



RF-LAMBDA

The power beyond expectations

R07G14GSA

Low Noise Amplifier 7-14GHz NF: 1.8dB



- Point-to-Point Radios
- Point-to-Multi-Point Radios & VSAT
- Test Equipment and Sensors
- Military & Space
- Noise Figure: 1.8 dB
- Gain: 17 dB
- OIP3: 25 dBm
- Single Supply: +3V @ 51 mA
- 50 Ohm Matched Input/Output
- RoHS Compliant 4 x 4 mm Package

Electrical Specifications, $T_A = +25^\circ \text{C}$, $V_{dd} 1, 2 = +3V$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	7 - 14			GHz
Gain	14	17		dB
Gain Variation Over Temperature		0.02	0.03	dB/ $^\circ \text{C}$
Noise Figure		1.8	2.2	dB
Input Return Loss		15		dB
Output Return Loss		14		dB
Output Power for 1 dB Compression (P1dB)	10	13		dBm
Saturated Output Power (Psat)		14.5		dBm
Output Third Order Intercept (IP3)		25		dBm
Supply Current (Idd)(Vdd = +3V)		51	75	mA

Absolute Maximum Ratings

Drain Bias Voltage (Vdd1, Vdd2)	+3.5 Vdc
RF Input Power (RFIN) (Vdd = +3.0 Vdc)	+5 dBm
Channel Temperature	175 $^\circ \text{C}$
Continuous Pdiss (T= 85 $^\circ \text{C}$) (derate 12.9 mW/ $^\circ \text{C}$ above 85 $^\circ \text{C}$)	1.16 W
Thermal Resistance (channel to ground paddle)	77.5 $^\circ \text{C/W}$
Storage Temperature	-65 to +150 $^\circ \text{C}$
Operating Temperature	-40 to +85 $^\circ \text{C}$
ESD Sensitivity (HBM)	Class 1A

Typical Supply Current vs. Vdd

Vdd (V)	Idd (mA)
2.5	49
3.0	51
3.5	53



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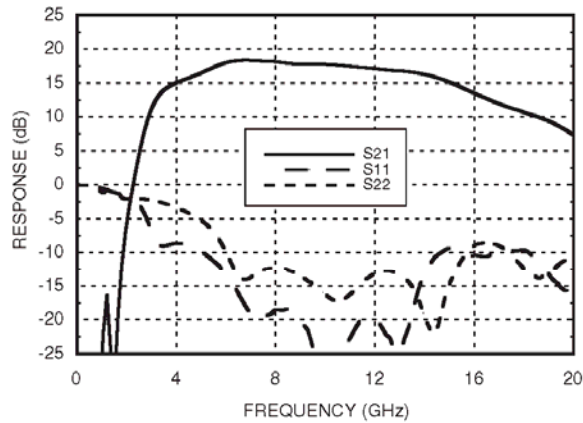


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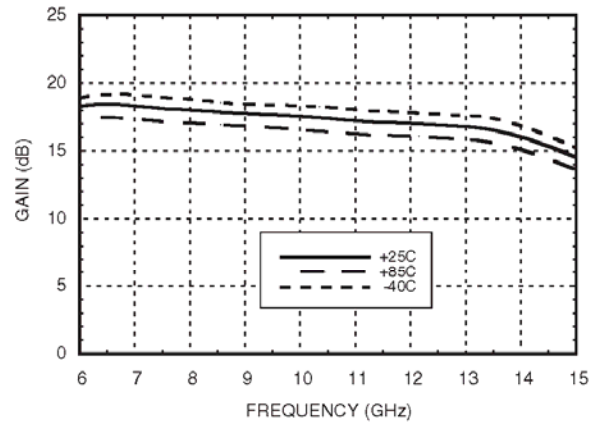
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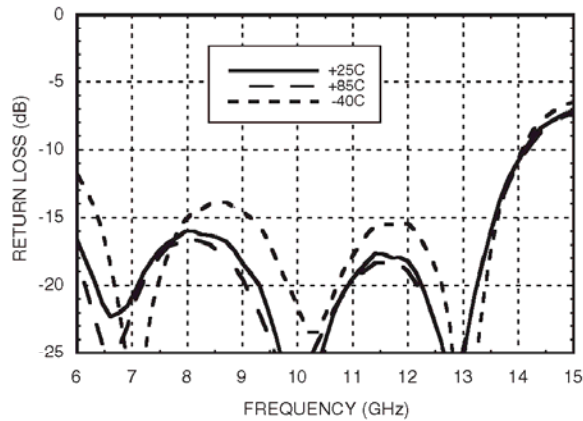
Broadband Gain & Return Loss



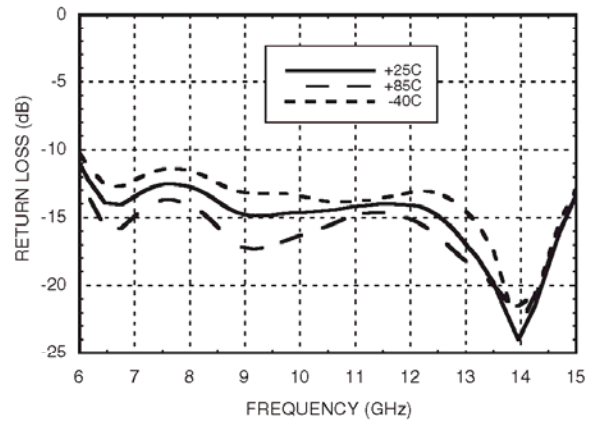
Gain vs. Temperature



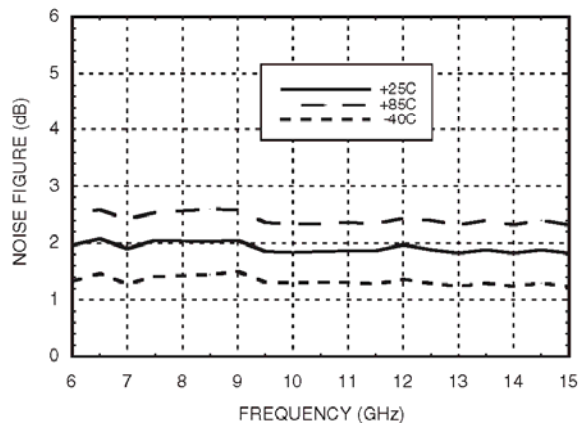
Input Return Loss vs. Temperature



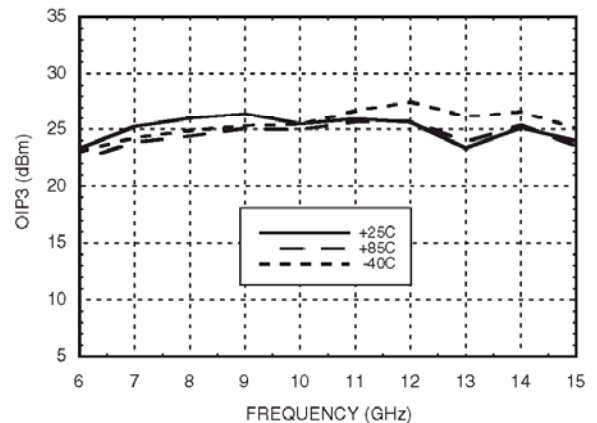
Output Return Loss vs. Temperature



Noise Figure vs. Temperature



Output IP3 vs. Temperature



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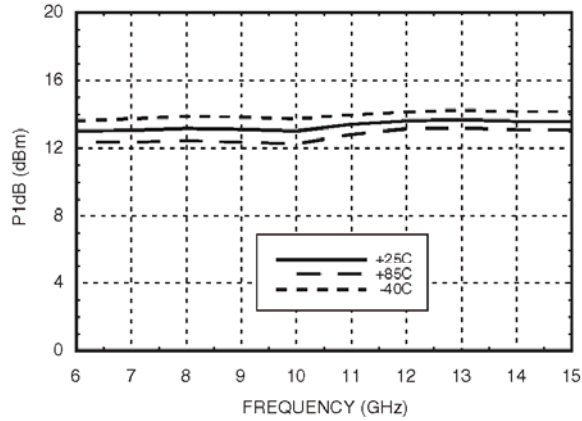
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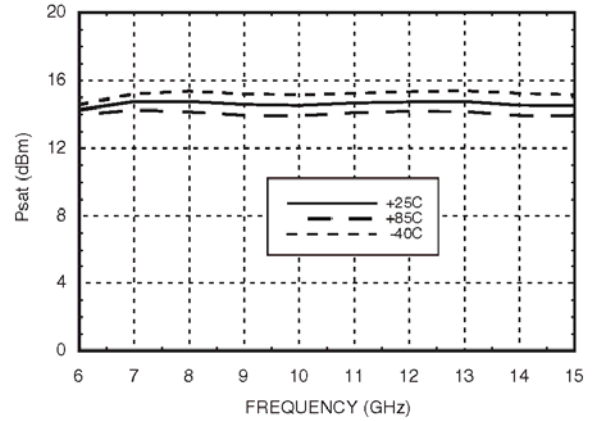
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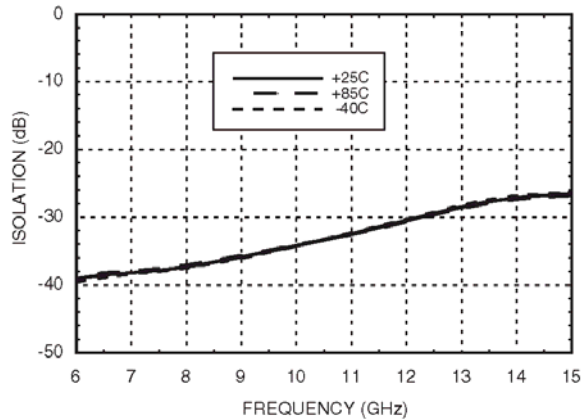
P1dB vs. Temperature



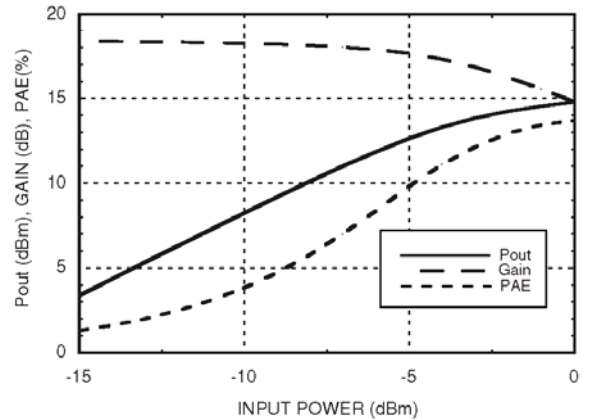
Psat vs. Temperature



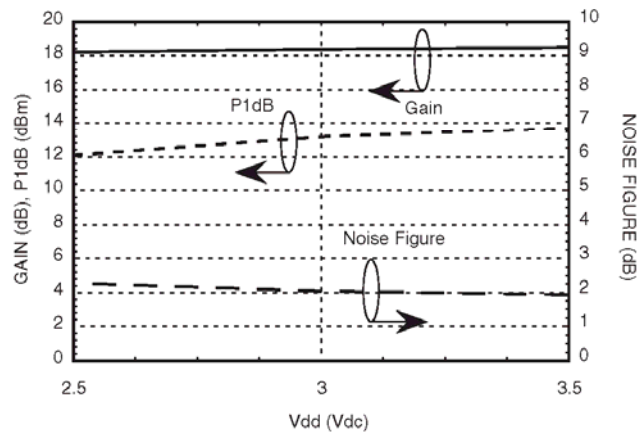
Reverse Isolation vs. Temperature



Power Compression @ 8 GHz



Gain, Power & Noise Figure vs. Supply Voltage @ 8 GHz

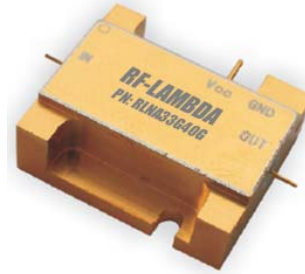
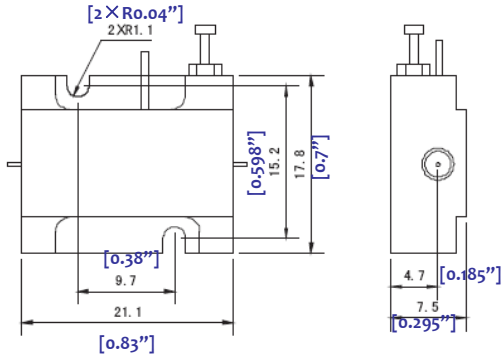




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Heat Sink required during operation. (Heat Sink sold separately)

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