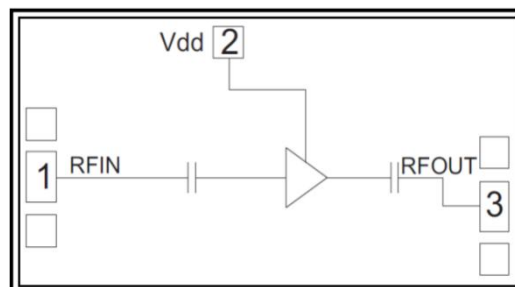


## GaAs MMIC Low Noise Amplifier Chip, 0.5-20GHz

### Performance characteristics

- Frequency range: 0.5-20GHz
- Small signal gain: 27.5dB
- Noise figure: 2.0dB typ.
- P-1dB: 15.5dBm
- Power supply: +5V/65mA(静态)
- Input/Output: 50Ohm
- 100% on-chip testing
- Chip size: 2.41 x 0.95 x 0.1 mm

### Functional Block Diagram



### Product Introduction

GLA-0020N is a broadband low-noise amplifier chip, with a frequency range of 0.5GHz~20GHz, a small signal gain of 27.5dB, an in band noise figure of 2.0dB, and a P-1 power of 15.5dBm. The GLA-0020N is powered by a +5V single power supply.

### Use restriction parameters<sup>1</sup>

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( $T_A = +25^\circ\text{C}$ , $V_d = +5\text{V}$ )

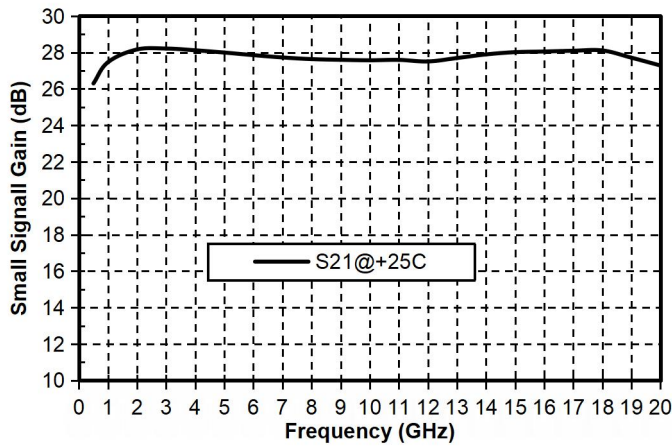
Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	0.5-20			GHz
Small signal gain	-	27.5	-	dB
Gain flatness		$\pm 1.0$		dB
Noise figure	-	2.0	-	dB
P-1dB	-	15.5	-	dBm
Psat	-	17.0	-	dBm
Input return loss	-	18	-	dB
Output return Loss	-	17	-	dB
Static current	-	66	-	mA

\*The noise figure testing instrument is a noise meter.

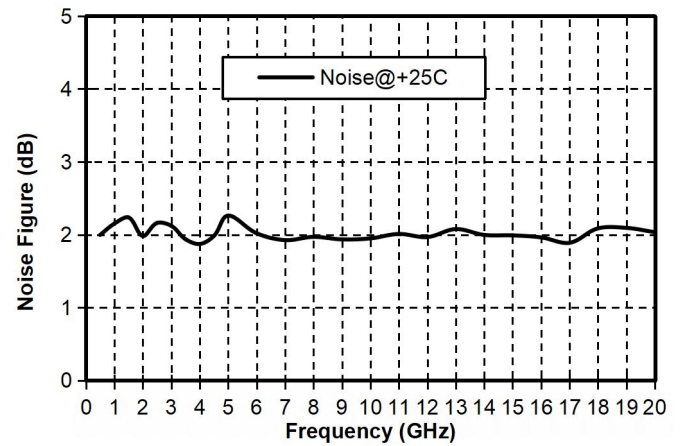
## GaAs MMIC Low Noise Amplifier Chip, 0.5-20GHz

Main indicator testing curve

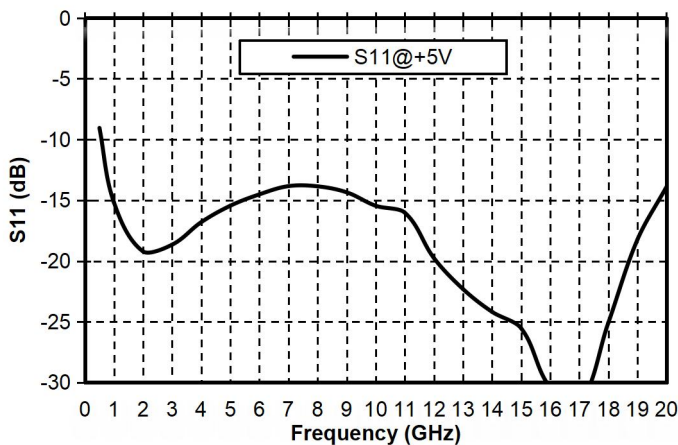
Gain vs. Temperature



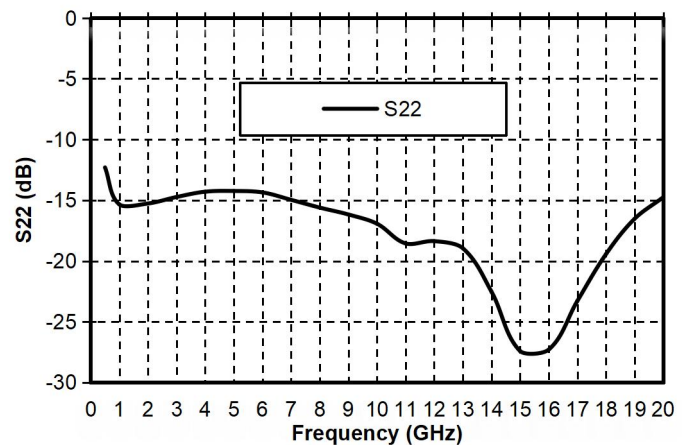
Noise Figure vs. Temperature



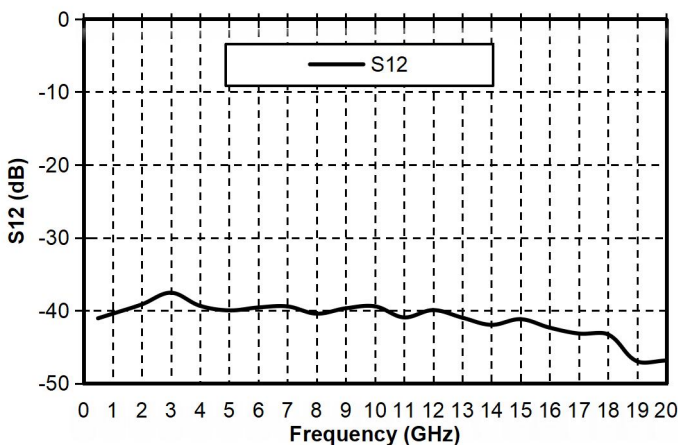
Input return loss vs. Frequency



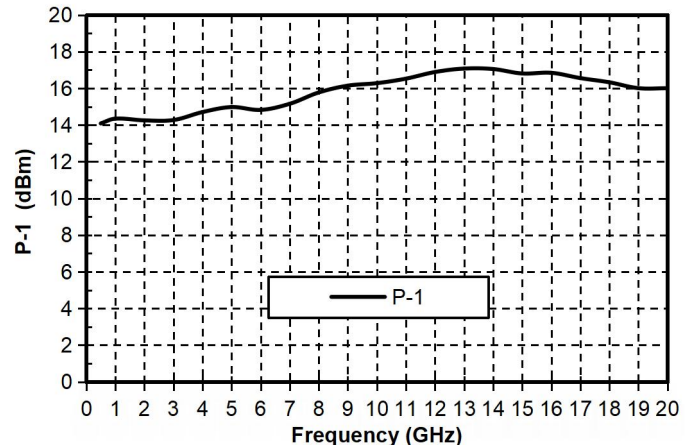
Output return Loss vs. Frequency



Reverse isolation vs. Frequency

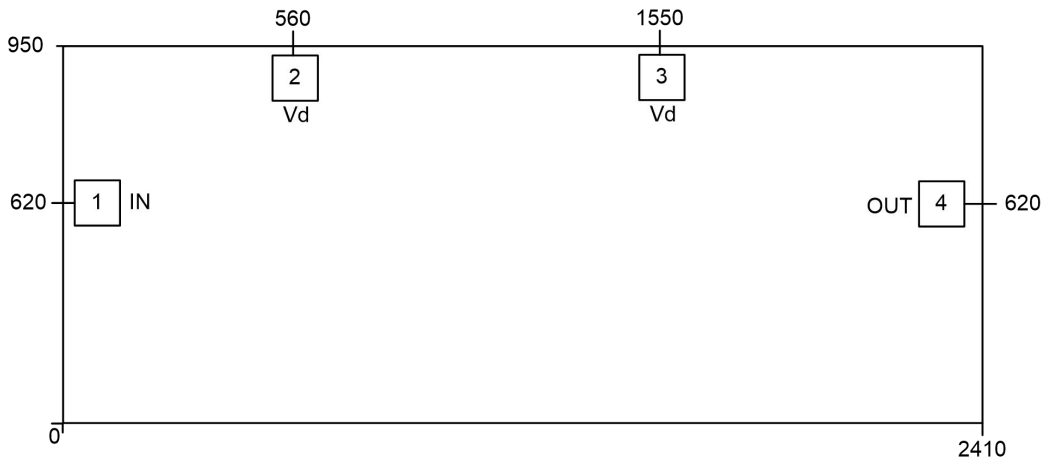


Reverse isolation vs. Frequency



## GaAs MMIC Low Noise Amplifier Chip, 0.5-20GHz

External structure<sup>2</sup>



【2】 The units in the figure are all millimeters, with a tolerance of  $\pm 50\mu\text{m}$ .

Definition of bonding pressure point		
Bond point number	Functional symbols	Function Description
1	RFIN	RF signal input terminal, no need for DC capacitors.
4	RFOUT	RF signal output terminal, no need for DC isolation capacitor.
2、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

