



RF-LAMBDA

The power beyond expectations

R17G27GSA

Low Noise Amplifier 17-27GHz NF: 2.2dB @ 20GHz



- Point-to-Point Radios
- Point-to-Multi- Point Radios
- Military & Space
- Test Instrumentation
- Noise Figure: 2.2 dB @ 20 GHz
- Gain: 25 dB
- P1dB Output Power: +17 dBm
- Supply Voltage: +4V @ 90mA
- Output IP3: +26 dBm
- 50 Ohm matched Input/Output
- 24 Lead 4x4mm SMT Package: 16mm²

Electrical Specifications, $T_A = +25^\circ \text{C}$, $V_{dd} = +4\text{V}$, $I_{dd} = 90 \text{ mA}$ ^[2]

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	14 - 20			20 - 24			24 - 27			GHz
Gain ^[1]	22.5	25		22	23.5		20	23		dB
Gain Variation over Temperature		0.015			0.017			0.018		dB / ° C
Noise Figure ^[1]		2.2	3		2.5	4.2		4.5	6	dB
Input Return Loss		15			9			7		dB
Output Return Loss		15			12			9.5		dB
Output Power for 1 dB Compression ^[1]		15			16.5			17		dBm
Saturated Output Power (Psat) ^[1]		19.5			19.5			19		dBm
Output Third Order Intercept (IP3)		24.5			25.5			26		dBm
Supply Current (Idd) (Vdd = 4V, Vgg = -0.3V Typ.)		90			90			90		mA

Absolute Maximum Ratings

Drain Bias Voltage	+4.5 V
RF Input Power	+6 dBm
Channel Temperature	180 ° C
Continuous P _{diss} (T= 85 ° C) (derate 20 mW/° C above 85 ° C)	1.9W
Thermal Resistance (channel to die bottom)	50 ° C/W
Storage Temperature	-65 to +150 ° C
Operating Temperature	-55 to +85 ° C



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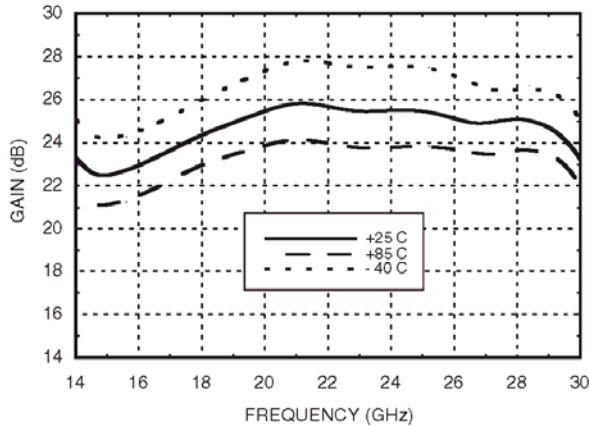
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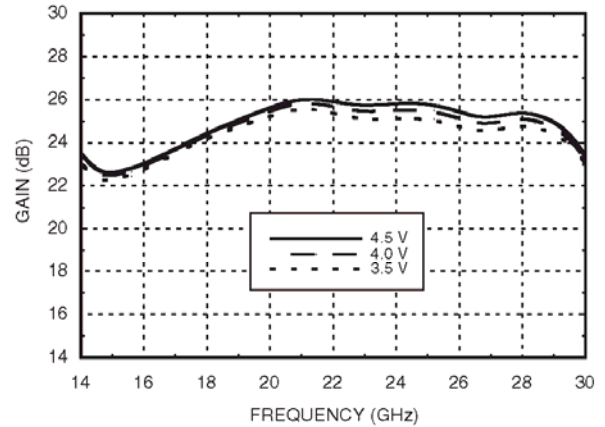
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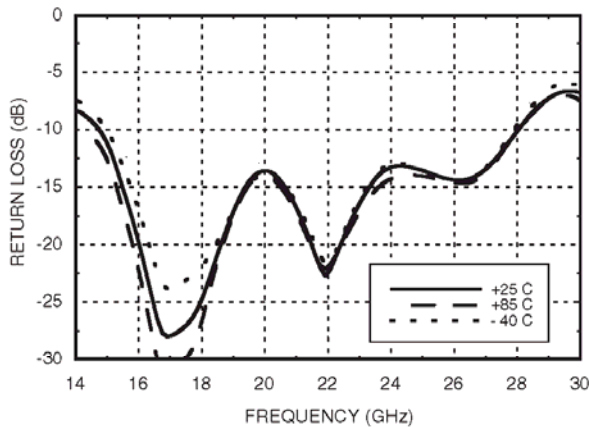
Gain vs. Temperature



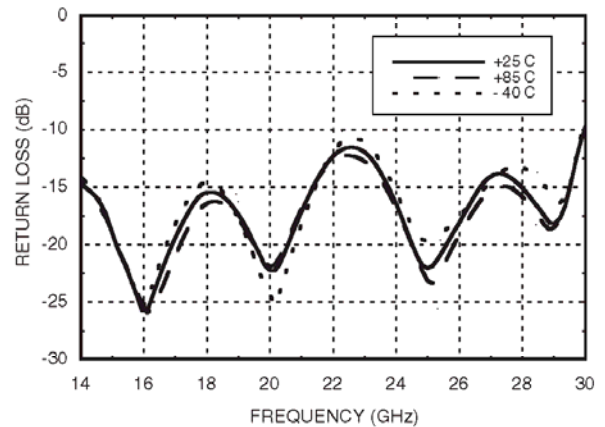
Gain vs. Supply Voltage



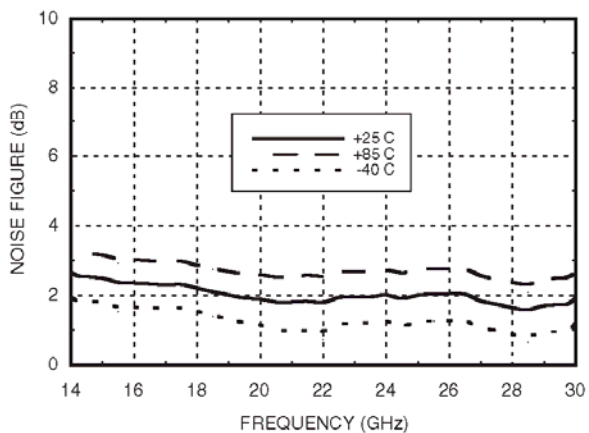
Input Return Loss vs. Temperature



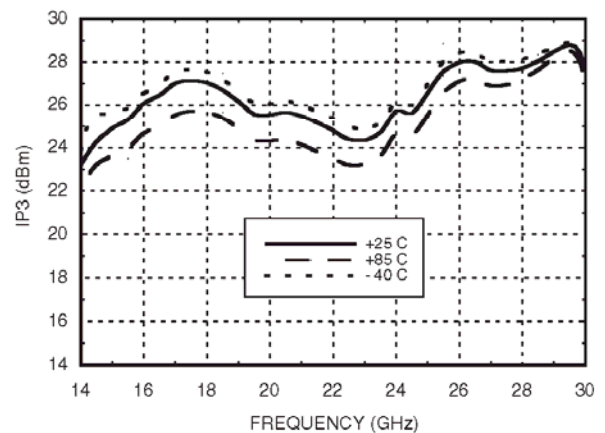
Output Return Loss vs. Temperature



Noise Figure vs. Temperature



Output IP3 vs. Temperature





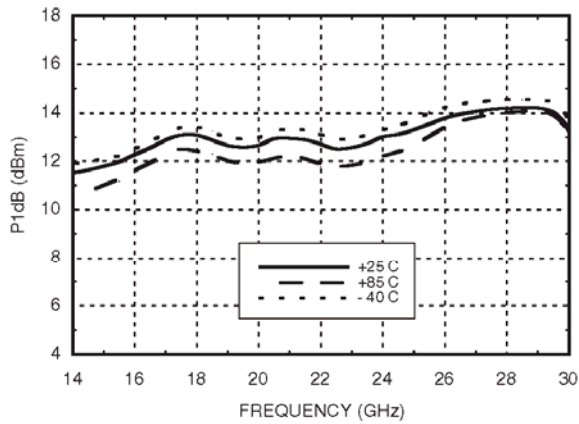
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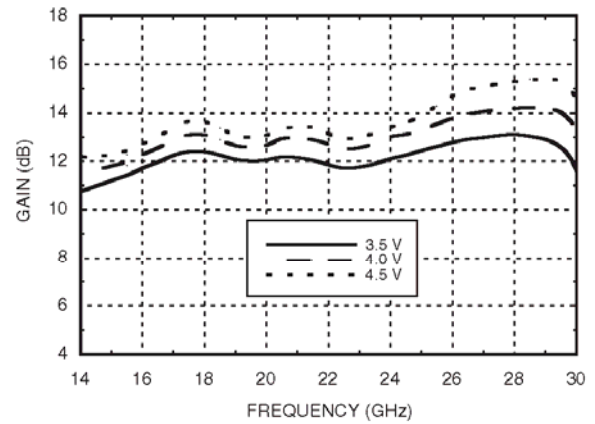
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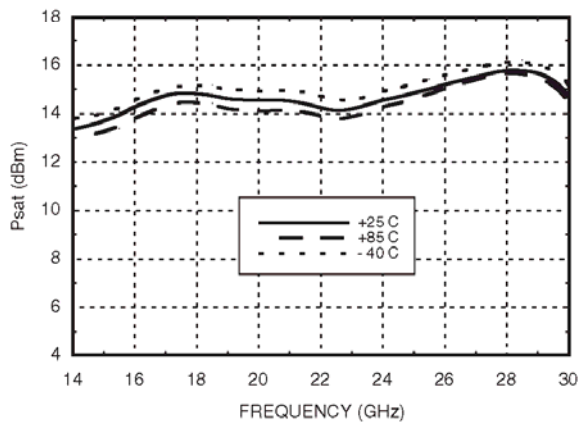
P1dB vs. Temperature



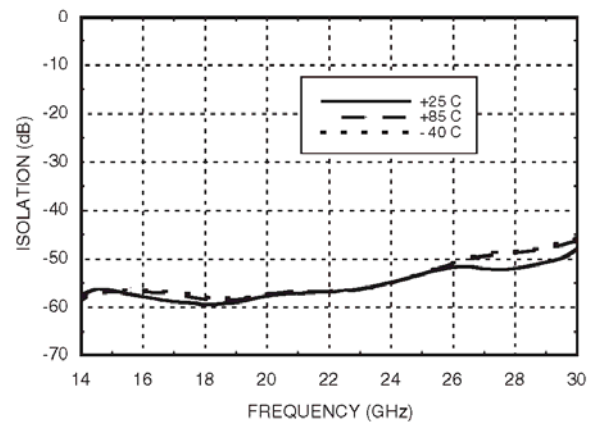
P1dB vs. Supply Voltage



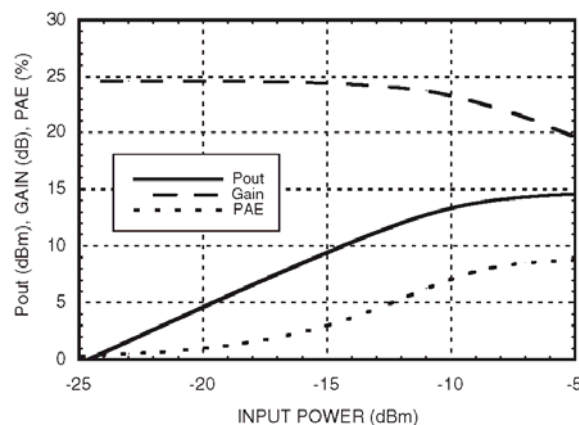
Psat vs. Temperature



Reverse Isolation vs. Temperature



Power Compression @ 21 GHz

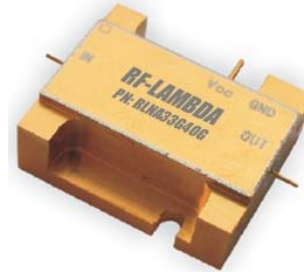
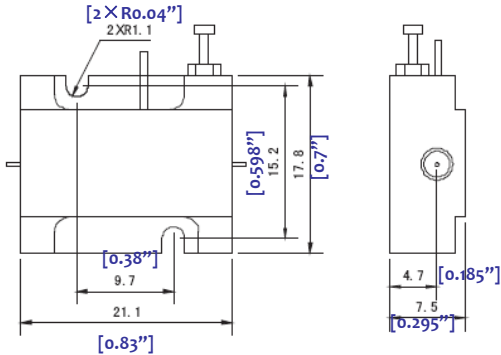




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Heat Sink required during operation. (Heat Sink sold separately)

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