



Low Noise Amplifier 50-1000MHz NF: 2.2dB



- VHF / UHF Antennas
- HDTV Receivers
- CMTS Equipment
- CATV, Cable Modem & DBS
- High P1dB Output Power: +19 dBm
- High Output IP 3: +39 dBm
- Low Noise Figure: 2.2 dB
- Cascadable 75 Ohm I/Os
- Single Bias Supply: +3V or +5V
- Industry Standard SO T89 Package

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

Parameter		Min.	Typ.	Max.	Units
Gain	50 - 500 MHz	13	14.5		dB
	500 - 1000 MHz	12	14		dB
Gain Variation Over Temperature	50 - 1000 MHz		0.005		dB/°C
Input Return Loss	50 - 500 MHz		15		dB
	500 - 1000 MHz		12		dB
Output Return Loss	50 - 500 MHz		25		dB
	500 - 1000 MHz		15		dB
Reverse Isolation	50 - 1000 MHz		20		dB
Output Power for 1 dB Compression (P1dB)	50 - 500 MHz	16	19		dBm
Output Third Order Intercept (IP3) (Pout= -10 dBm per tone, 1 MHz spacing)	50 - 500 MHz		39		dBm
	500 - 1000 MHz		36		dBm
Noise Figure	50 - 1000 MHz		2.2		dB
Supply Current (Idd)		100	120	140	mA

Absolute Maximum Ratings

Drain Bias Voltage (Vdd)	+6 Vdc
RF Input Power (RFIN)	+10 dBm
Channel Temperature	175 °C
Continuous P _{diss} (T = 85 °C) (derate 9.84 mW/°C above 85 °C)	0.89 W
Thermal Resistance (junction to ground paddle)	101.67 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

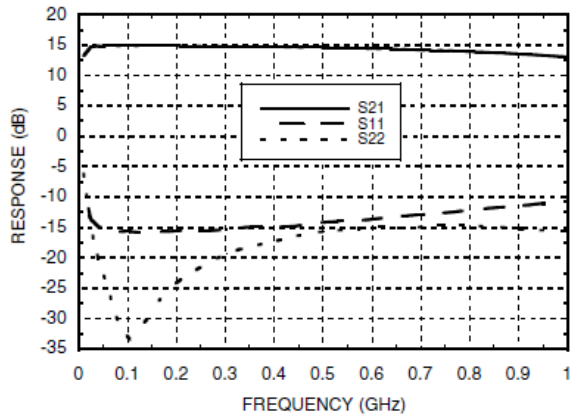
Typical Supply Current vs. Vdd

Vdd (Vdc)	Idd (mA)
+5	120
+3	120

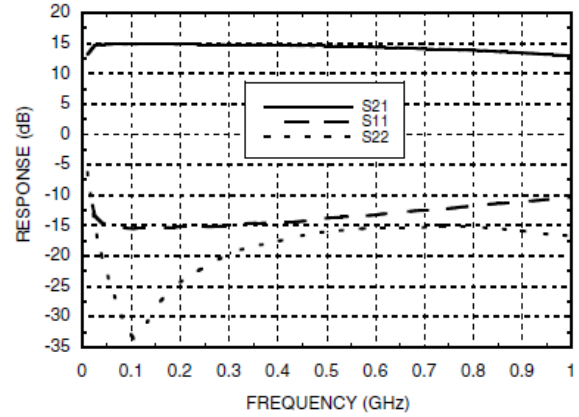




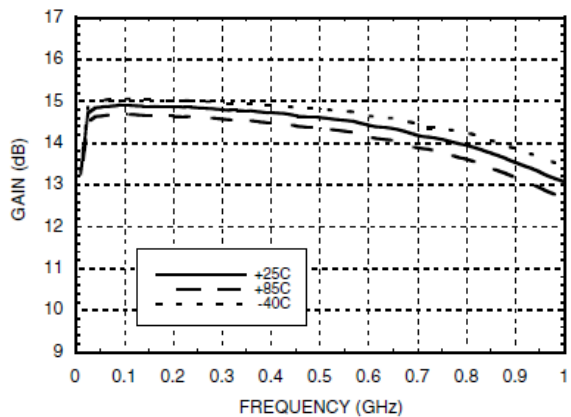
Broadband Gain & Return Loss @ 3V



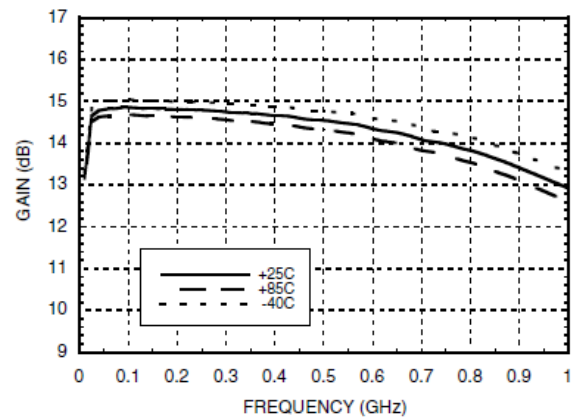
Broadband Gain & Return Loss @ 5V



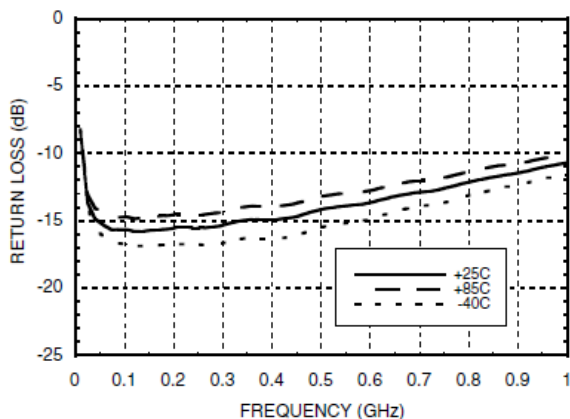
Gain vs. Temperature @ 3V



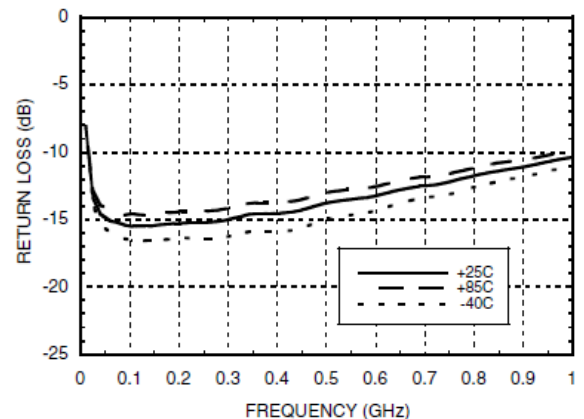
Gain vs. Temperature @ 5V



Input Return Loss vs. Temperature @ 3V



Input Return Loss vs. Temperature @ 5V





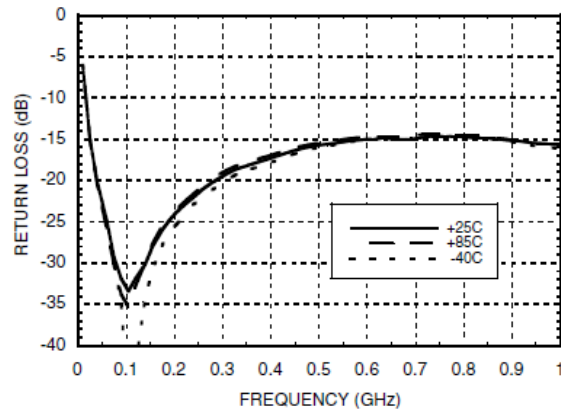
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The power beyond expectations

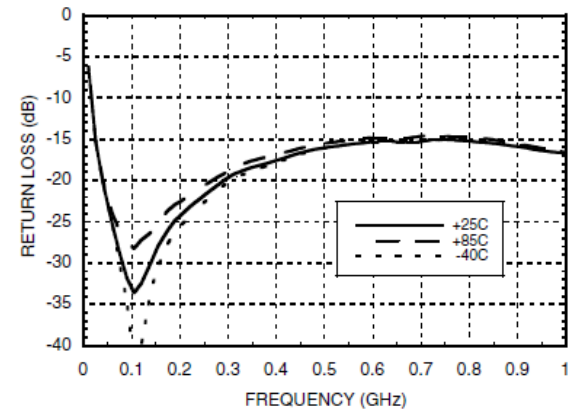
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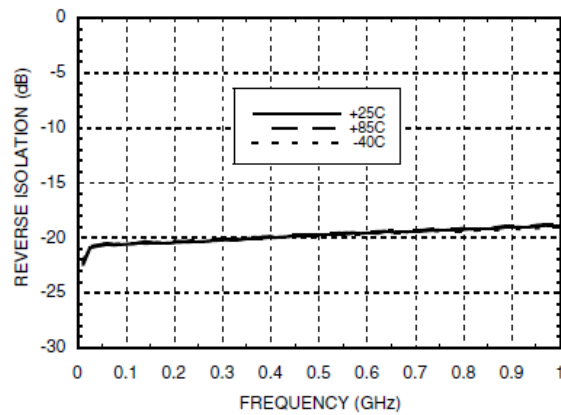
Output Return Loss vs. Temperature @ 3V



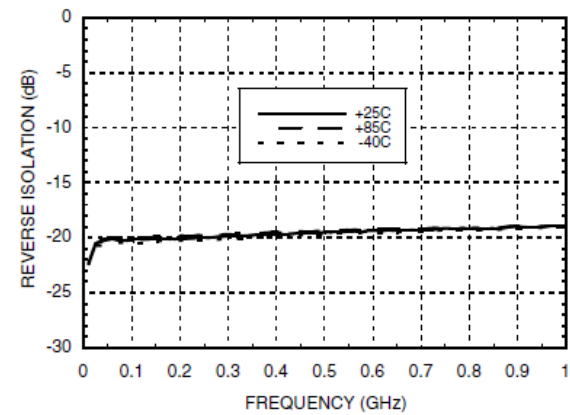
Output Return Loss vs. Temperature @ 5V



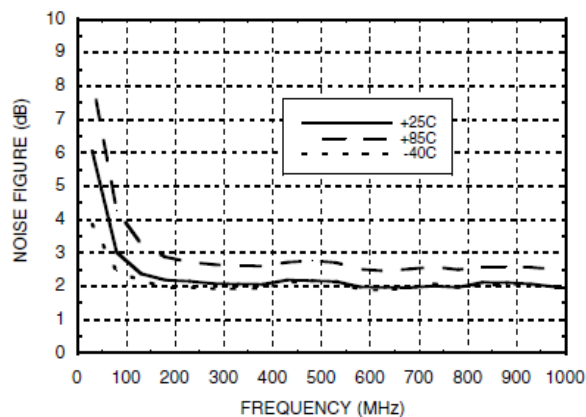
Reverse Isolation vs. Temperature @ 3V



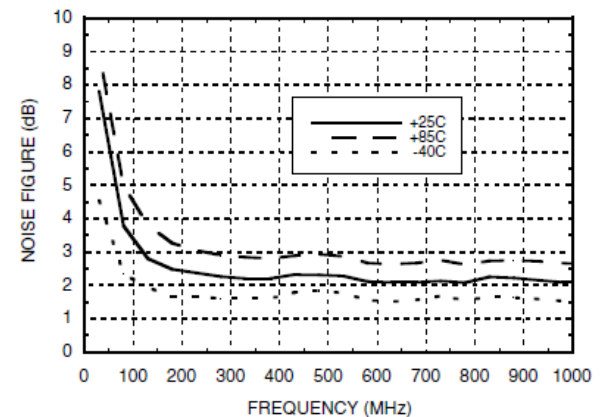
Reverse Isolation vs. Temperature @ 5V



Noise Figure vs. Temperature @ 3V

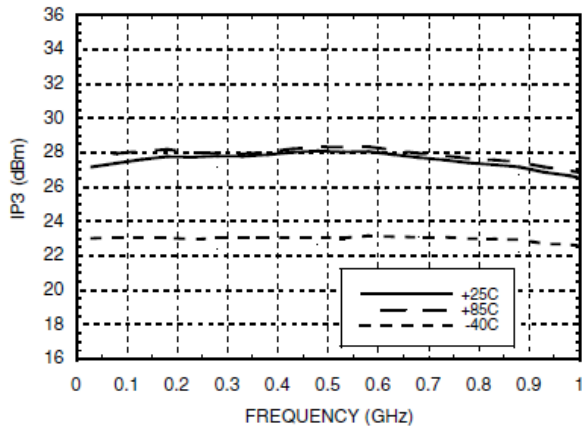


Noise Figure vs. Temperature @ 5V

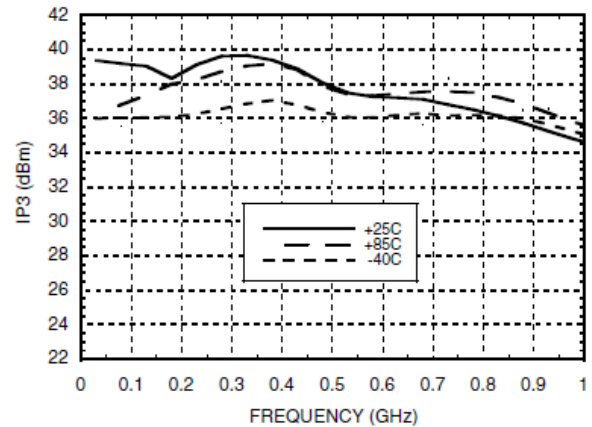




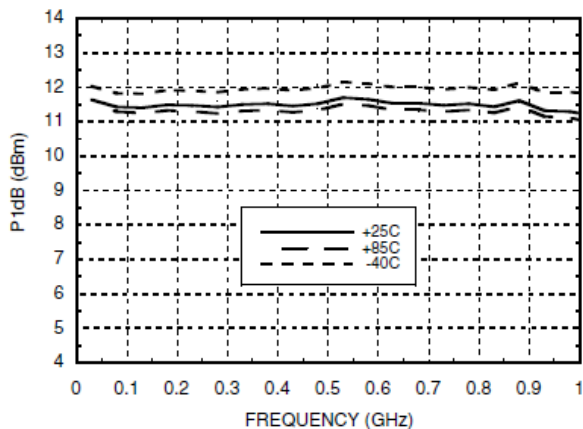
IP3 vs. Temperature @ 3V



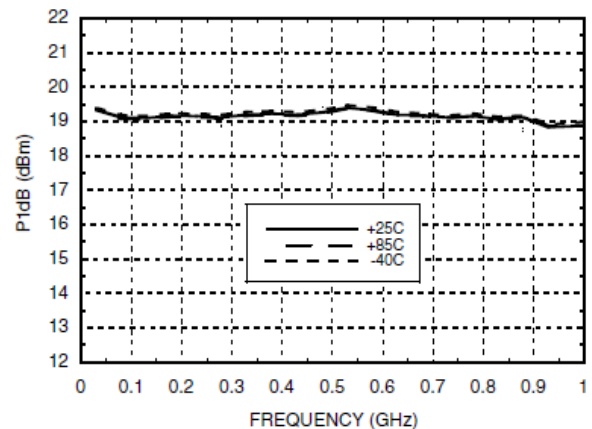
IP3 vs. Temperature @ 5V



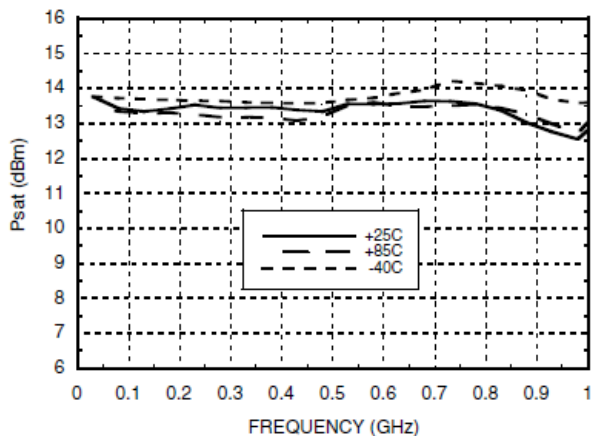
P1dB vs. Temperature @ 3V



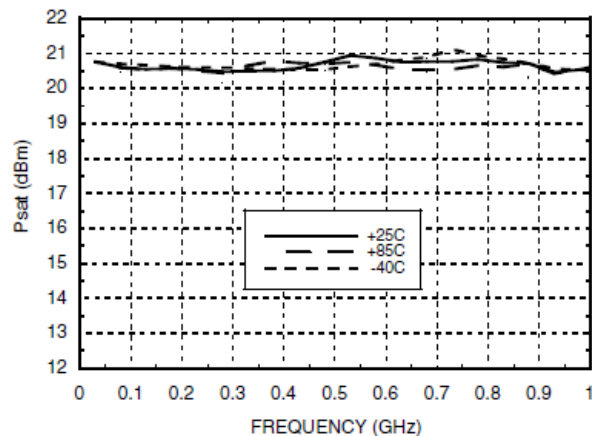
P1dB vs. Temperature @ 5V



Psat vs. Temperature @ 3V

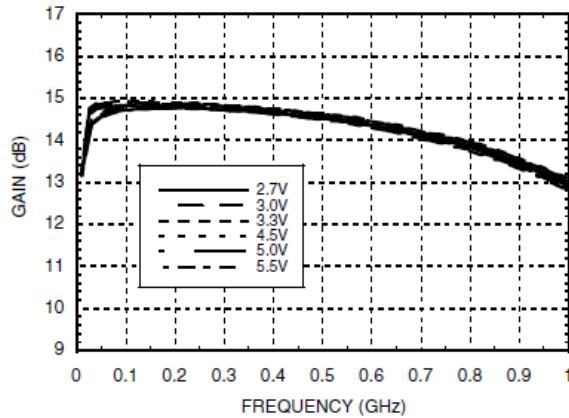


Psat vs. Temperature @ 5V

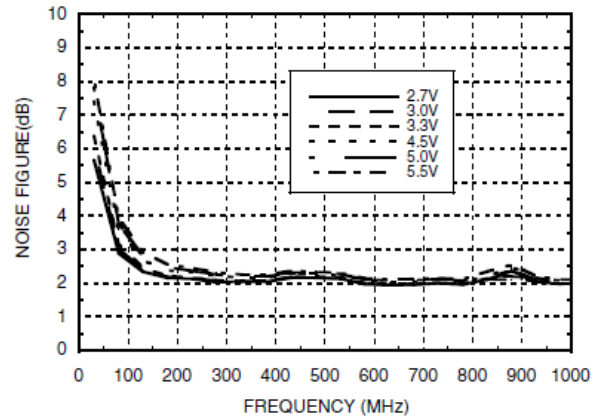




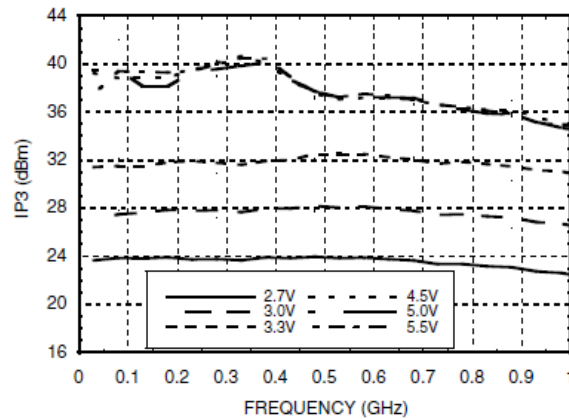
Gain vs. Supply Voltage



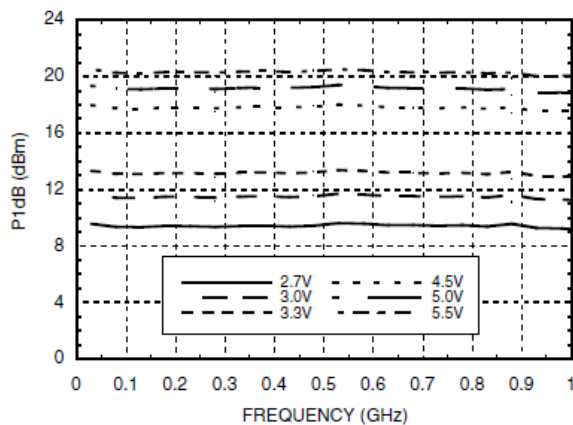
Noise Figure vs. Supply Voltage



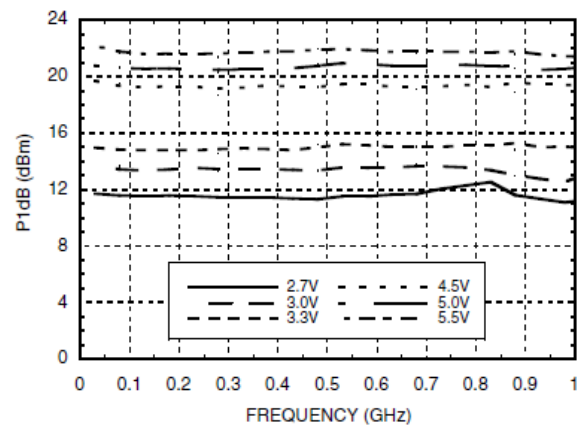
IP3 vs. Supply Voltage



P1dB vs. Supply Voltage



Psat vs. Supply Voltage

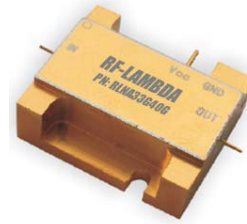
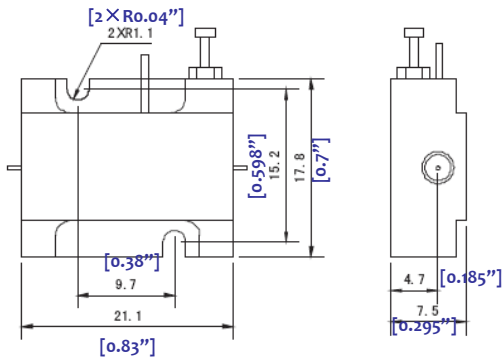




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Heat Sink required during operation. (Heat Sink sold separately)

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