

Typical applications

Low Noise Amplifier 54 - 67 GHz for use in:

- Short Range High Capacity Links,
- Mobile Terminals,
- Battery Operated Devices.

Features

Gain: 24.5 dB

Differential Inputs/Outputs

Bandwidth (1 dB): 57 – 67 GHz

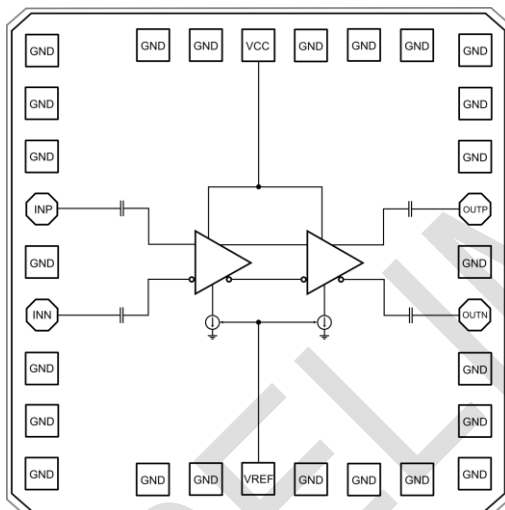
Noise Figure: 5.5 dB

Internally Matched to 100 Ohm

Supply voltage: +2.7 V

Die Size: 0.954 x 0.954 mm²

Functional diagram



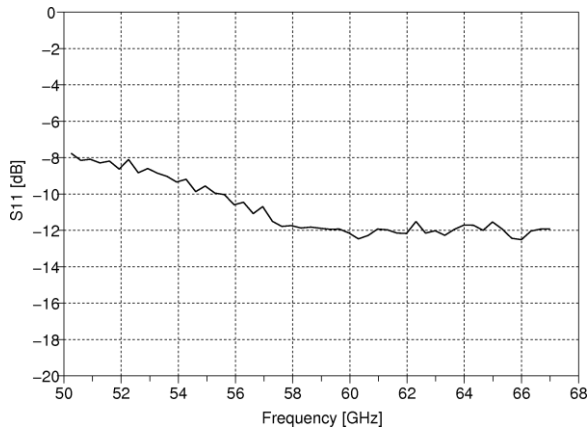
General description

The TS-LNA-60 is a Low Noise Amplifier intended for use in 60 GHz applications. Power consumption of only 60 mW is suitable for use in battery operated devices. External component count is significantly reduced by internal 100 Ohm matching, AC coupling and by eliminating the need for negative bias voltages.

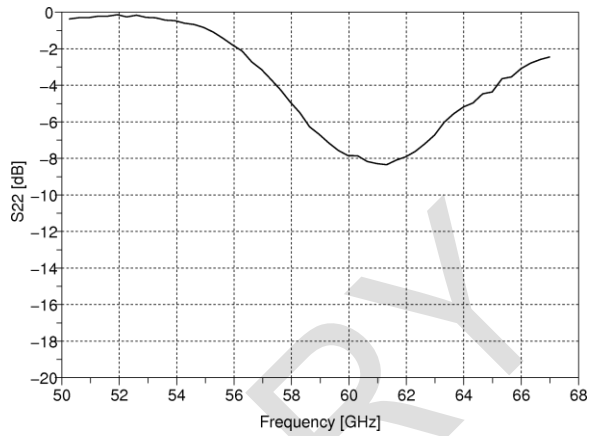
Electrical specifications, $T_A=25\text{ }^\circ\text{C}$, 50 Ohm system, Measured with 1:2 Balun, $V_{CC}=2.7\text{V}$

Parameter	Min	Typ.	Max	Units
Frequency range (1 dB Bandwidth)		57 – 67		GHz
Input Return Loss		-12		dB
Output Return Loss		-8		dB
Gain		24.5		dB
Noise Figure	5.3	5.9		dB
Output Power for 1 dB Compression		-1		dBm
Supply current		22		mA

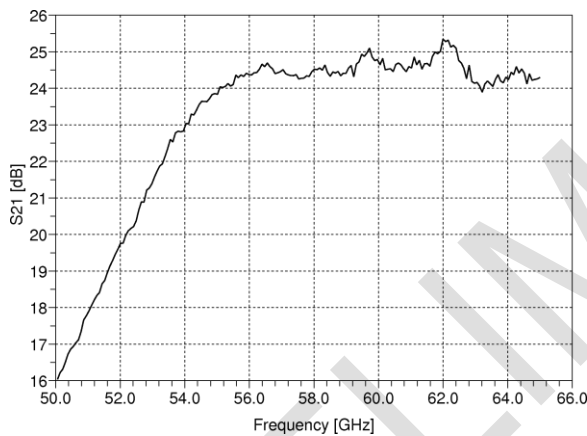
Input Return Loss



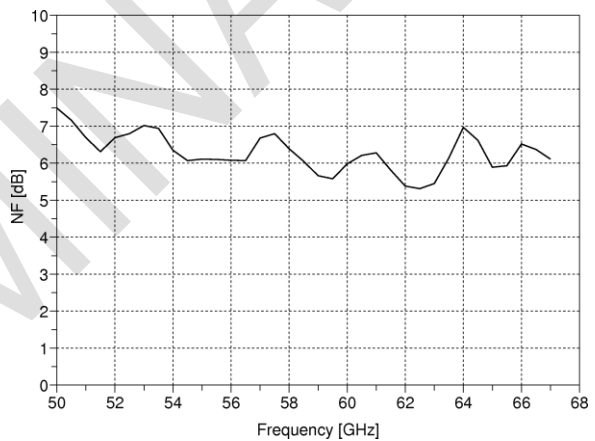
Output Return Loss



Gain



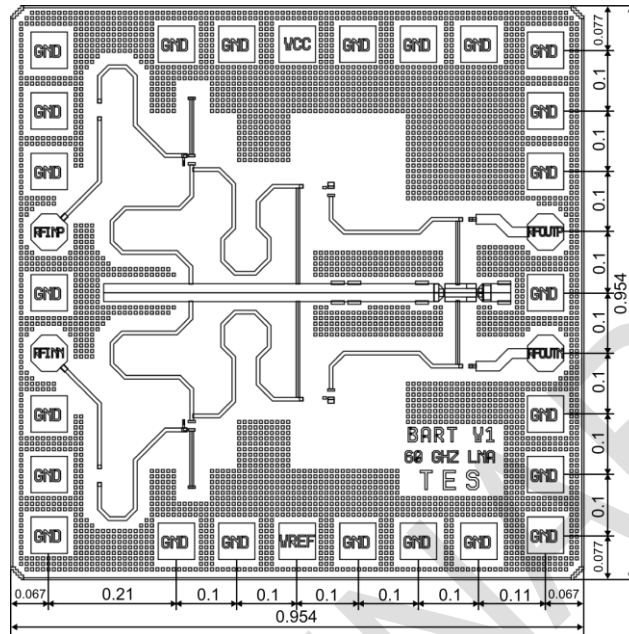
Noise Figure



Absolute Maximum Ratings

Parameter	Min	Typ.	Max	Units
Supply voltage			3	V
Input Power			0	dBm
Operating Temperature	TBD		TBD	°C
Storage Temperature	-50		150	°C

Outline Drawing and Chip Identification Information

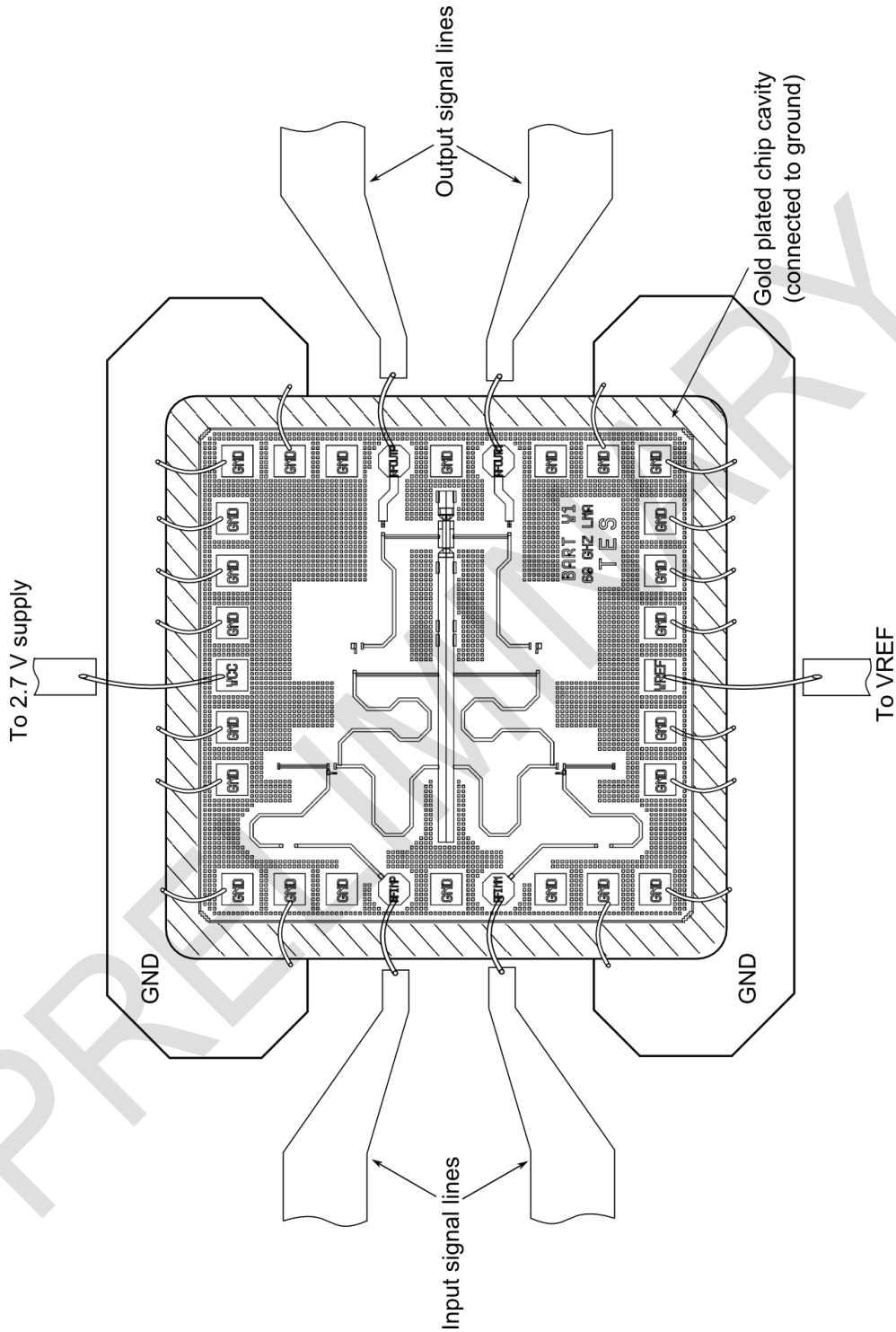


**ELECTROSTATIC SENSITIVE DEVICE
HANDLE IN ESD SAFE ENVIRONMENT**

Pad Descriptions

Pad	Function	Description	Interface
VCC	Power	2.7 V DC supply	Power
VREF	Power	Adjust to get $I(VCC)=22$ mA Typical value: 2.5 V	Power
GND	Power	Ground	Power
INP	Input	Differential signal input +	AC coupled
INN	Input	Differential signal input -	AC coupled
OUTP	Output	Differential signal output +	AC coupled
OUTN	Output	Differential signal output -	AC coupled

Assembly Diagram



All bonds should be as short as possible.

Revision information

Version	Change List
1.0	Preliminary data

PRELIMINARY

Notes:

PRELIMINARY

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