



RF-LAMBDA

The power beyond expectations

R34M04GSA

Low Noise Amplifier 3.4-3.8GHz NF: 2dB



- Wireless Local Loop (WLL)
- Fixed Wireless Access
- Microwave & VSAT Radios
- Gain: 16 dB
- Noise Figure: 2 dB
- Single Supply: +3V @ 9 mA
- Integrated Bypass Mode
- 50 Ohm Matched Input/Output
- 3 x 3 x 1 mm QFN SMT Package

Electrical Specifications, $T_A = +25^\circ \text{C}$

Parameter	LNA Mode			LNA Mode			Bypass Mode			Units
	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Frequency Range	3.4 - 3.6			3.6 - 3.8			3.4 - 3.8			GHz
Gain	14.5	17		13	15.5		-2.8	-2.3		dB
Gain Variation Over Temperature		0.012	0.02		0.012	0.02		0.004	0.008	dB / °C
Noise Figure		2.2	2.7		2.0	2.5		--	--	dB
Input Return Loss		12			17			18		dB
Output Return Loss		9			7			11		dB
Reverse Isolation		34			33			--		dB
Input or Output Power for 1dB Compression (P1dB)*	3	6		4	7		25	28		dBm
Input Third Order Intercept (IP3) (-20 dBm Input Power per tone, 1 MHz tone spacing)		1			3			11		dBm
Supply Current (Idd)		9			9			0.03		mA

Absolute Maximum Ratings

Drain Bias Voltage (Vdd)	+7.0 Vdc
RF Input Power (RFIN) (Vdd = +3.0 Vdc)	LNA Mode: 0 dBm Bypass Mode: +30 dBm
Channel Temperature	150 °C
Continuous Pdiss (T = 85 °C) (derate 1.8 mW/°C above 85 °C)	0.117 W
Thermal Resistance (channel to ground paddle)	556 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

Typical Supply Current vs. Vdd

Vdd (Vdc)	Idd (mA)
+2.7	7.6
+3.0	9.0
+3.3	10.2



ATTENTION
STATIC SENSITIVE DEVICES
HANDLE ONLY AT
STATIC SAFE WORK STATIONS

Low Noise Amplifier 3.4-3.8GHz NF: 2dB



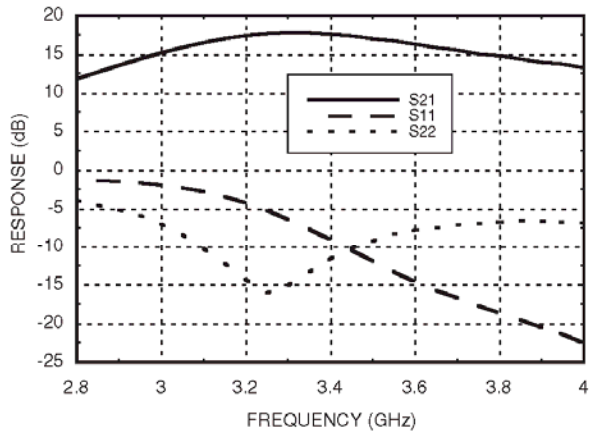
RF-LAMBDA

The power beyond expectations

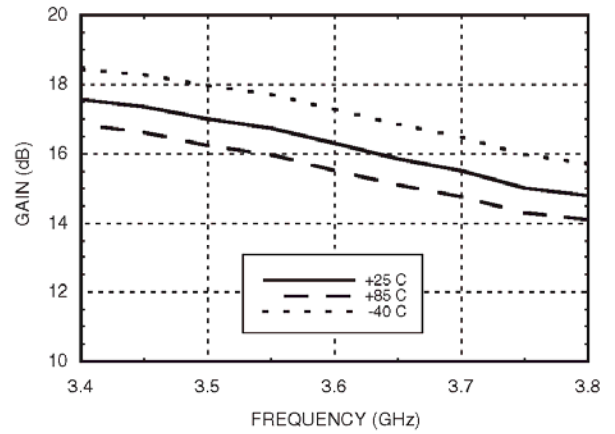
R34M04GSA

Low Noise Amplifier 3.4-3.8GHz NF: 2dB

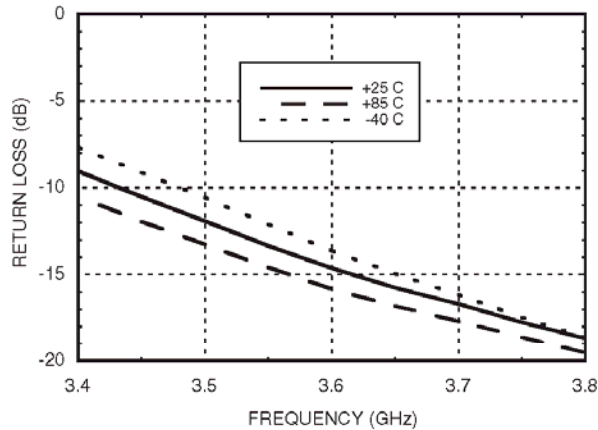
LNA Mode
Broadband Gain & Return Loss



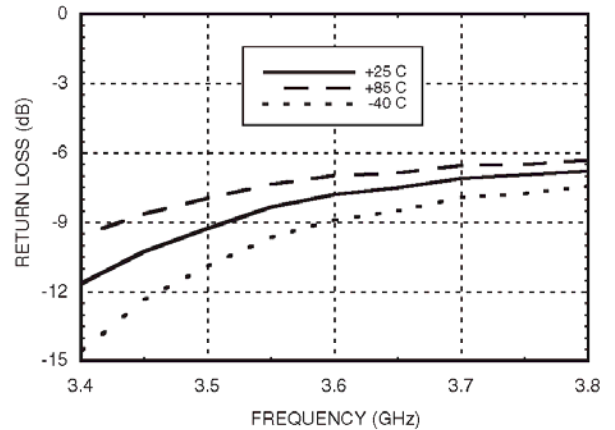
LNA Mode
Gain vs. Temperature



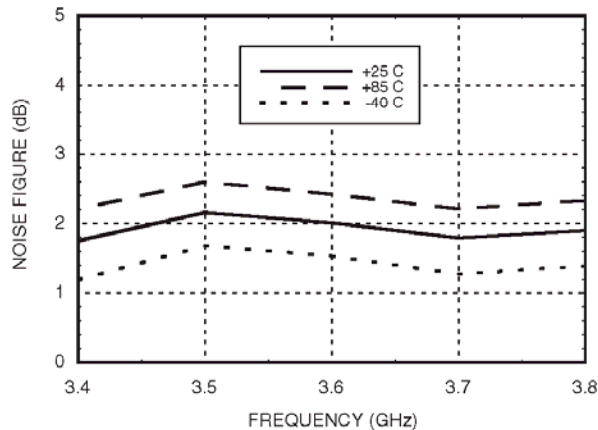
LNA Mode
Input Return Loss vs. Temperature



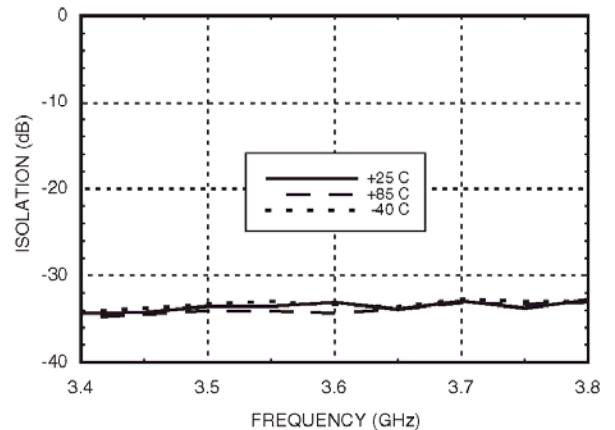
LNA Mode
Output Return Loss vs. Temperature



LNA Mode
Noise Figure vs. Temperature



LNA Mode
Reverse Isolation vs. Temperature





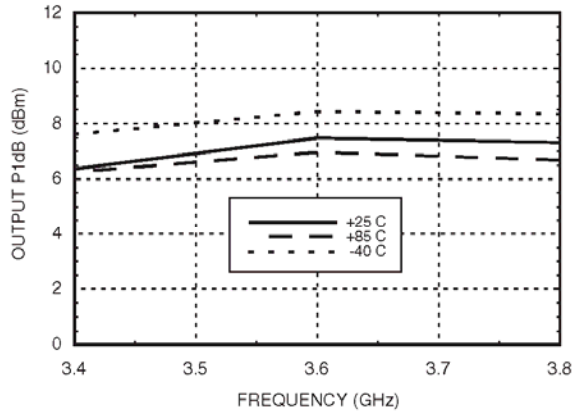
RF-LAMBDA

The power beyond expectations

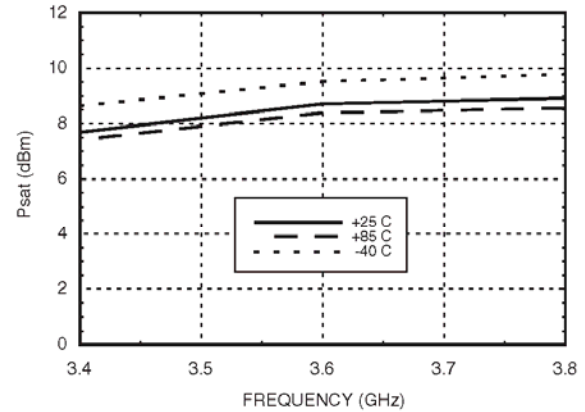
R34M04GSA

Low Noise Amplifier 3.4-3.8GHz NF: 2dB

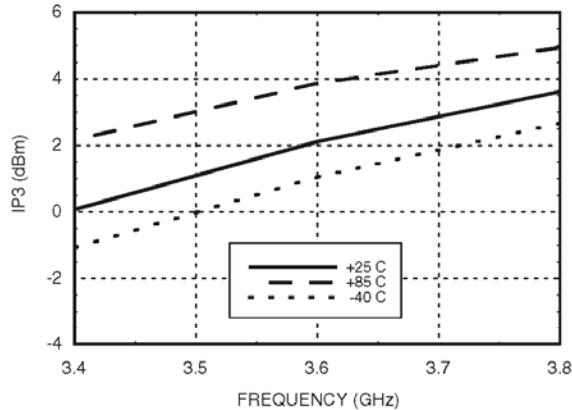
LNA Mode
Output P1dB vs. Temperature



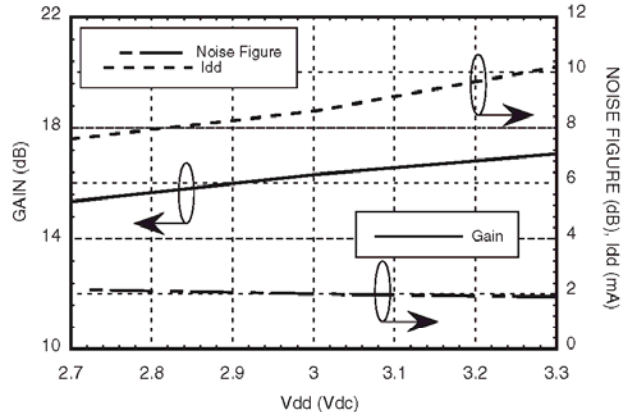
LNA Mode
Psat vs. Temperature



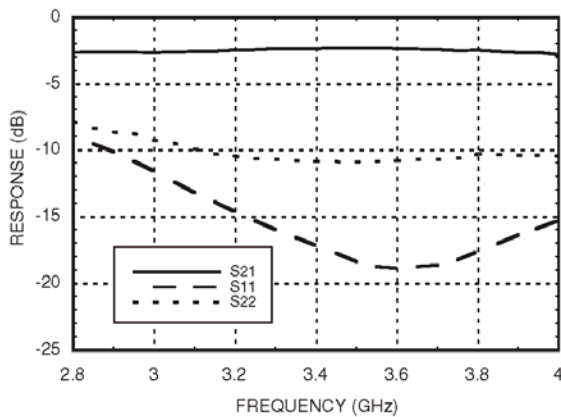
LNA Mode
Input IP3 vs. Temperature



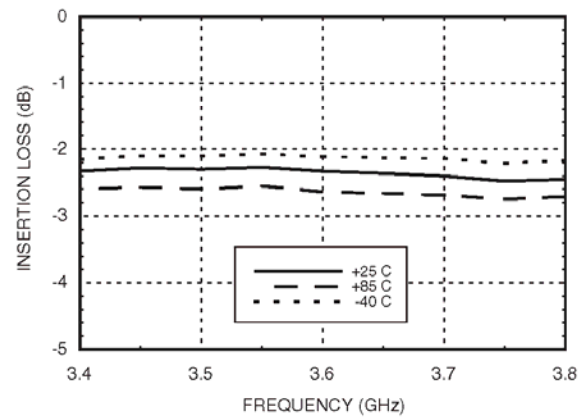
LNA Mode Gain, Noise Figure & Supply Current vs. Supply Voltage @ 3.6 GHz



Bypass Mode
Broadband Insertion Loss & Return Loss



Bypass Mode
Insertion Loss vs. Temperature





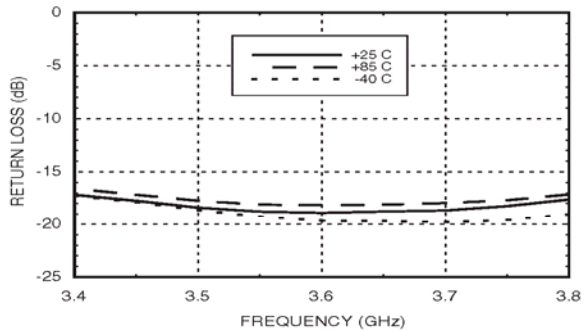
RF-LAMBDA

The power beyond expectations

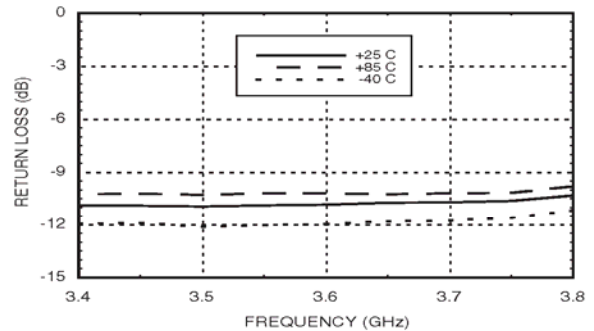
R34M04GSA

Low Noise Amplifier 3.4-3.8GHz NF: 2dB

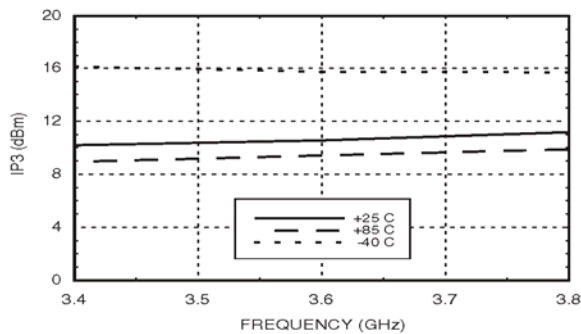
Bypass Mode
Input Return Loss vs. Temperature



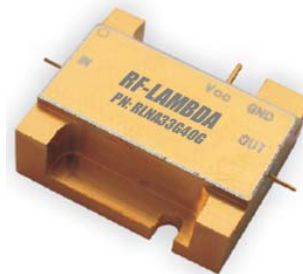
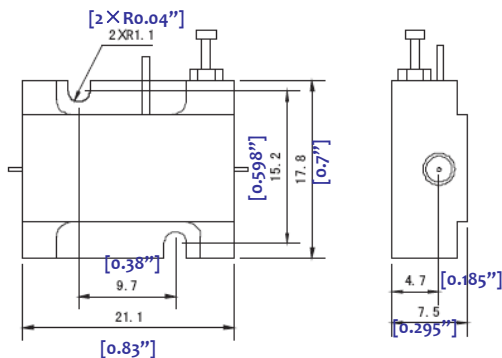
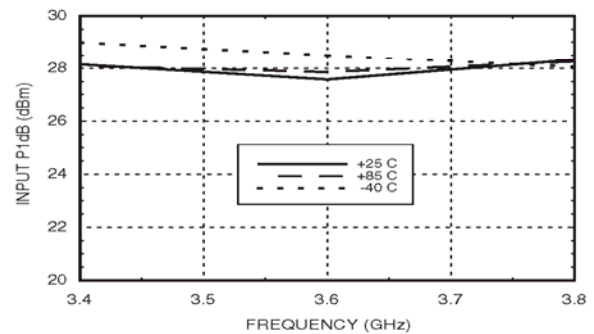
Bypass Mode
Output Return Loss vs. Temperature



Bypass Mode
Input IP3 vs. Temperature



Bypass Mode
Input P1dB vs. Temperature



Heat Sink required during operation. (Heat Sink sold separately)

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.