



RF-LAMBDA

The power beyond expectations

R07M01GSC

Low Noise Amplifier 700-1000MHz NF: 1dB



- GSM, GPRS & EDGE
- CDMA & W-CDMA
- Private Land Mobile Radio
- Noise Figure: < 1 dB
- Output IP3: +34 dBm
- Gain: 15 dB
- Very Stable Gain vs. Supply & Temperature
- Single Supply: +5V @ 100 mA
- 50 Ohm Matched Output

Electrical Specifications, $T_A = +25^\circ \text{C}$, $V_{dd} = +5\text{V}$

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		810 - 960			700 - 1000		MHz
Gain	12.5	14.5		11.5	14.5		dB
Gain Variation Over Temperature		0.008	0.015		0.008	0.015	dB / ° C
Noise Figure		1.0	1.3		1.0	1.3	dB
Input Return Loss		25			25		dB
Output Return Loss		14			12		dB
Reverse Isolation		20			22		dB
Output Power for 1dB Compression (P1dB)	18	21		17	20		dBm
Saturated Output Power (Psat)		23.5			22.5		dBm
Output Third Order Intercept (IP3) (-20 dBm Input Power per tone, 1 MHz tone spacing)		34		30	33		dBm
Supply Current (Idd)		100			100		mA

Absolute Maximum Ratings

Drain Bias Voltage (V_{dd})	+8.0 Vdc
RF Input Power (RFIN) ($V_s = +5.0 \text{ Vdc}$)	+15 dBm
Channel Temperature	150 ° C
Continuous P _{diss} ($T = 85^\circ \text{C}$) (derate 15.6 mW/° C above 85 ° C)	1.015 W
Thermal Resistance (channel to ground paddle)	64.1 ° C/W
Storage Temperature	-65 to +150 ° C
Operating Temperature	-40 to +85 ° C

Typical Supply Current vs. V_{dd}

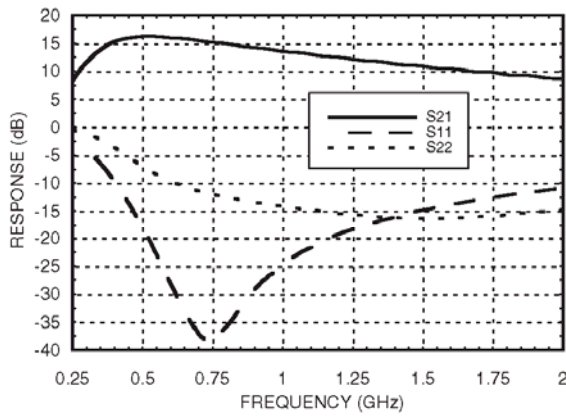
V_{dd} (Vdc)	I _{dd} (mA)
+4.5	98
+5.0	100
+5.5	102



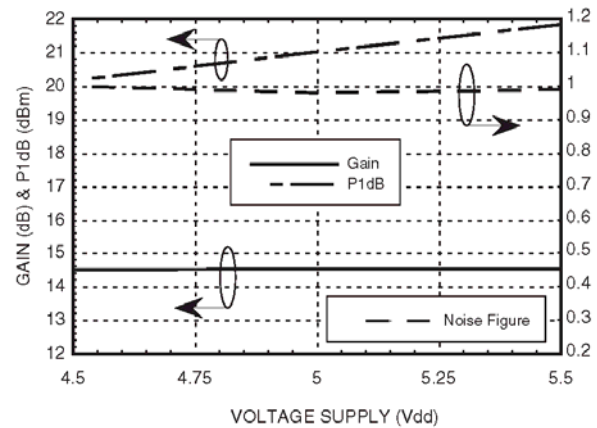
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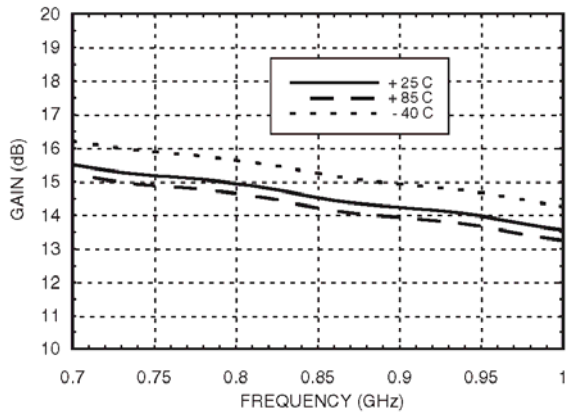
Broadband Gain & Return Loss



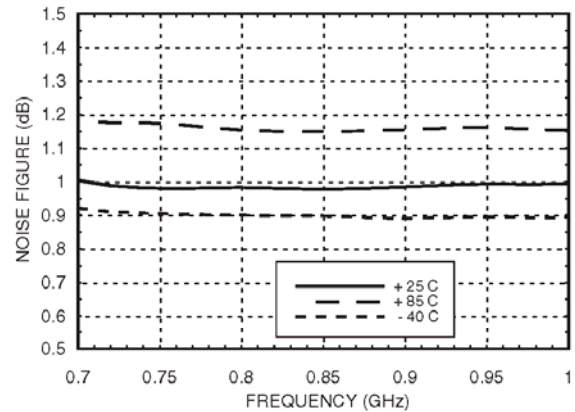
Gain, Noise Figure & Power vs. Supply Voltage @ 850MHz



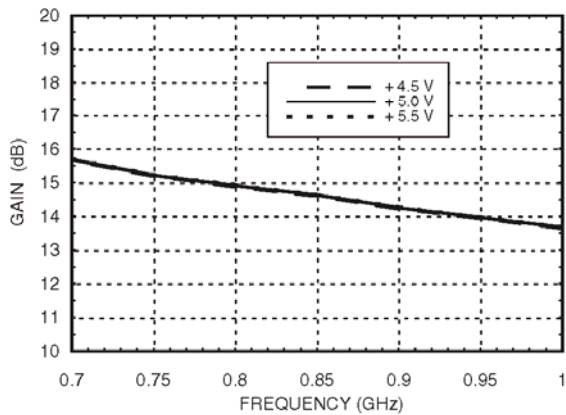
Gain vs. Temperature



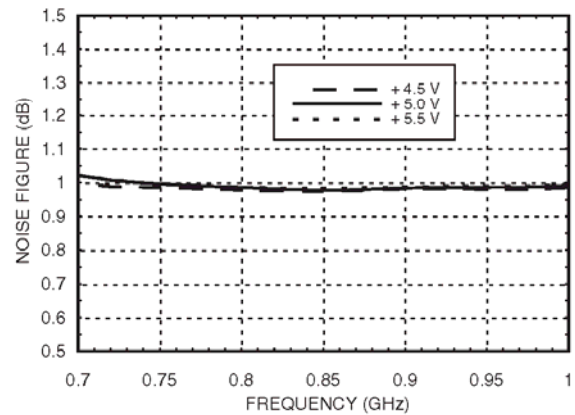
Noise Figure vs. Temperature



Gain vs. Vdd



Noise Figure vs. Vdd





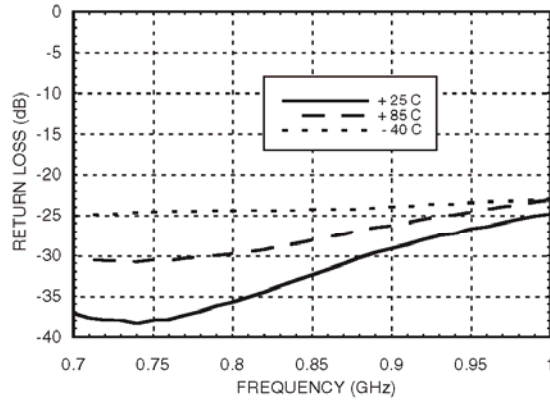
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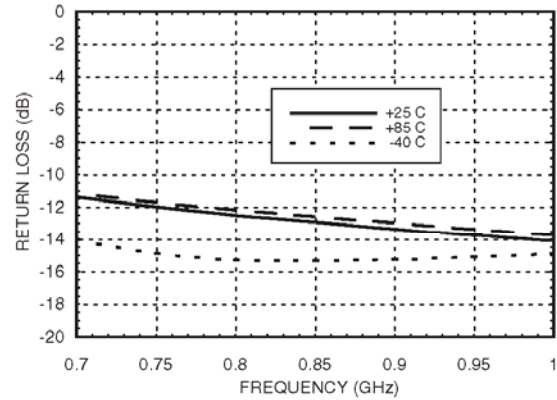
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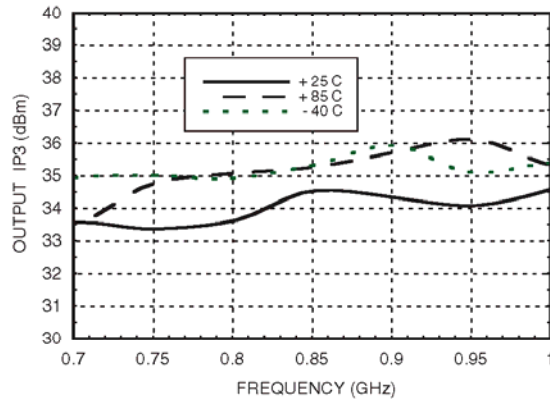
Input Return Loss vs. Temperature



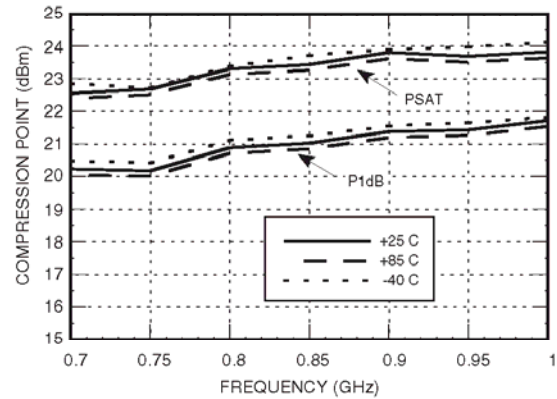
Output Return Loss vs. Temperature



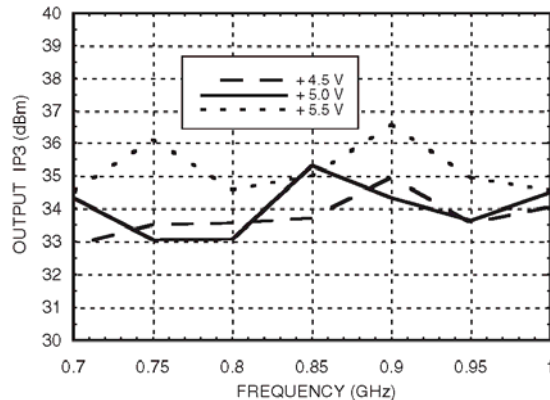
Output IP3 vs. Temperature



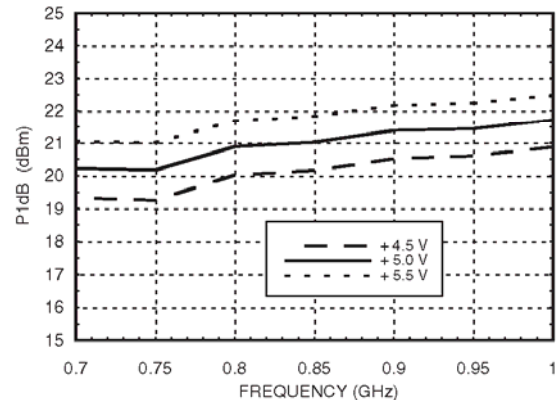
P1dB & Psat vs. Temperature



Output IP3 vs. Vdd



P1dB vs. Vdd



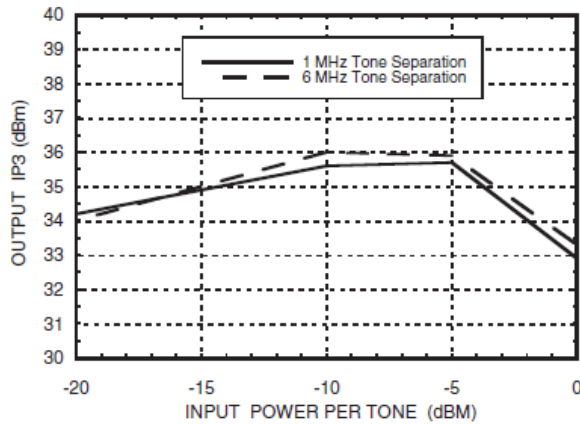


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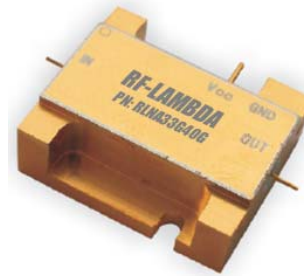
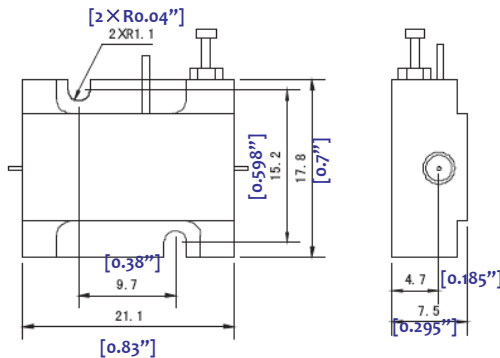
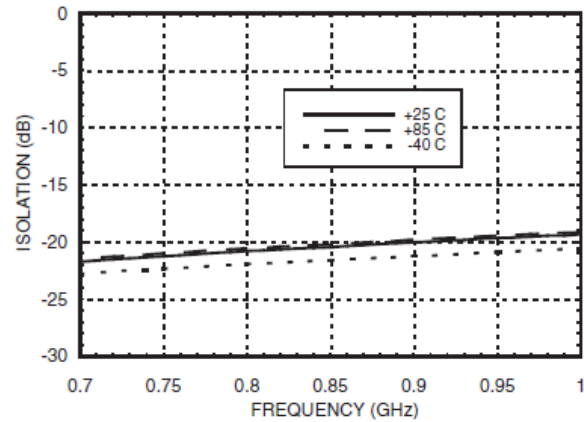
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Output IP3 vs. Input Power @ 950 MHz



Reverse Isolation vs. Temperature



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

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