



RF-LAMBDA

The power beyond expectations

R23M02GSA

Low Noise Amplifier 2.3-2.7GHz NF: 0.75dB



- WiMAX, WiBro & Fixed Wireless
- SDARS & WLAN Receivers
- Infrastructure & Repeaters
- Access Points
- Telematics & DMB
- Low Noise Figure: 0.75 dB
- High Gain: 19 dB
- High Output IP3: +29.5 dBm
- Single Supply: +3V to +5V
- 6 Lead 2x2mm DFN Package: 4 mm²

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

Parameter	Vdd = +3 Vdc			Vdd = +5 Vdc			Units
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Frequency Range	2300 - 2700			2300 - 2700			MHz
Gain	14	17.5		16	19		dB
Gain Variation Over Temperature		0.01			0.01		dB/ ° C
Noise Figure		0.9	1.2		0.75	1.1	dB
Input Return Loss		10			12		dB
Output Return Loss		15			14		dB
Output Power for 1 dB Compression (P1dB)	9.5	11.5		13.5	16.5		dBm
Saturated Output Power (Psat)		12.5			17		dBm
Output Third Order Intercept (IP3)		22			29.5		dBm
Supply Current (Idd)		24	32		59	75	mA

Absolute Maximum Ratings

Drain Bias Voltage (Vdd)	+6 Vdc
RF Input Power (RFIN)	+10 dBm
Channel Temperature	150 ° C
Continuous Pdiss (T= 85 ° C) (derate 5.88 mW/° C above 85 ° C)	0.38 W
Thermal Resistance (Channel to Ground Paddle)	170 ° C/W
Storage Temperature	-65 to +150 ° C
Operating Temperature	-40 to +85 ° C



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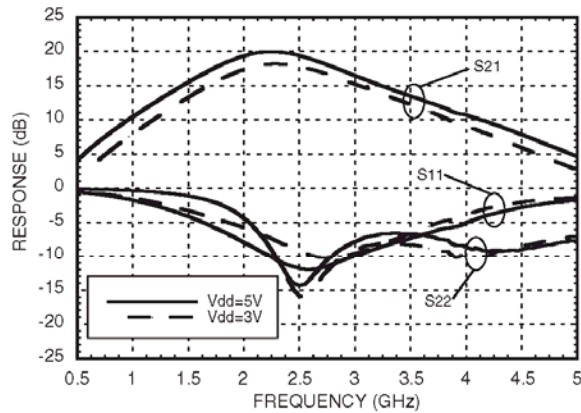


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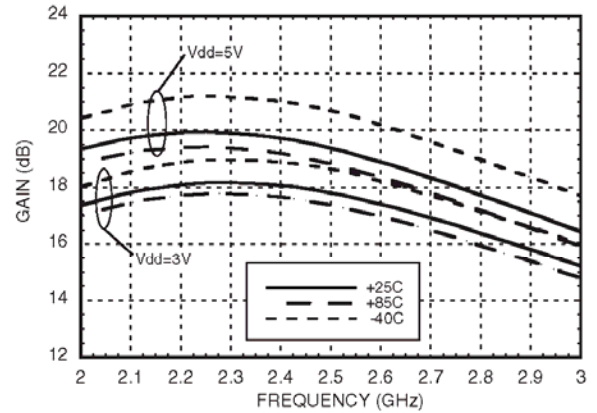
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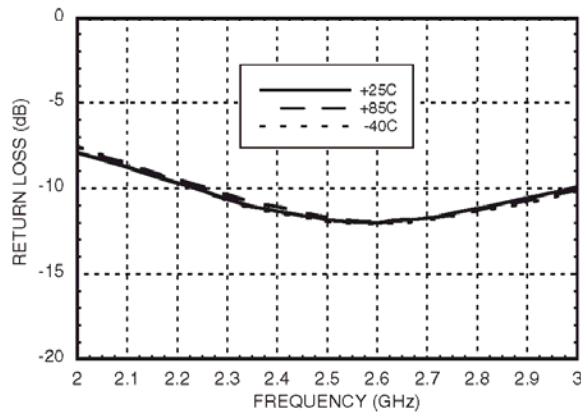
Broadband Gain & Return Loss



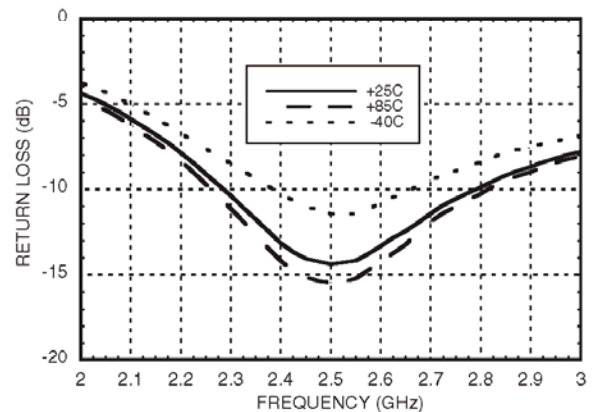
Gain vs. Temperature



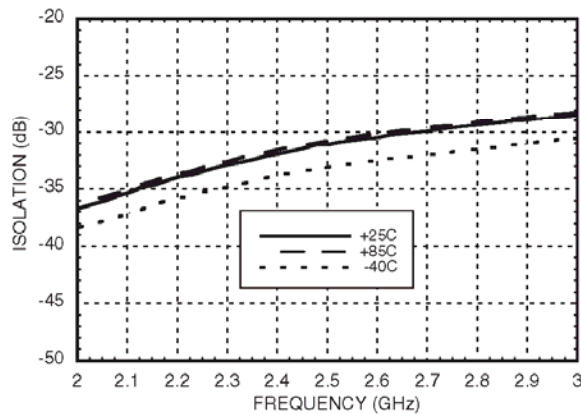
Input Return Loss vs. Temperature [1]



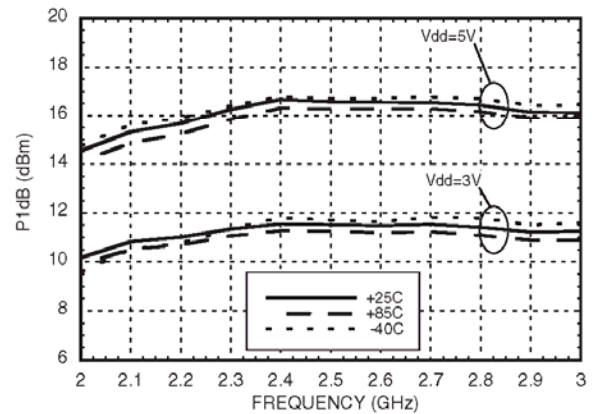
Output Return Loss vs. Temperature [1]



Reverse Isolation vs. Temperature [1]



P1dB vs. Temperature



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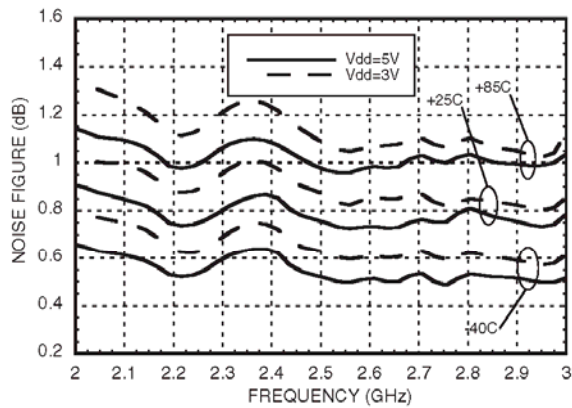


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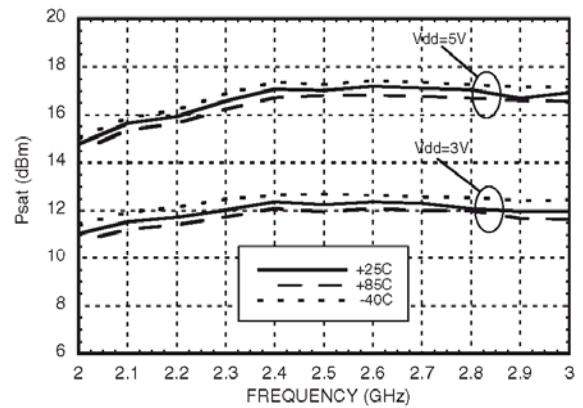
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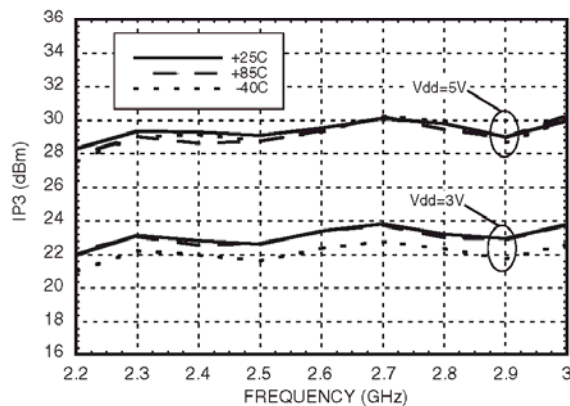
Noise Figure vs. Temperature [1]



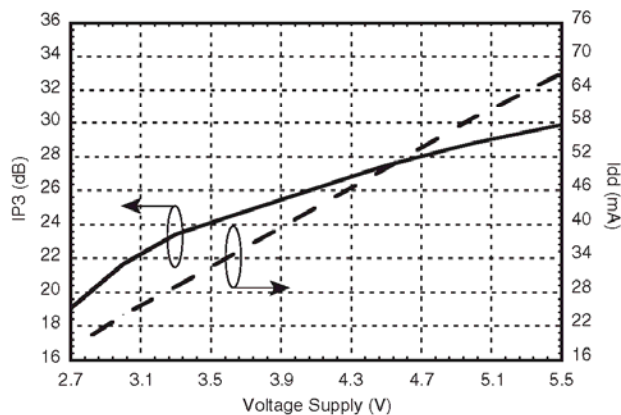
Psat vs. Temperature



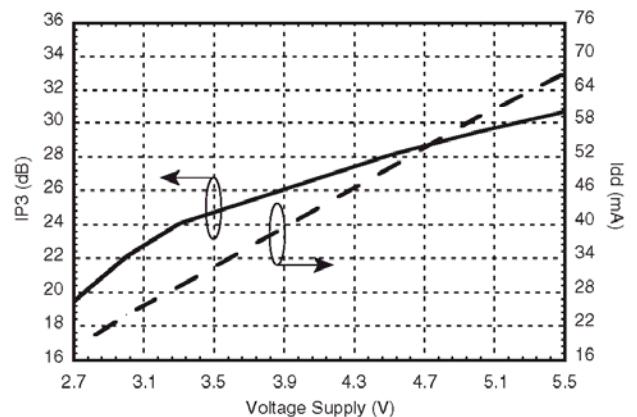
Output IP3 vs. Temperature



Output IP3 and Idd vs. Supply Voltage @ 2300 MHz



Output IP3 and Idd vs. Supply Voltage @ 2500 MHz



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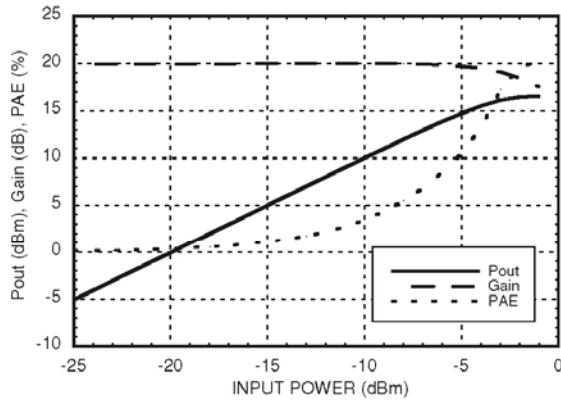
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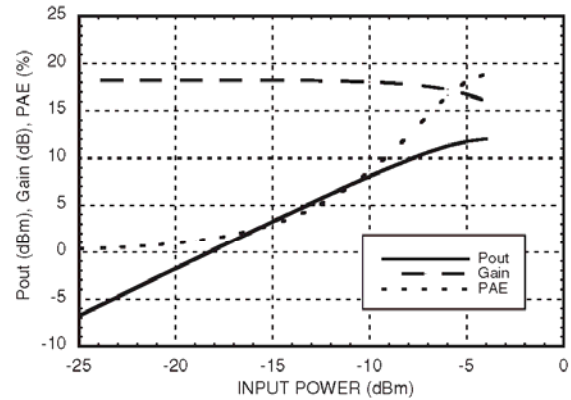
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Low Noise Amplifier 1.7-2.2GHz NF: 1.4dB

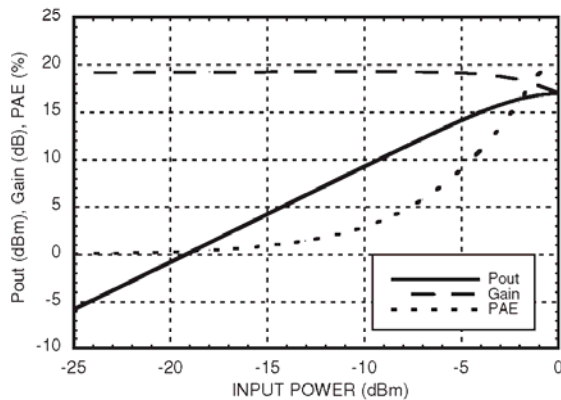
Output Power, Gain & PAE @ 2300 MHz [1]



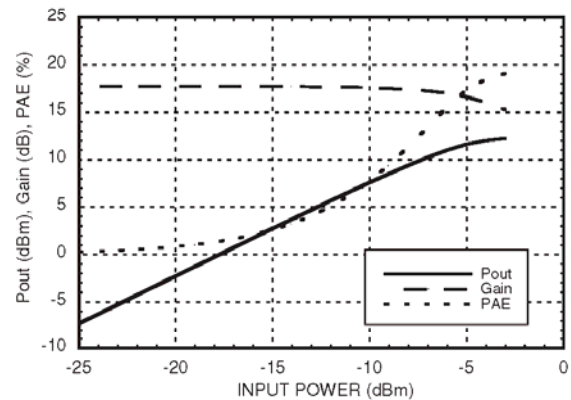
Output Power, Gain & PAE @ 2300 MHz [2]



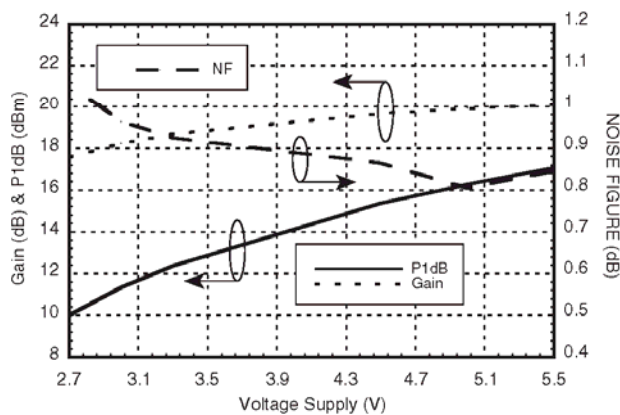
Output Power, Gain & PAE @ 2500 MHz [1]



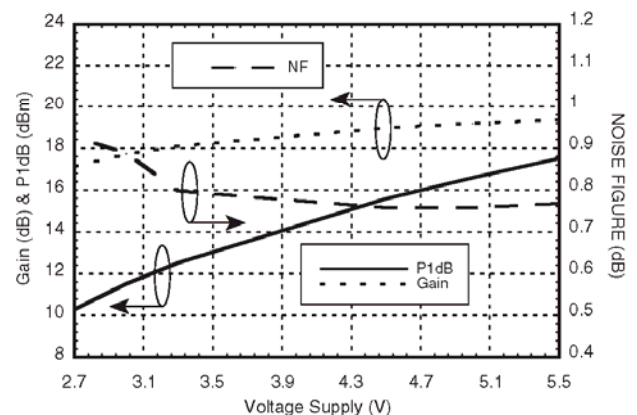
Output Power, Gain & PAE @ 2500 MHz [2]



P1dB, Gain, & Noise Figure vs. Supply Voltage @ 2300 MHz



P1dB, Gain, & Noise Figure vs. Supply Voltage @ 2500 MHz





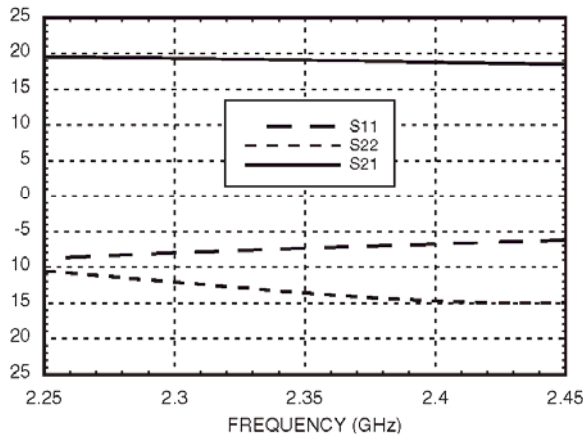
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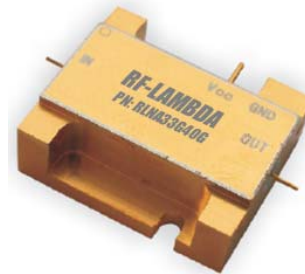
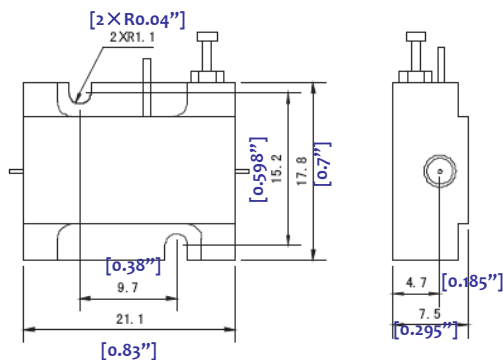
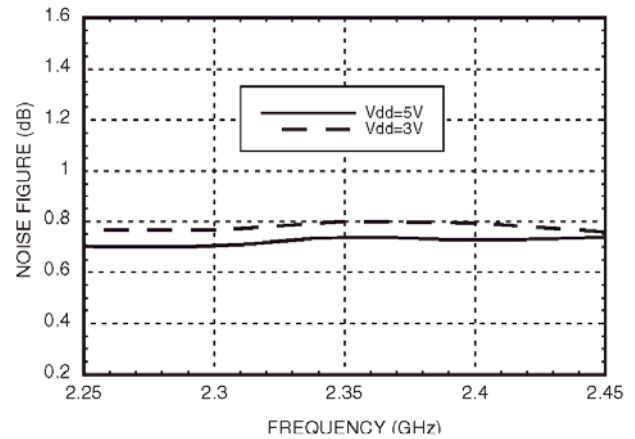
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Gain & Return Loss w/ SDARS Tune [1]



Noise Figure vs. Vdd w/ SDARS Tune [2]



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

Important Notice

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