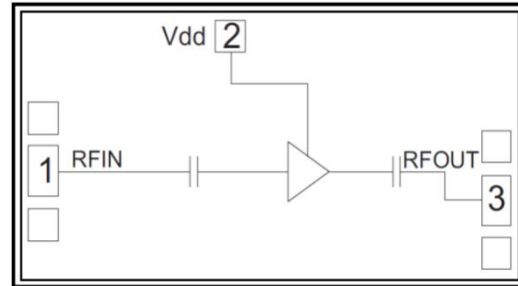


GaAs MMIC Low Noise Amplifier Chip, 6-18GHz

Performance characteristics

- Frequency range: 6-18GHz
- Small signal gain: 24dB(positive slope)
- Gain flatness: ± 1.3 dB
- Noise figure: 1.0dB typ.
- P-1dB: 13.5dBm
- Power supply: +5V/35mA
- Input/Output: 50Ohm
- 100% on-chip testing
- Chip size: 1.6 x 0.9 x 0.1 mm

Functional Block Diagram



Product Introduction

GLA-0618I is a broadband low-noise amplifier chip, with a frequency range of 6GHz~18GHz, a small signal gain of 24dB (positive slope), an in band noise figure of 1.0dB, and a P-1 power of 13.5dBm. GLA-0618I is powered by a +5V single power supply. The chip still has good electrical performance indicators in the range of 4-20G.

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

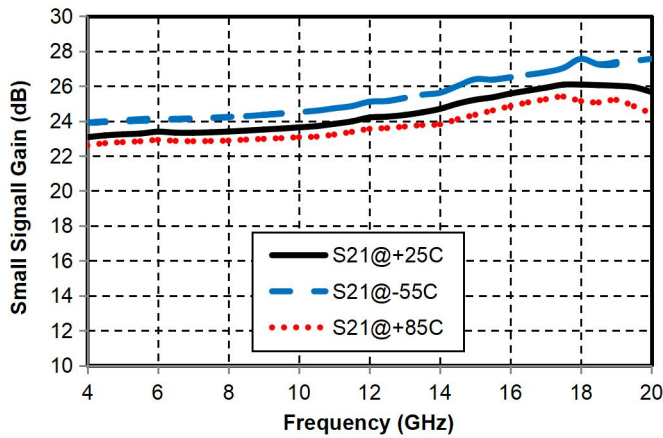
【1】 Exceeding any of the above maximum limits may result in permanent damage.

Electrical performance parameters($T_A = +25^\circ\text{C}$, $V_d = +5\text{V}$)				
Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	6-18			GHz
Small signal gain	-	24	-	dB
Gain flatness		± 1.3		dB
Noise coefficient (vector network test)	-	1.0	-	dB
Noise coefficient (noise meter test)		1.1		dB
P-1dB	-	13.5	-	dBm
Psat	-	14.5	-	dBm
Input return loss	-	23	-	dB
Output return Loss	-	15	-	dB
Static current	-	35	-	mA

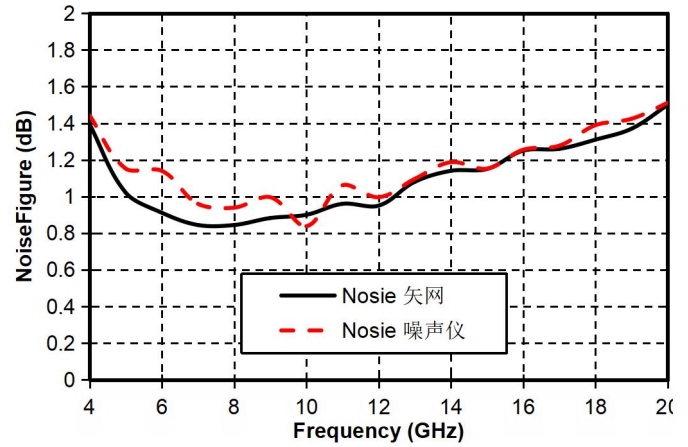
GaAs MMIC Low Noise Amplifier Chip, 6-18GHz

Main indicator testing curve

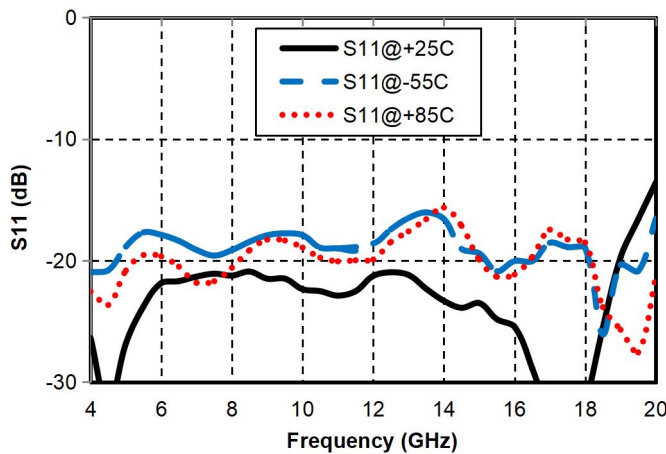
Gain vs. Frequency range



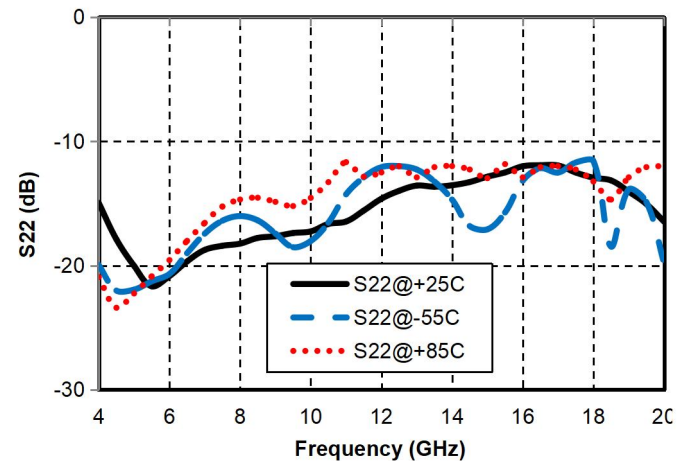
Noise Figure vs. Frequency



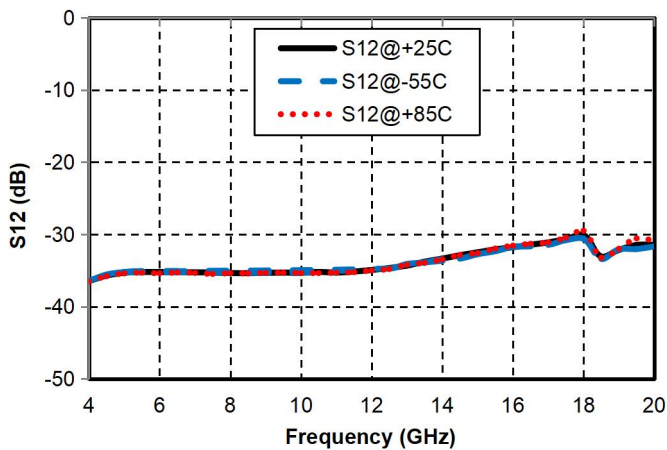
Input return loss vs. Frequency



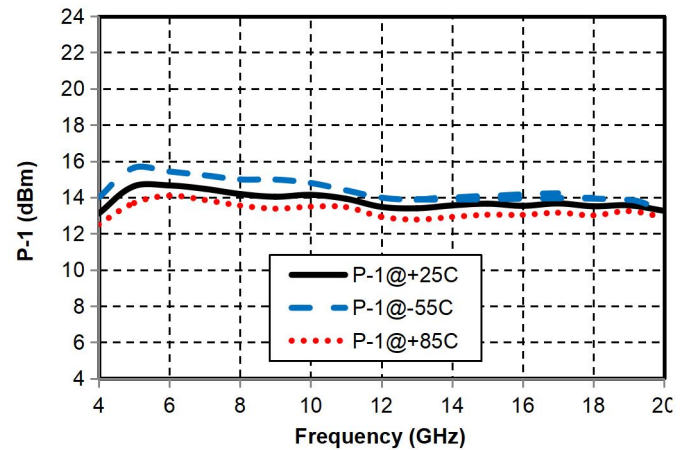
Output return Loss vs. Frequency



Reverse isolation vs. Frequency

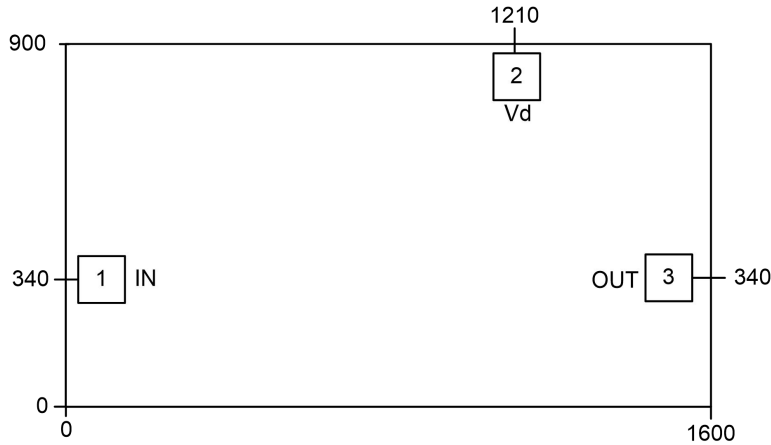


P-1dB vs. Temperature



GaAs MMIC Low Noise Amplifier Chip, 6-18GHz

External structure²



【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.
3	RFOUT	RF signal output terminal, no need for DC isolation capacitor.
2	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

