



### Low Noise Amplifier 5-10GHz NF: 1.8dB



- Point-to-Point Radios
- Point-to-Multi- Point Radios
- Military & Space
- Test Instrumentation
- Low Noise Figure: 1.8 dB
- High Gain: 19 dB
- High P1dB Output power: 16 dBm
- Single Supply: +3.5 V @ 80 mA
- Output IP3: +28 dBm
- 50 Ohm Matched Input/Output
- 16 Lead 3x3mm SMT Package: 9mm<sup>2</sup>

**Electrical Specifications,  $T_A = +25^\circ C$ ,  $V_{dd1} = V_{dd2} = +3.5V$ ,  $I_{dd} = 80 mA$  [2]**

Parameter	Min.	Typ.	Max.	Units
Frequency Range		5 - 10		GHz
Gain [1]	17	19.5		dB
Gain Variation over Temperature		0.01		dB / ° C
Noise Figure [1]		1.8	2.2	dB
Input Return Loss		12		dB
Output Return Loss		15		dB
Output Power for 1 dB Compression [1]		16		dBm
Saturated Output Power (Psat) [1]		17.5		dBm
Output Third Order Intercept (IP3)		28		dBm
Supply Current (Idd) (Vdd = 3.5V, set Vgg2 = 0V, Vgg1 = 0V Typ.)		80	110	mA

### Absolute Maximum Ratings

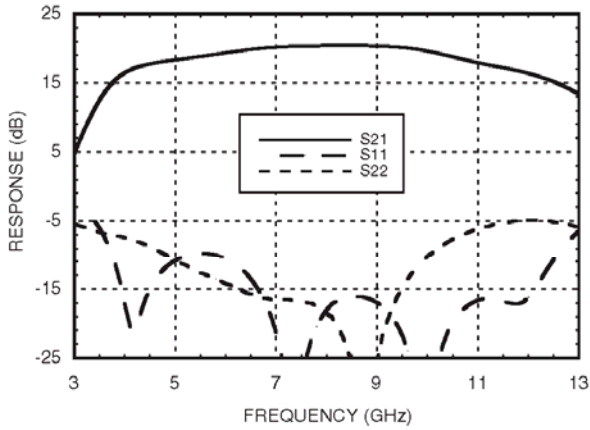
Drain Bias Voltage	+4.5V
RF Input Power	+10 dBm
Gate Bias Voltage, Vgg1	-0.8V to +0.2V
Gate Bias Voltage, Vgg2	- 0.8V to +0.2V
Channel Temperature	150 ° C
Continuous Pdiss (T = 85 ° C) (derate 7 mW/° C above 85 ° C)	0.45 W
Thermal Resistance (Channel to ground paddle)	143.8 ° C/W
Storage Temperature	-65 to +150 ° C
Operating Temperature	-40 to +85 ° C



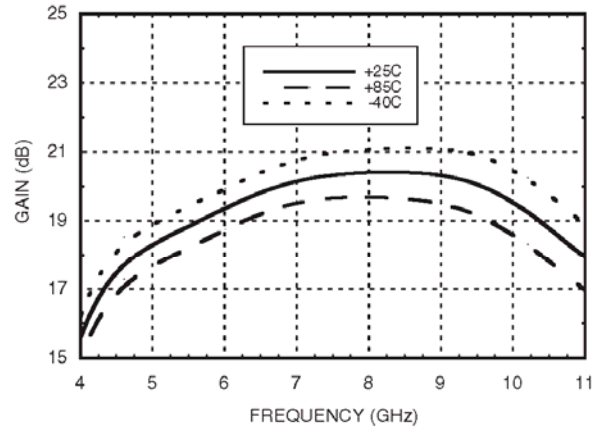
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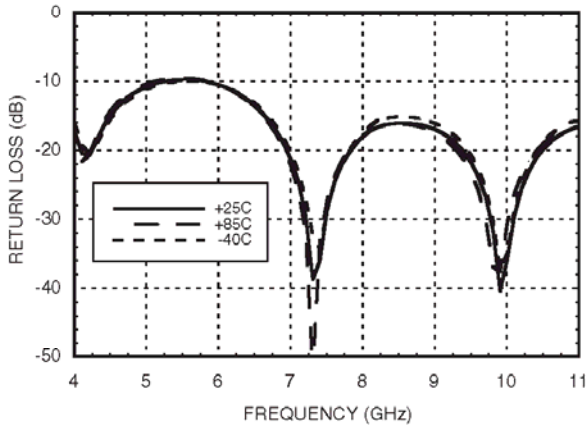
### Broadband Gain & Return Loss [1]



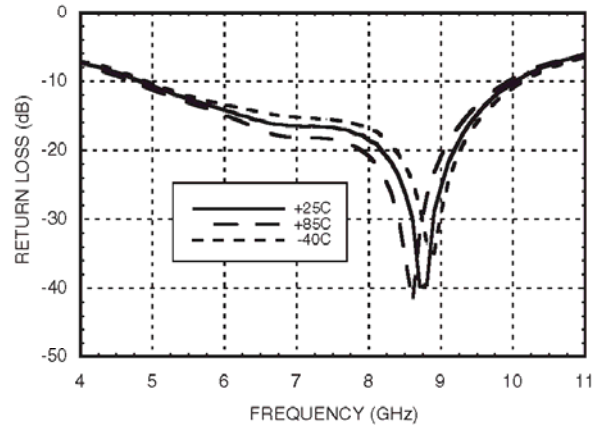
### Gain vs. Temperature [1]



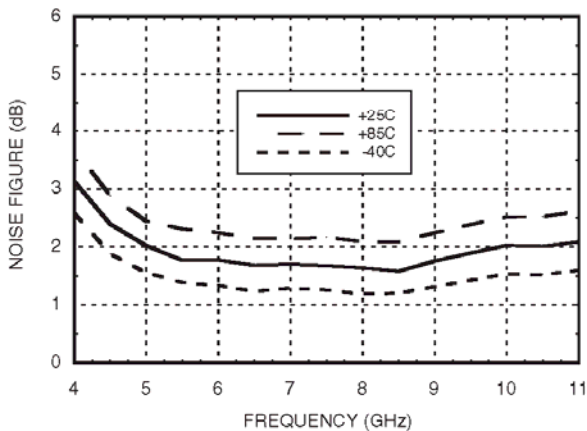
### Input Return Loss vs. Temperature



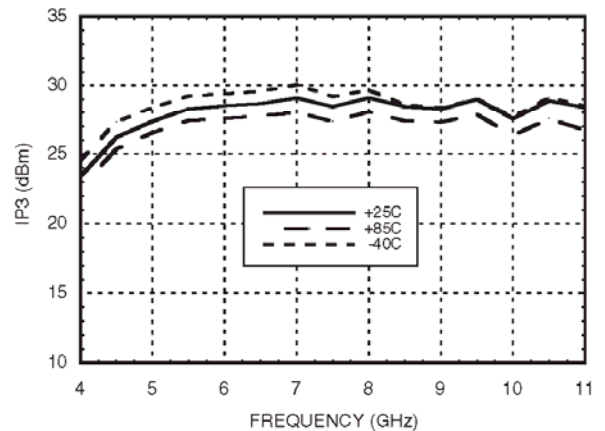
### Output Return Loss vs. Temperature



### Noise Figure vs. Temperature [1]

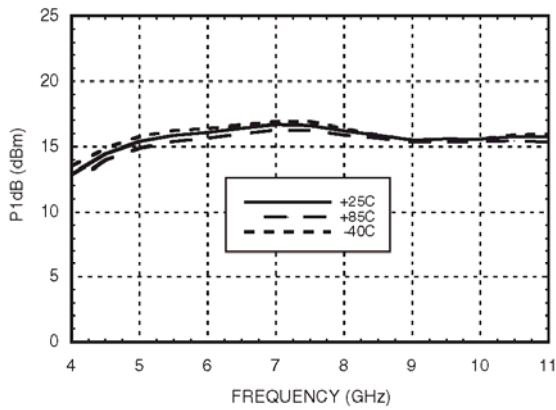


### Output IP3 vs. Temperature

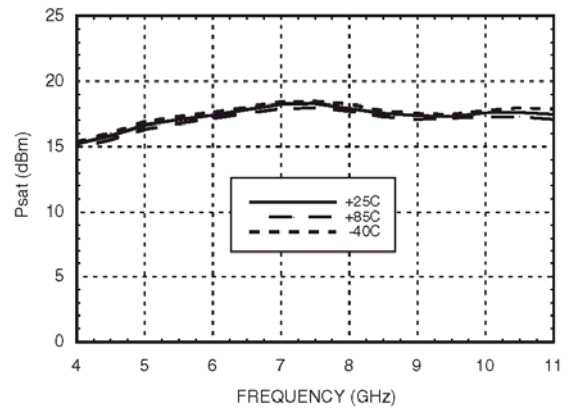




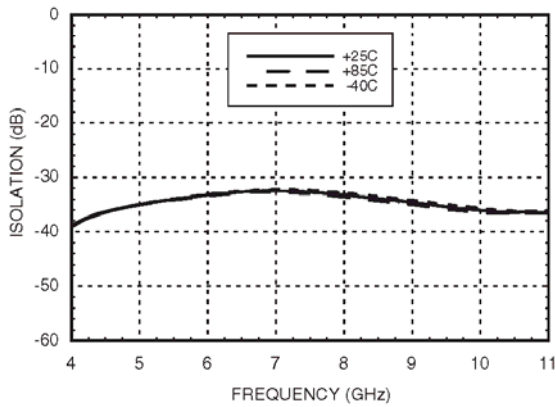
**P1dB vs. Temperature [1]**



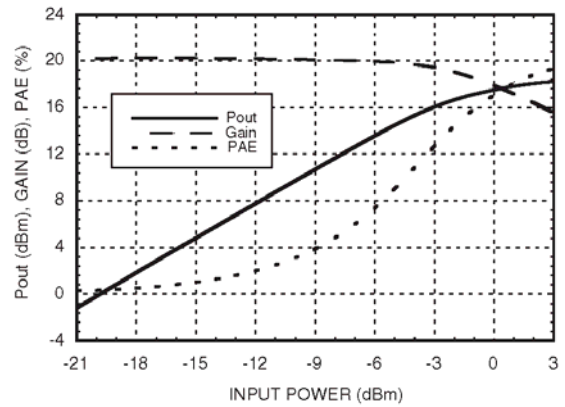
**Psat vs. Temperature [1]**



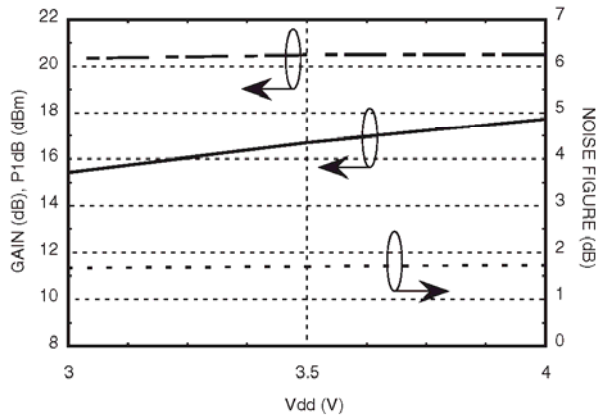
**Reverse Isolation vs. Temperature**



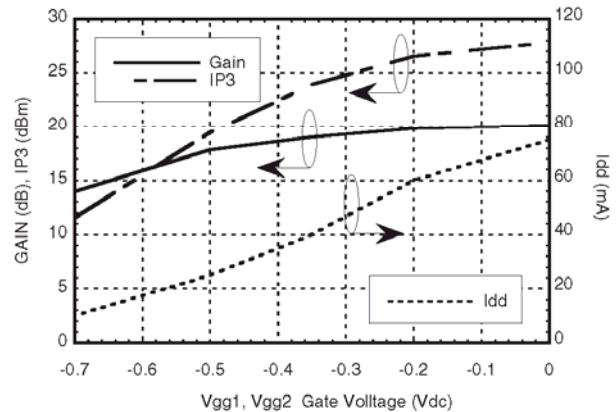
**Power Compression @ 7 GHz [1]**



**Gain, Noise Figure & Power vs. Supply Voltage @ 7 GHz [1]**



**Gain, Output IP3 & Idd vs. Gate Voltage @ 7 GHz [2][3]**

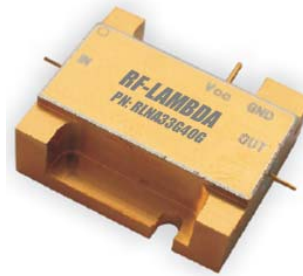
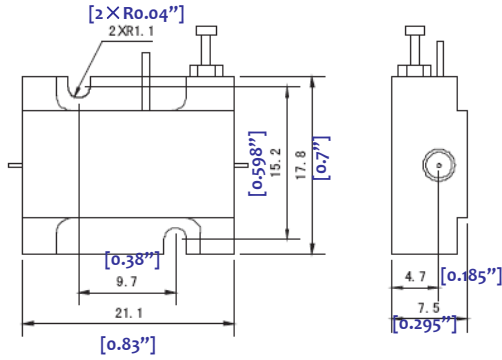




# RF-LAMBDA

The power beyond expectations

R05G10GSB



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

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