CW-LN2443

24-43 GHz Low Noise Amplifier

data sheet

ChengDu CuiWei Electronic Co.,LTD

Products

The CW-LN2443 is a K and Ka-band low noise amplifier with a frequency range of 24GHz to 43GHz, a typical small signal gain of 25dB, and a typical noise figure of 1.7dB. It is powered by a single +5V power supply.

Key technical indicators

- Frequency range: 24GHz~43GHz
- Small signal gain: 25dB
- Noise factor: 1.7dB
- P1dB: 6dBm
- DC power supply: Vd=5V@Id=20mA
- Chip size: 1.50 mm×0.70 mm×0.07 mm

Application Areas

- radar (loanword)
- correspond (by letter etc)
- Instrumentation

RoHS Compliant

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Electrical performance table (Vd = 5V, T_A = +25°C)

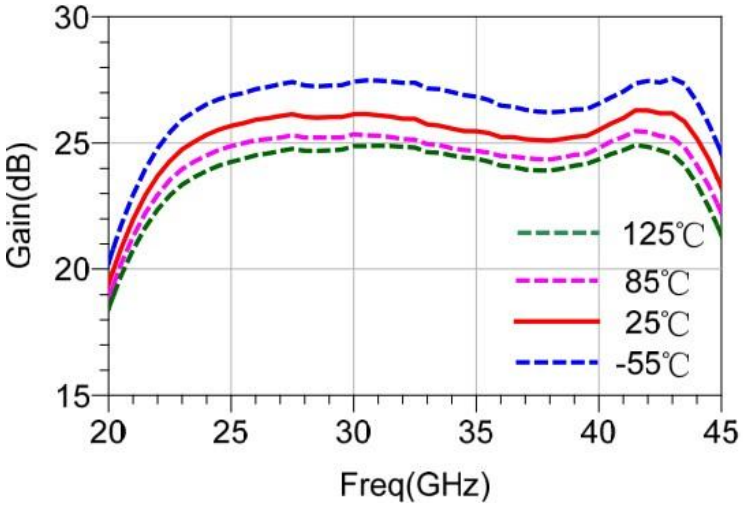
Parameter name	minimum value	typical value	maximum values	unit (of measure)
frequency range	24		43	GHz
Small Signal Gain		25		dB
Gain Flatness		±0.7		dB
coefficient of noise		1.7		dB
P1dB		6		dBm
Input VSW		2		-
output standing wave		2		-
quiescent current		20		mA

Use of limiting parameters

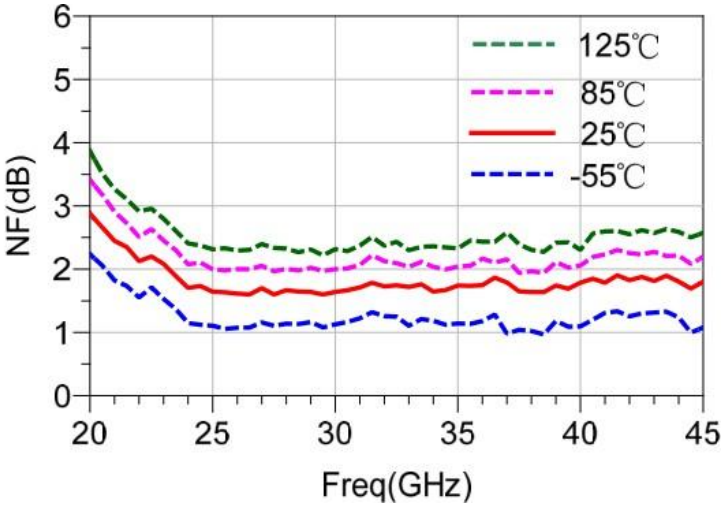
Positive drain voltage	8V
input power	15dBm
Storage temperature	-65℃~150℃
operating temperature	-55℃~85℃

Test curve (T_A =+25°C) Vd=5V , Id=20mA

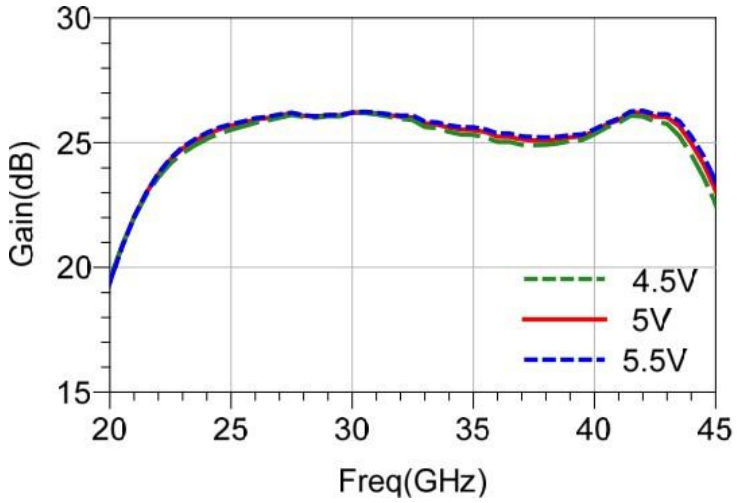
Small Signal Gain vs. Frequency



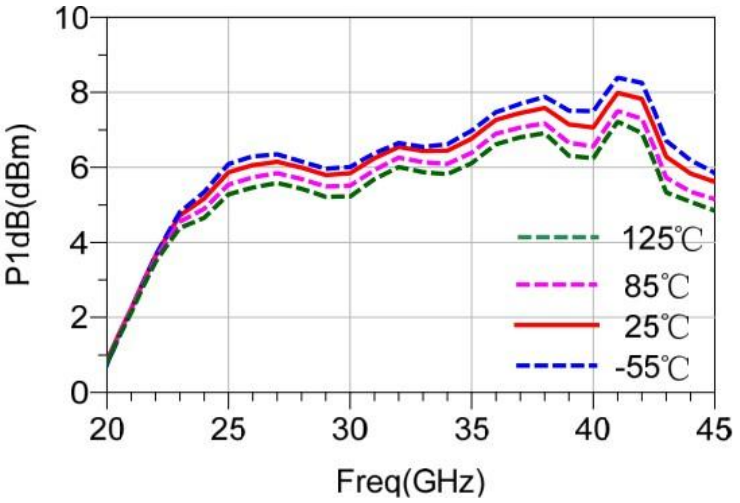
Noise figure vs. frequency



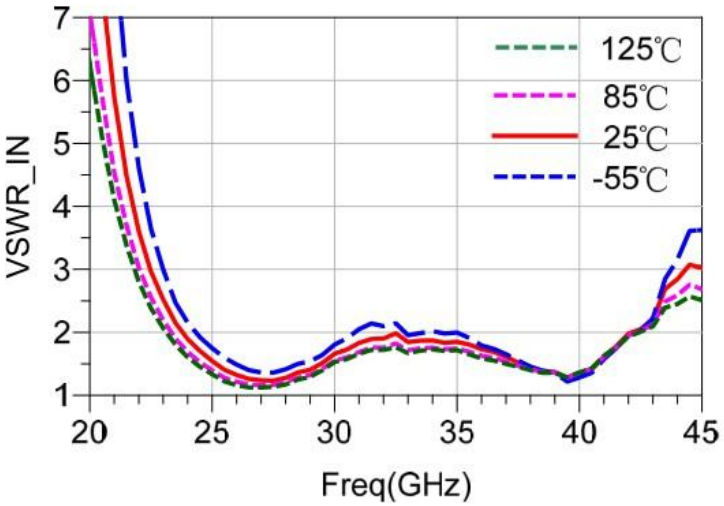
Small Signal Gain vs. Voltage



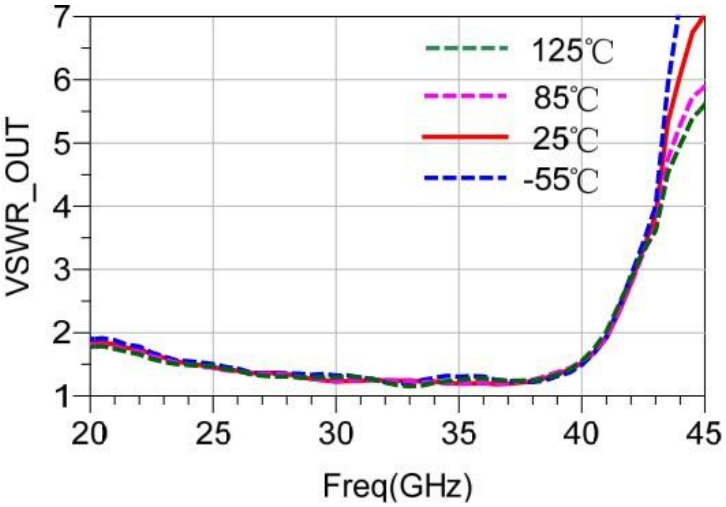
P1dB vs. frequency



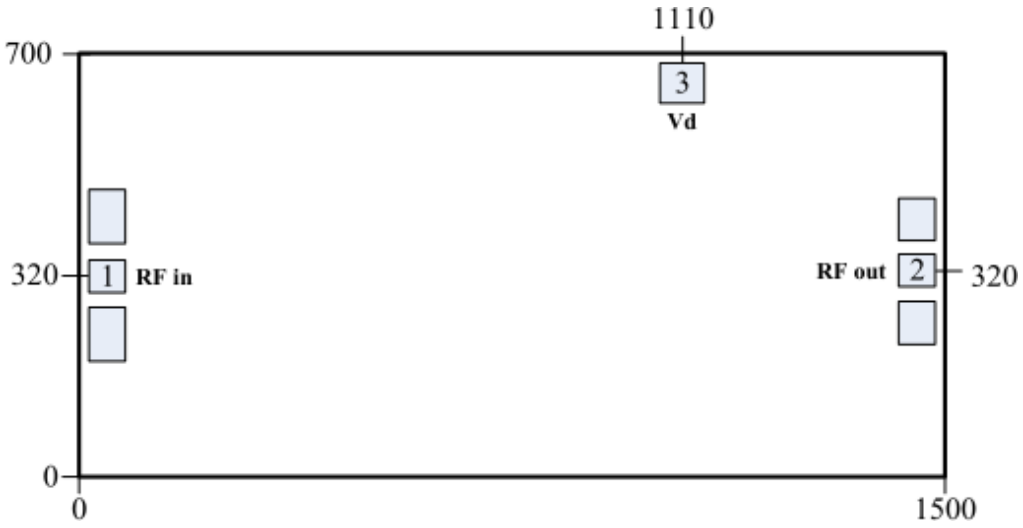
Input standing wave vs. frequency



Output standing wave vs. frequency



Overall dimensions



Notes:

1 All labeled dimensions are in microns (μm);

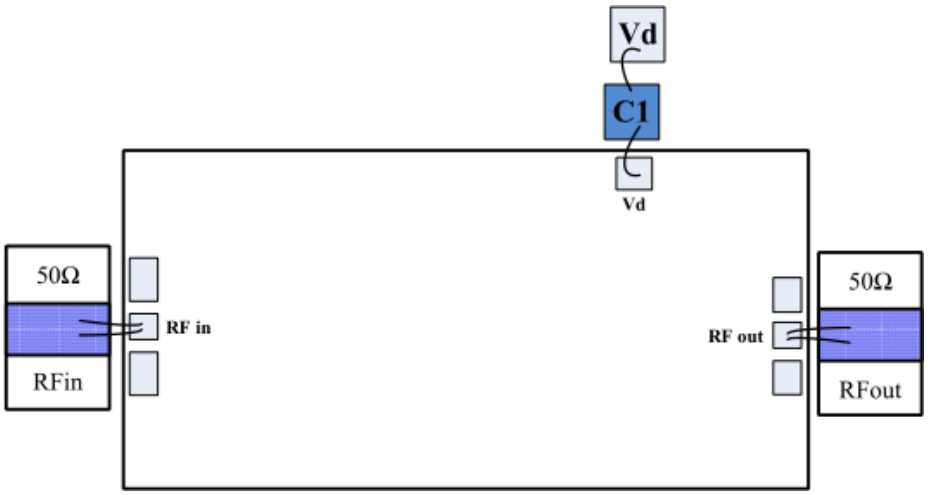
2 Tolerance of profile length dimensions: ±50μm;

3 The thickness of the chip is 70μm.

Bonding Pressure Point Definition

serial number	notation	Functional Description	Size (μm²)
1	RFin	RF signal input, external 50 ohm system, no isolation capacitors required	80 x 80
2	RFout	RF signal output, external 50 ohm system, no isolation capacitors required	80 x 80
3	Vd	Drain voltage feedthrough, external required 100pF Bypass Capacitance	100 x 100

Suggested assembly drawings



Note: The peripheral capacitor C1 has a capacitance of 100 pF. It is recommended to use a single layer capacitor and to be as close as possible to the chip bonding voltage point.

define

Limit value definition

Limit values are g i v e n according to the absolute maximum rating system (IEC 60134). Pressure above one or more of the limit values can cause permanent damage to the product. These are pressure ratings and there is no warranty for operating the device at these ratings or any other conditions above the specified ratings. Prolonged limit value operation may affect the reliability of the product.

Usage

The methods of use of the products described herein are for illustrative purposes only. Without further testing or modification, Cuiwei makes no representations or warranties that these methods of use will be suitable for a particular purpose.

statement denying or limiting responsibility

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Procurement information

serial number	seal inside	releases	categorization	descriptive
CW-LN2443	bare chip	C1	MMIC	24 - 43 GHz Low Noise Amplifiers