensions in mm [inches]



Ordering Information

Part No.	ECCN	Description
R05G09GSM	EAR99	5-9GHz Low Noise Amplifier

Important Notice

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