



RF-LAMBDA

The power beyond expectations

R24G30GSA

Low Noise Amplifier 24-30GHz NF: 2.5dB



- Millimeterwave Point-to-Point Radios
- LMDS
- VSAT & SATCOM
- Excellent Noise Figure: 2.5 dB
- Gain: 13 dB
- Single Supply: +3V @ 30 mA
- Small Size: 1.42 x 1.06 x 0.1 mm

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

Parameter	Min.	Typ.	Max.	Units
Frequency Range		24 - 30		GHz
Gain	10	13	16	dB
Gain Variation Over Temperature		0.03	0.04	dB/ $^\circ\text{C}$
Noise Figure	26 - 30 GHz 24 - 26 GHz	2.5 2.9	3.5 3.9	dB dB
Input Return Loss	9	13		dB
Output Return Loss	9	13		dB
Reverse Isolation	25	30		dB
Output Power for 1dB Compression (P1dB)	2	6		dBm
Saturated Output Power (Psat)	6	10		dBm
Output Third Order Intercept (IP3)	12	16		dBm
Supply Current (Idd)		30	40	mA

Absolute Maximum Ratings

Drain Bias Voltage (Vdd)	+5.5 Vdc
RF Input Power (RFIN)(Vdd = +3.0 Vdc)	+3 dBm
Channel Temperature	175 $^\circ\text{C}$
Continuous P _{diss} (T = 85 $^\circ\text{C}$) (derate 3.44 mW/ $^\circ\text{C}$ above 85 $^\circ\text{C}$)	0.310 W
Thermal Resistance (channel to die bottom)	290 $^\circ\text{C/W}$
Storage Temperature	-65 to +150 $^\circ\text{C}$
Operating Temperature	-55 to +85 $^\circ\text{C}$



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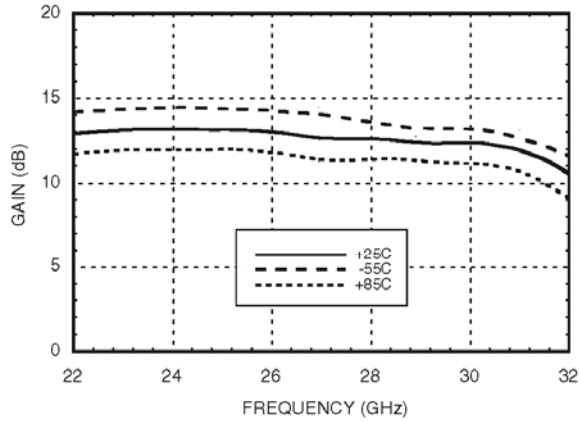
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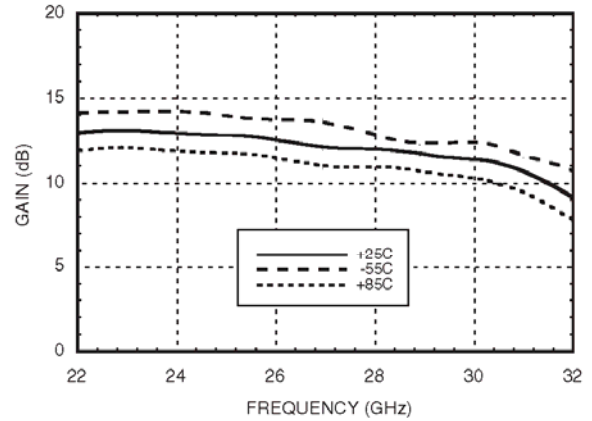
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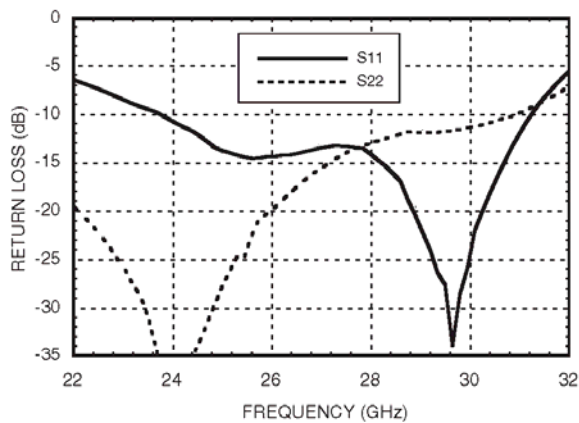
Gain vs. Temperature @ Vdd = +3V



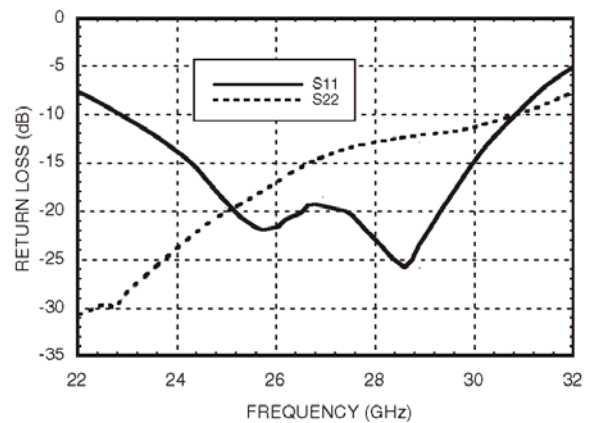
Gain vs. Temperature @ Vdd = +5V



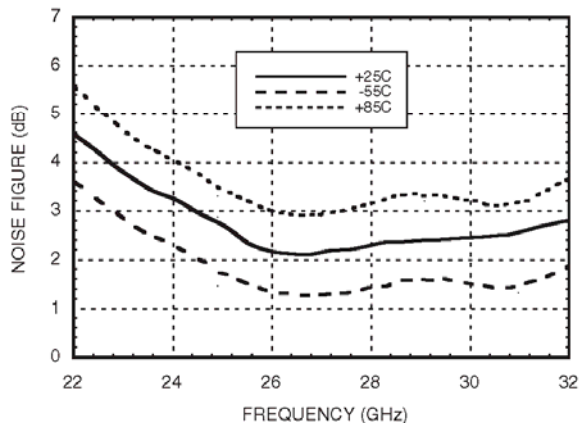
Return Loss @ Vdd = +3V



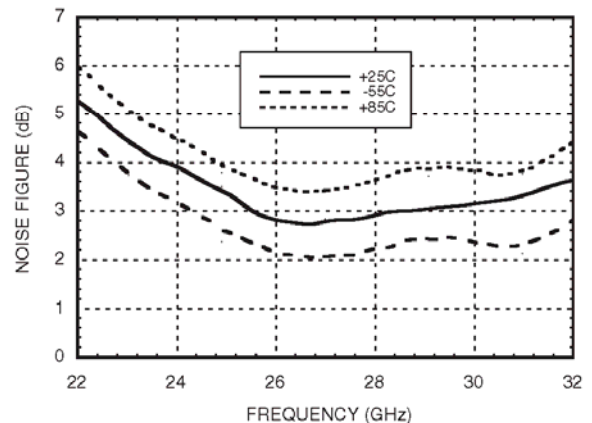
Return Loss @ Vdd = +5V



Noise Figure vs. Temperature @ Vdd = +3V



Noise Figure vs. Temperature @ Vdd = +5V



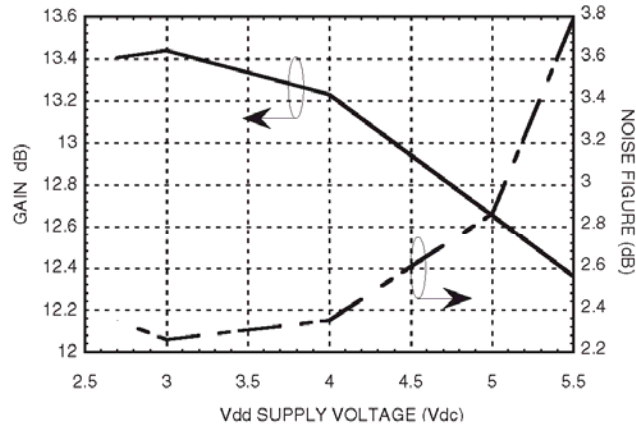


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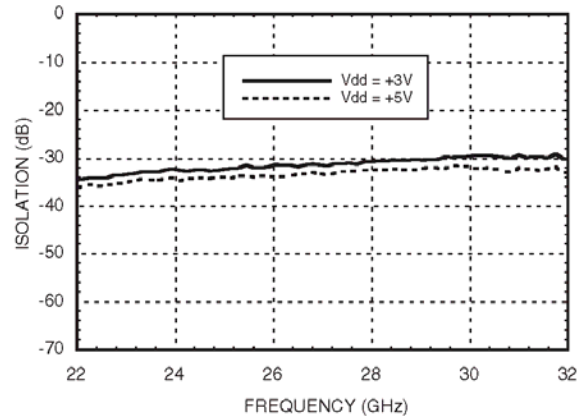
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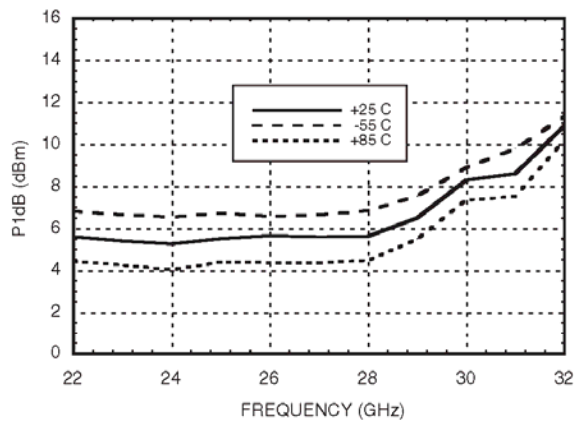
**Gain & Noise Figure
vs. Supply Voltage @ 28 GHz**



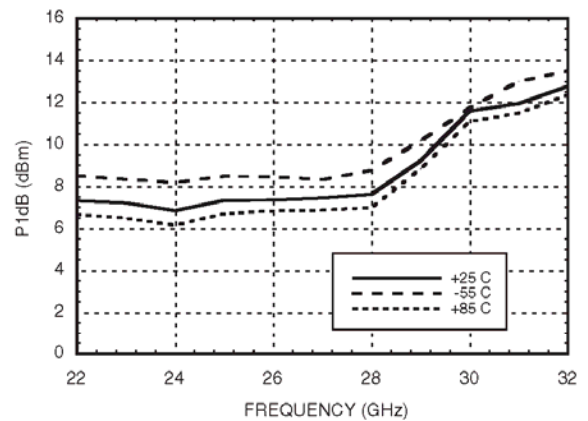
Isolation



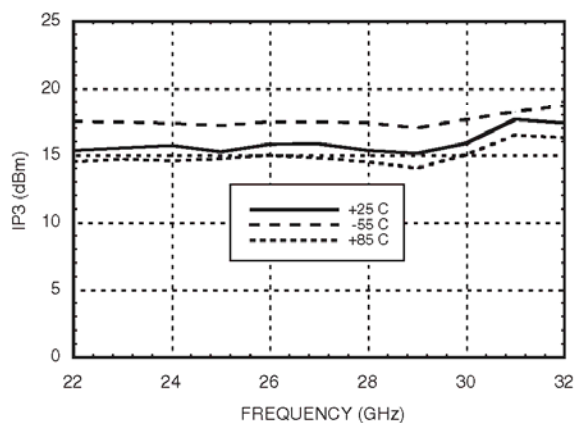
Output P1dB @ Vdd = +3V



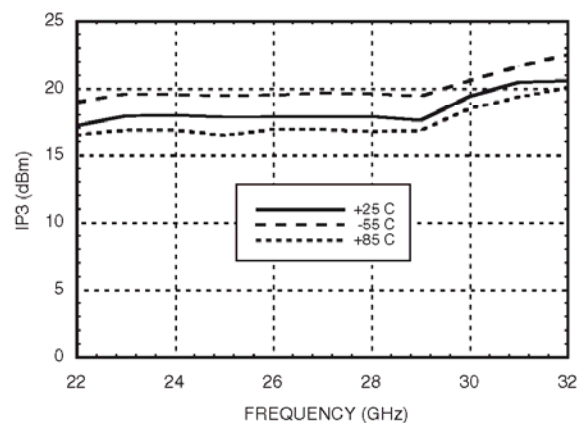
Output P1dB @ Vdd = +5V



Output IP3 @ Vdd = +3V



Output IP3 @ Vdd = +5V



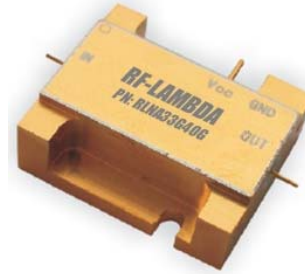
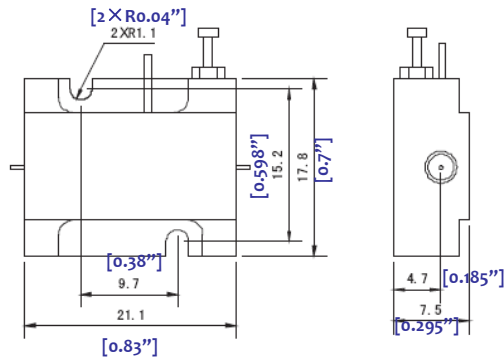
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Heat Sink required during operation. (Heat Sink sold separately)

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