

GaAs MMIC Low Noise Amplifier Chip, 3-7GHz

Performance characteristics

- Frequency range:3-7GHz
- Small signal gain: 15.5dB typ.
- Gain flatness: ± 0.6 dB
- Noise figure: 2.4dB
- Reverse isolation: 45dB
- Psat: 18.5dBm
- Power supply:+5V/60mA
- Input/Output: 50Ohm
- 100% on-chip testing
- Chip size: 1.65 x 1.0 x 0.1 mm

Product Introduction

GLA-0307B is a broadband low gain, high isolation, and low noise amplifier chip, with a frequency range of 3GHz~7GHz, a small signal gain of 15.5dB, an in band noise figure of 2.4dB, reverse isolation of 45dB, and a saturated output power of 18.5dBm. GLA-0307B adopts a+5V single power supply with a current of 60mA.

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

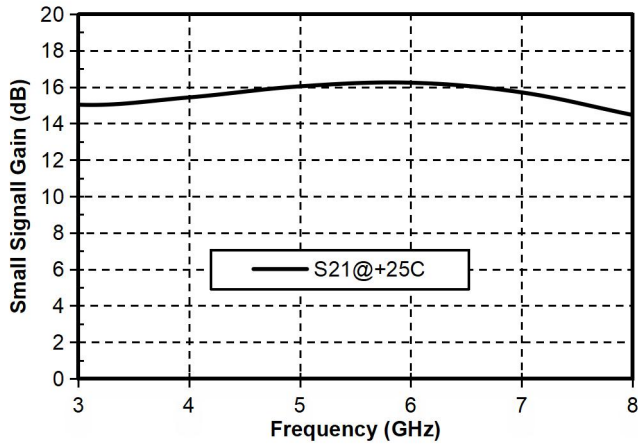
【1】 Exceeding any of the above maximum limits may result in permanent damage.

Electrical performance parameters($T_A = +25^\circ\text{C}$, $V_d = +5\text{V}$)				
Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	3-7			GHz
Small signal gain	-	15.5	-	dB
Gain flatness		± 0.6		dB
Noise figure	-	2.4	-	dB
P-1dB	-	14.5	-	dBm
Psat	-	18.5	-	dBm
Input return loss	-	16	-	dB
Output return Loss	-	18	-	dB
Static current		60		mA

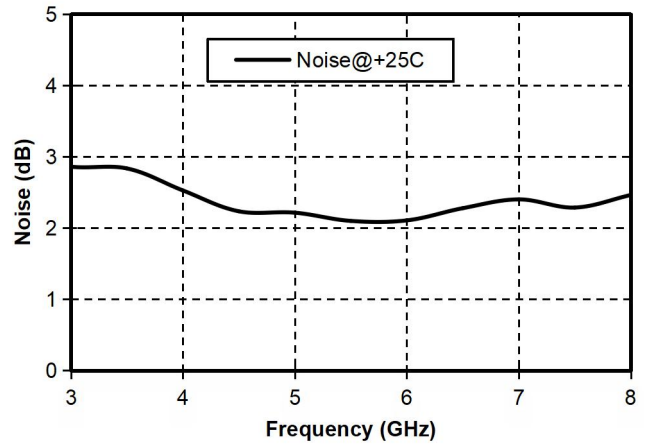
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Main indicator testing curve

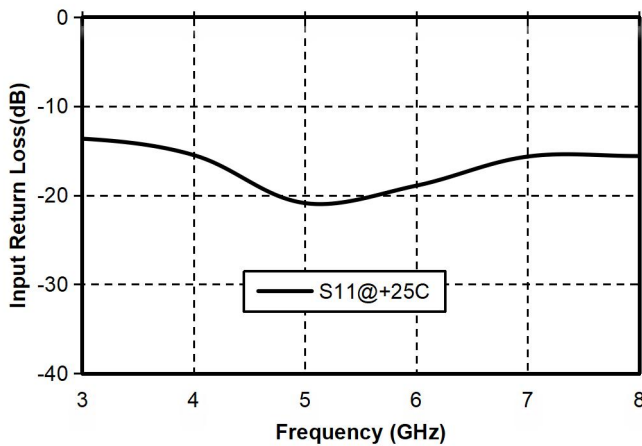
Gain vs. Frequency range



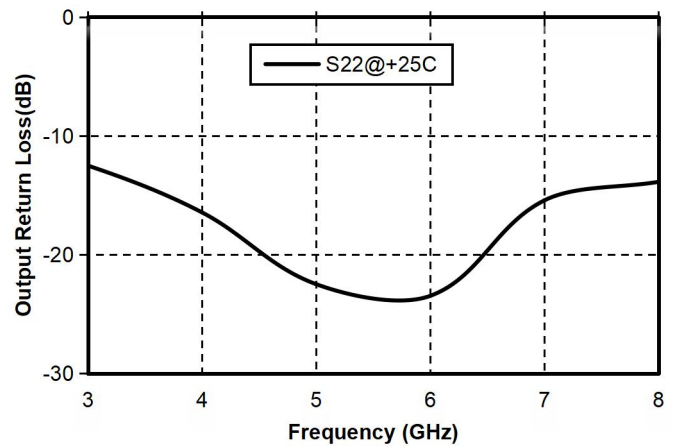
Noise Figure vs. Frequency



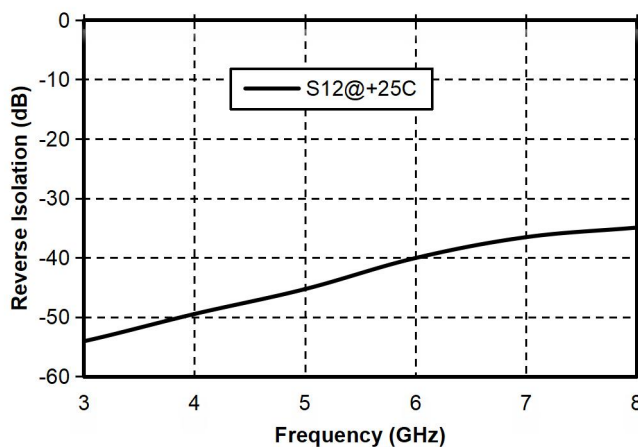
Input return loss vs. Frequency



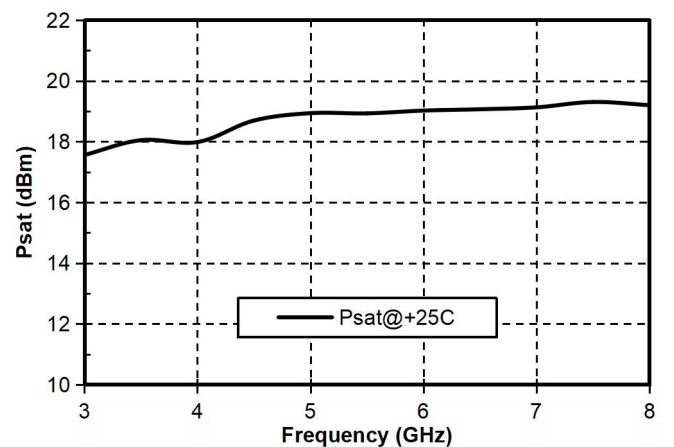
Output return Loss vs. Frequency



Reverse isolation vs. Frequency

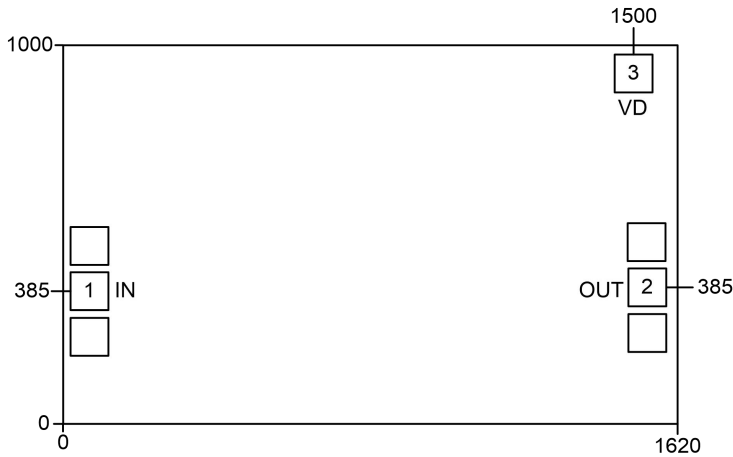


Psat vs. Frequency



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External structure²



【2】 The units in the figure are all millimeters, with a tolerance of $\pm 100\mu\text{m}$.

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

