

MLN3037

Rev B Nov 2012

3.0 GHz -3.7 GHz

Low Noise Amplifier

Data Sheet

Description

MLN3037 is 3 GHz to 3.7 GHz wideband low noise amplifier with very flat gain. The input and output are matched to 50 Ω with DC blocking capacitors. No external matching components or DC bypassing capacitor are needed.

MLN3037 offers good output P1dB under low current consumption. The compact size and thin thickness design are suitable for portable device applications.

Features

- 420 mil x 260 mil surface mount package
- Excellent flatness in S21
- Fully matched input and output
- High linearity and P1dB
- Unconditionally stable across load condition
- Single 5V supply

Applications

- Mobile Infrastructures
- WiMAX
- Defense
- Security System
- Measurement
- Fixed Wireless

Specifications at 3.5 GHz 5V 42mA(typical)

- 1.05dB noise figure
- 14dBm output P1dB
- -20dB input return loss
- -20dB output return loss
- 26dB gain
- 43.8mA current consumption at 85°C
- 39.9mA current consumption at -40°C

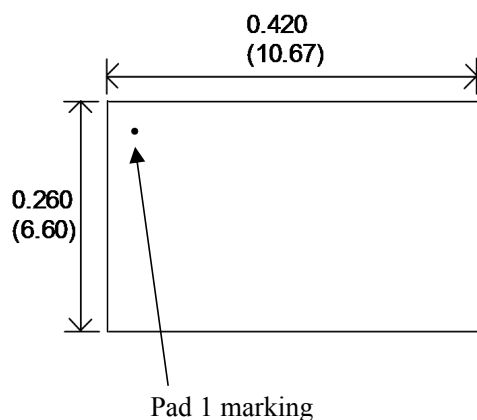
Electrical Specifications

index	Testing Item	Symbol	Test Conditions	min	nom	max	unit
1	Gain	S21	3.0 GHz - 3.7 GHz	25	26		dB
1.1	Gain	S21	3.4 GHz - 3.6 GHz	25.6	26.3		dB
2	Gain variation	ΔG	3.0 GHz - 3.7 GHz		+/-0.1	+/-0.3	dB
2.1	Gain variation	ΔG	3.4 GHz - 3.6 GHz		+/-0.1	+/-0.2	dB
3	Input return loss	S11	3.0 GHz - 3.7 GHz	15	20		dB
3.1	Input return loss	S11	3.4 GHz - 3.6 GHz	16	20		dB
4	Output return loss	S22	3.0 GHz - 3.7 GHz	15	20		dB
4.1	Output return loss	S22	3.4 GHz - 3.6 GHz	16	20		dB
5	Reverse isolation	S12	3.0 GHz - 3.7 GHz	40			dB
6	Noise figure	NF	3.0 GHz - 3.7 GHz		1.05	1.35	dB
7	Output power 1dB compression point	OP1dB	3.0 GHz - 3.7 GHz	13	13.7		dBm
7.1	Output power 1dB compression point	OP1dB	3.4 GHz - 3.6 GHz	13.6	14		dBm
8	Current consumption	Idd	25°C		42	46	mA
9	Power supply operating voltage	Vdd		4.7	5	5.3	V
10	Maximum average RF input power	Pin,max	DC to 6 GHz			10	dBm
11	Operating Temperature	To		-40		85	°C
12	Storage temperature	To		-55		150	°C

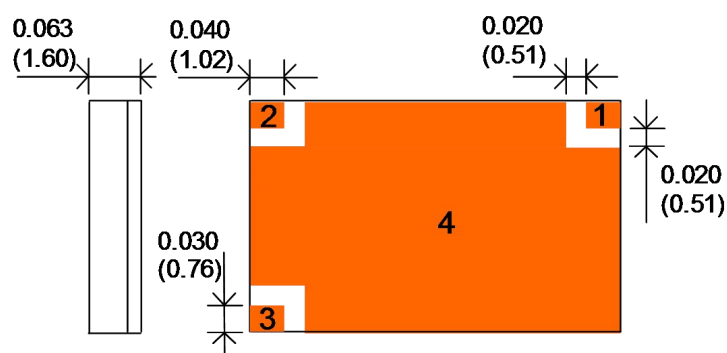
Ordering information

Model Number	MLN3037
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Top View



Bottom View



Dimension is in inch(milimeter)

Pad 1 : RF input

Pad 2 : RF output

Pad 3 : Vdd 5V input

Pad 4 : Ground

Figure 1 Typical S11 measurement result

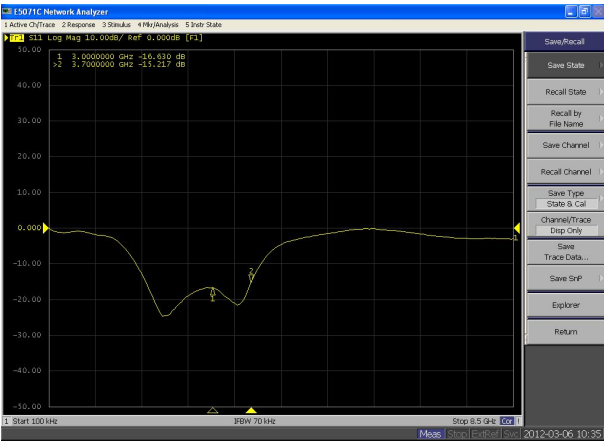


Figure 2 Typical S22 measurement result

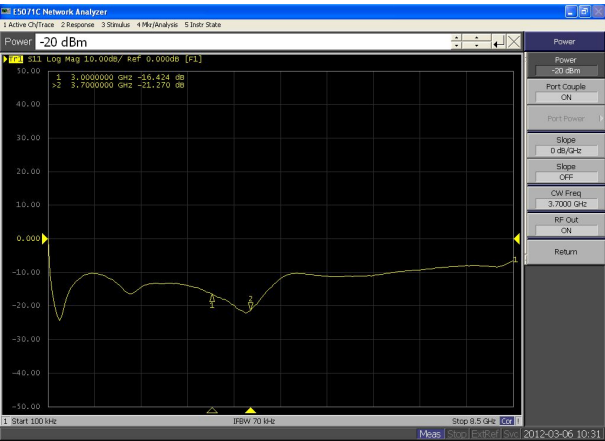


Figure 3 Typical S21 measurement result

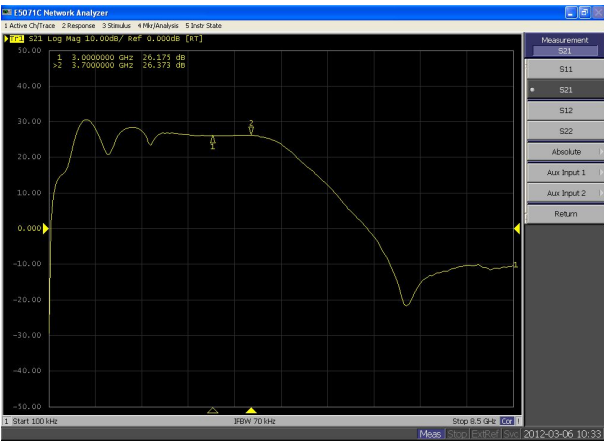


Figure 4 Typical P1dB 3 GHz measurement result

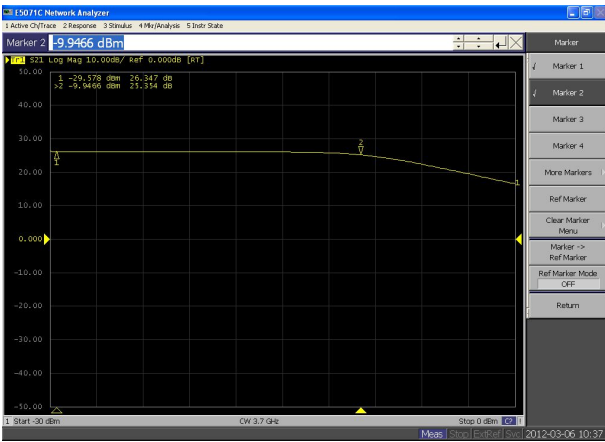


Figure 5 Typical P1dB 3.7 GHz measurement result

