



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R10G14GSM

Low Noise Amplifier 10GHz ~ 14GHz

Features

- Gain: 18.5dB Typical
- Noise Figure: 1.05dB Typical
- P1dB Output Power: +4.5dBm Typical
- Supply Voltage: +3V

Typical Applications

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



Electrical Specifications, TA = +25 °C, Vcc = +3V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	10		14	GHz
Gain		18.5		dB
Gain Flatness		-		dB
Gain Variation Over Temperature (-45°C~+85°C)		-		dB
Noise Figure		1.05		dB
Input VSWR		1.5		: 1
Output VSWR		1.5		: 1
Output 1dB Compression Point (P1dB)		4.5		dBm
Saturated Output Power (Psat)		-		dBm
Output Third Order Intercept (IP3)		-		dBm
Supply Current(Vcc=+3V)		20		mA
Isolation S12		-		dB
Weight	-			Ounces
Impedance	50			Ohms
Input / Output Connectors	SMA			
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness			
	Option: Gold 80 micron; Nickel 180 micron thickness			
Material	Aluminum / copper			
Package Sealing	Epoxy Sealing (Standard)			
	Hermetically Sealed (Optional)			

Low Noise Amplifier 10GHz ~ 14GHz



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R10G14GSM

Absolute Maximum Ratings

Operating Voltage	+4.5V
RF Input Power	+20dBm

Biasing Up Procedure

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

Environmental Specifications and Test Standards

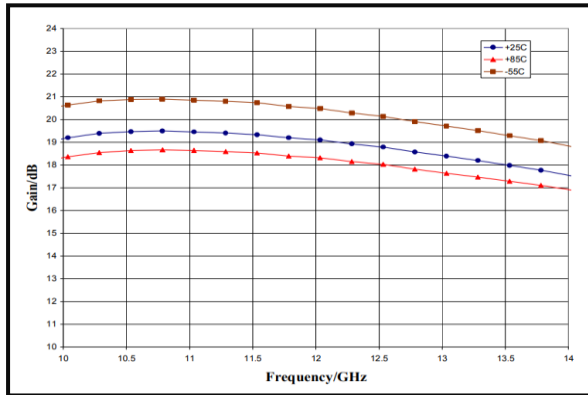
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 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	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)
Random Vibration		Test Method 214A. Test Condition I. Test Condition Letter C. Duration 15 minutes

Low Noise Amplifier 10GHz ~ 14GHz

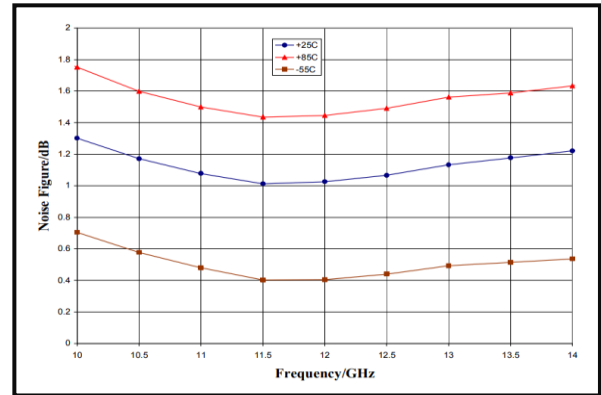


Typical Performance Plots

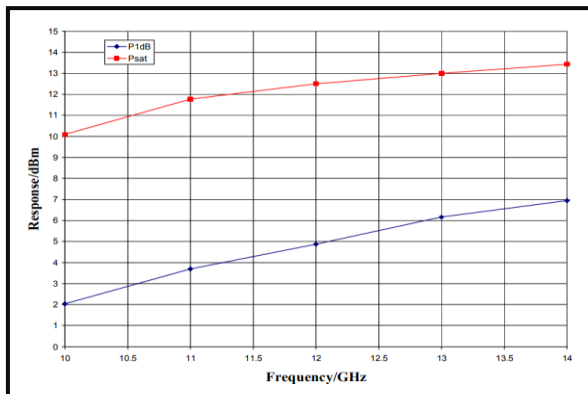
Gain vs. Temperature



Noise Figure vs. Temperature



Output Power

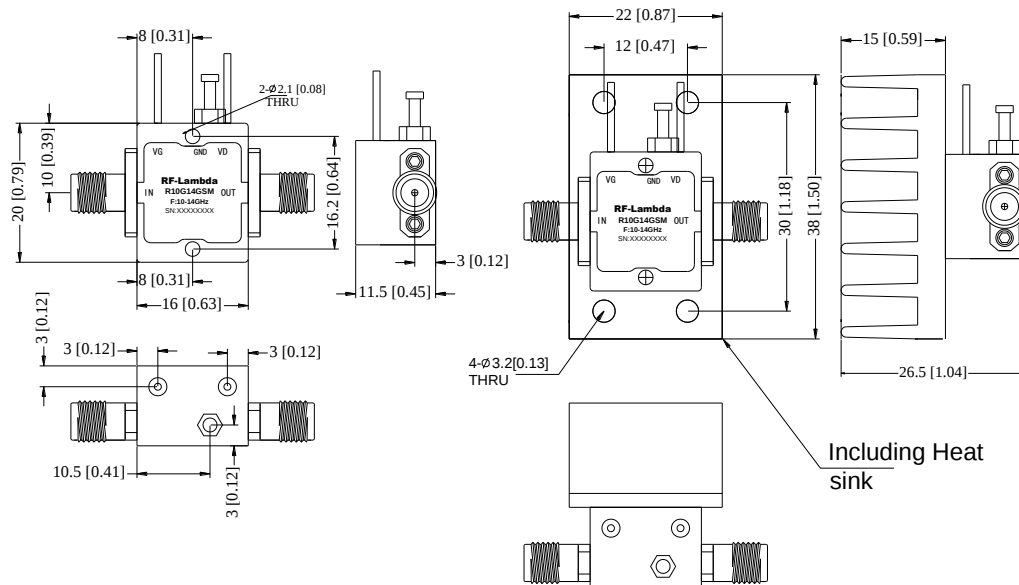


Low Noise Amplifier 10GHz ~ 14GHz



Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
R10G14GSM	EAR99	10-14GHz Low Noise Amplifier

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.

RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.