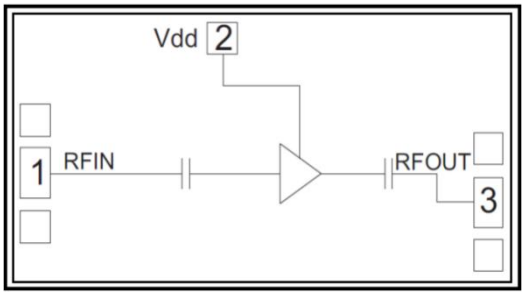
GLA-0118E

GaAs MMIC Low Noise Amplifier Chip，1-18GHz

Performance characteristics

- Frequency range: 1-18GHz
- Small signal gain: 15dB
- Noise figure: 1.5dB typ.
- P-1dB: 16.5dBm
- Power supply: +5V/35mA
- Input/Output: 50Ohm
- 100% on-chip testing
- Chip size: 1.6 x 0.95 x 0.09 mm

Functional Block Diagram



Product Introduction

GLA-0118E is a broadband low-noise amplifier chip, with a frequency range of 1GHz~18GHz, a small signal gain of 15dB, and an in band noise figure of 1.5dB. GLA-0118E is powered by a+5V single power supply.

Use restriction parameters[1]	
Maximum leakage voltage	+7V
Maximum input power	+20dBm
Working temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

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

Electrical performance parameters(T_A = +25°C，Vd=+5V)				
Index	Minimum value	Typical value	Maximum value	Unit
Frequency range		1-18		GHz
Small signal gain	14.5	15	15.5	dB
Gain flatness		±0.5		dB
Noise figure	-	1.5	-	dB
P-1dB	-	16.5	-	dBm
Psat	-	18.5	-	dBm
Input return loss	-	13	-	dB
Output return Loss	-	18	-	dB
Static current		35		mA
*The noise coefficient testing instrument is N5245B.				

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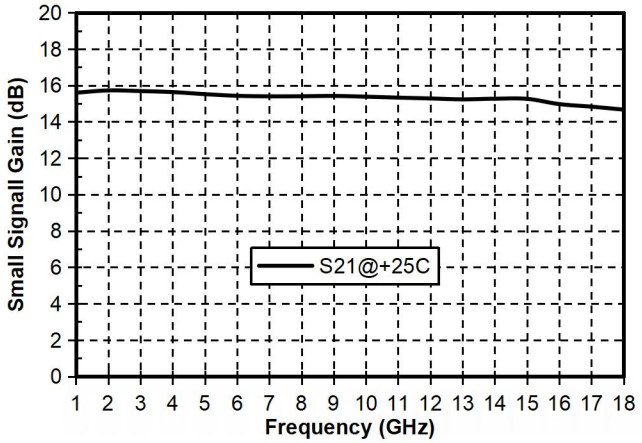
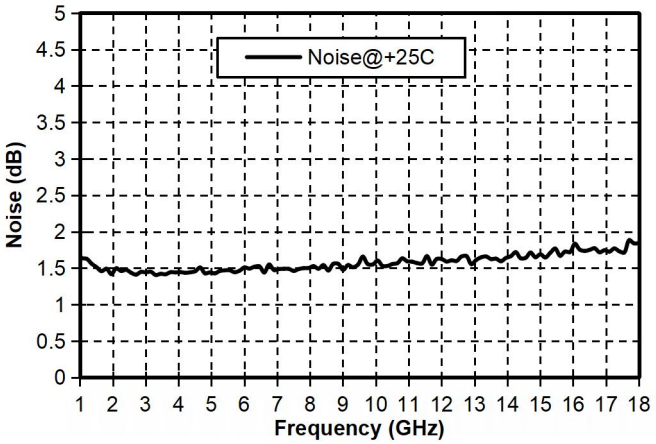
Main indicator testing curve

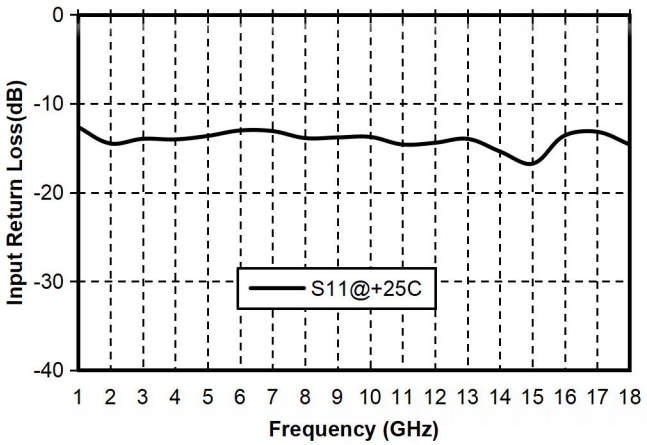
Gain vs. Temperature



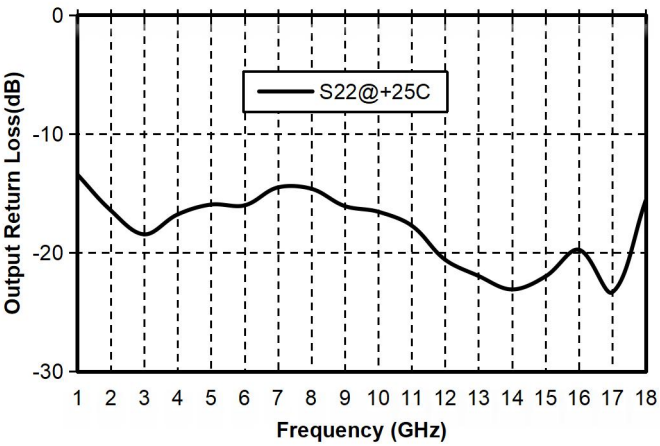
Noise Figure vs. Temperature



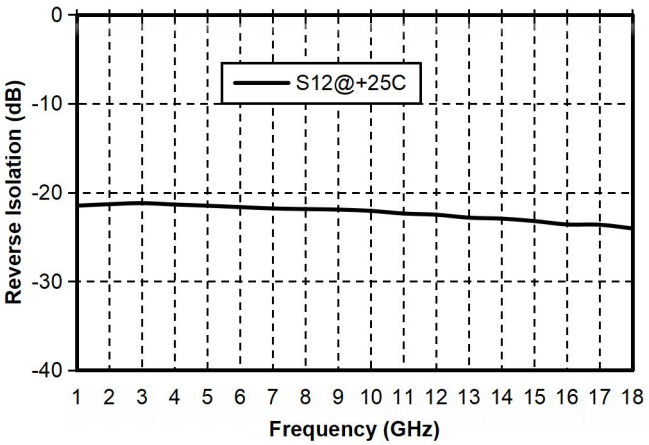
Input return loss vs. Frequency



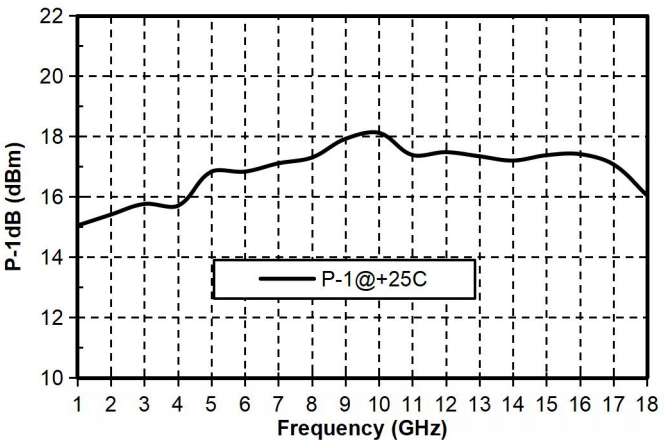
Output return Loss vs. Frequency



Reverse isolation vs. Frequency



P-1dB vs. Frequency



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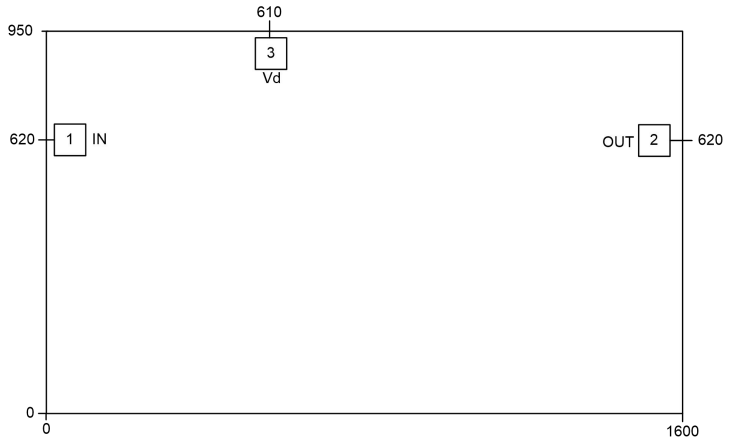
External structure[2]



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

Definition of bonding pressure point		
Bond point number	Functional symbols	Function Description
1	RFIN	RF signal input terminal, no need for DC capacitors.
2	RFOUT	RF signal output terminal, no need for DC isolation capacitor.
3	Vd	Amplifier drain bias, requires an external 100pF bypass capacitor.
Chip bottom	GND	The bottom of the chip needs to be well grounded with RF and DC.

Recommended assembly diagram