芯谷微电子
IC VALLEY Microelectronics

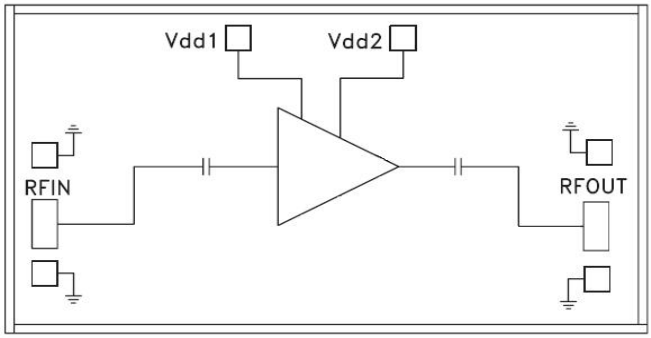
ILA-1219B

GaAs MMIC Low Noise Amplifier, 12-19GHz

Features:

- Freq. Range: 12-19GHz
- Gain: 25.5dB
- NF: 1.2dB typ.
- NF: 1.3dB max.
- P-1dB: 3dBm
- Supply: +5V/12mA
- 50Ohm Input/Output
- 100% On Wafer Test
- Size: 1.85 x 1.25 x 0.09 mm

Functional Diagram:



Product Introduction:

ILA-1219B is a broadband Low Noise Amplifier, with a frequency range of 12GHz~19GHz, a gain of 25.5dB, and an in-band noise figure of 1.2dB. ILA-1219B uses a +5V single supply. The current is 12mA. It is suitable for multi-channel, low-power demand systems.

Abosulte Maximum Ratings[1]

Maximum Vdd	+7V
Maximum Input Power	+20dBm
Working Temperature	-55 ~ +85°C
Storage Temperature	-65 ~ +150°C

【1】Exceeding any of the above maximum limits may cause permanent damage.

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

Parameter	Min.	Typ.	Max.	Units
Freq. Range		12-19		GHz
Gain	24	25.5	27	dB
Gain Flatness		±1.5		dB
NF	-	1.2	1.3	dB
P-1dB	2	3	5	dBm
Input Return Loss	12	17	-	dB
Output Return Loss	18	25	-	dB
Current		12		mA

Block E, Provincial Science and Technology Achievement Transformation Base, No. 425, Chuangxin Avenue, Shushan District, Hefei City, Anhui Province.
0551-65538008
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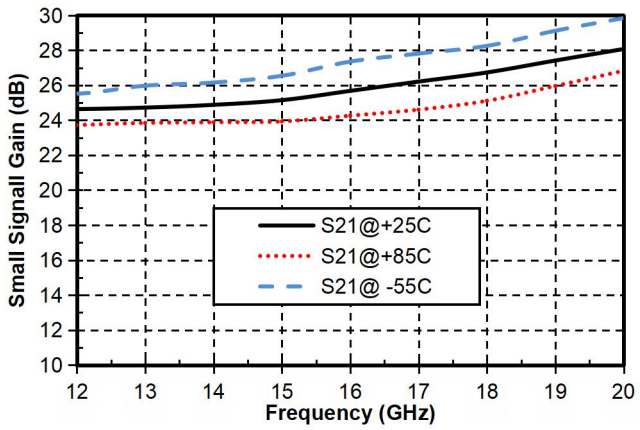
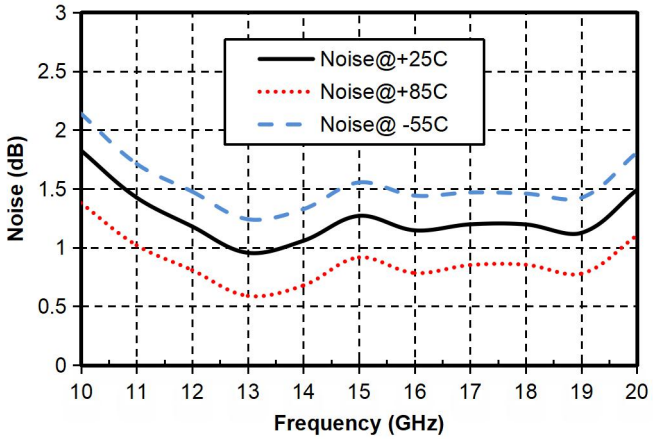
Test Curve

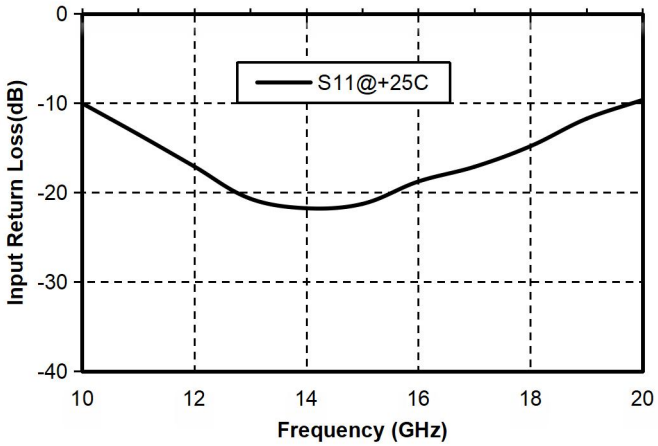
Gain vs. Temperature



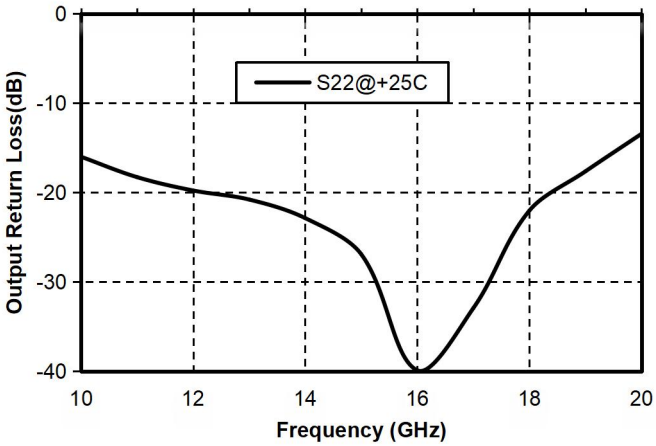
NF vs. Temperature



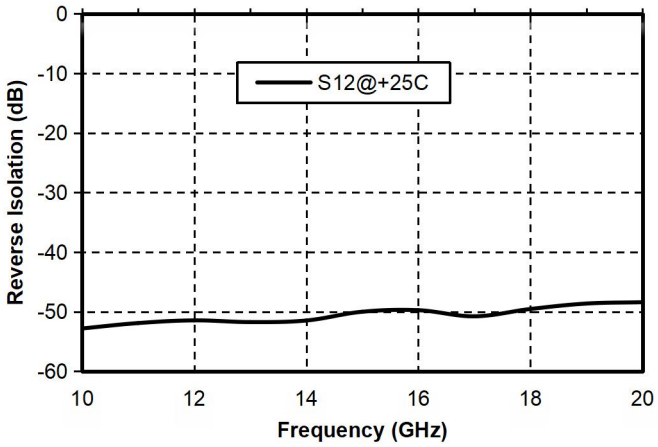
Input Return Loss vs. Freq.



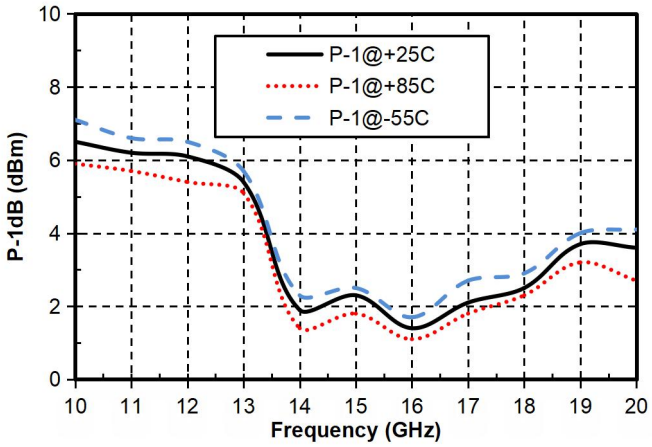
Output Return Loss vs. Freq.



Reverse Isolation vs. Freq.



P-1dB vs. Temperature



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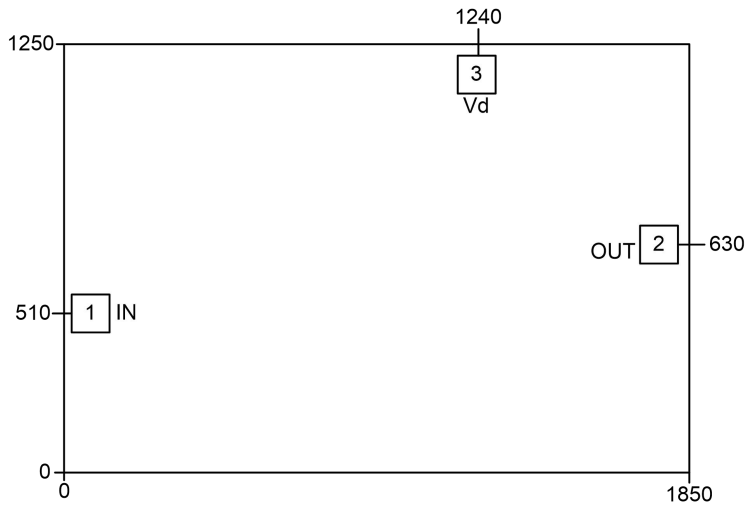
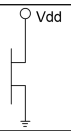
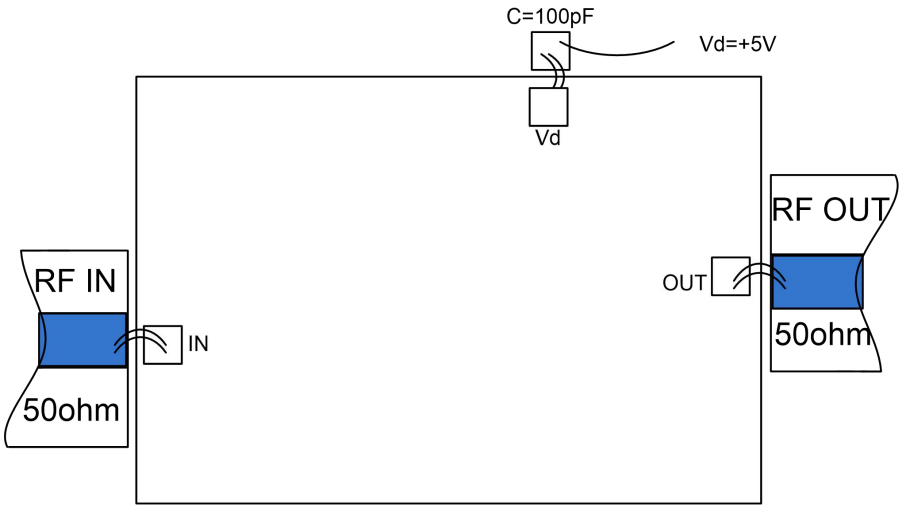
Outline Drawing[2]



【2】The units in the figure are all microns.

Pad Descriptions			
Pad Number	Function Symbol	Description	Equivalent Circuit
1	RFIN	RF signal input terminal, no DC blocking capacitor required	
2	RFOUT	RF signal Output terminal, no DC blocking capacitor required	
3	VDD	Amplifier drain bias, an external 100pF bypass capacitor is required.	
Bottom of the chip	GND	Bottom of the chip needs to be well grounded with RF and DC	

Recommended assembly drawing