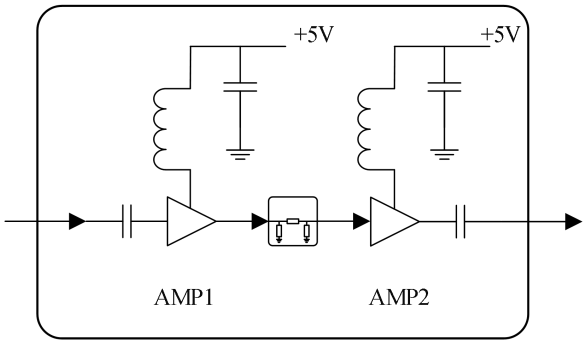
GF020106Q1

Low noise amplifier chip, 1～6GHz

Performance characteristics

- Operating frequency: 1～6GHz
- Gain: 31dB
- NF: 1.3dB
- P-1dB: 14.5dBm
- Quiescent current: 90mA
- Outline Dimensions: 10x8x2.5mm

Principle diagram



Product introduction

GF020106Q1 low noise amplifier chip adopts GaAs technology, with a frequency range of 1-6GHz, a small signal gain of 31dB, an in band noise figure of 1.3dB, a +5V power supply, and it is housed in a ceramic package, suitable for SMT.

Absolute maximum ratings	
Parameter	Ratings
VDD	+7V
Input power	+20dBm
Operating temperature	-55～+85° C
Storage temperature	-55～+150° C
Note: Exceeding any of these limits may cause permanent damage.	

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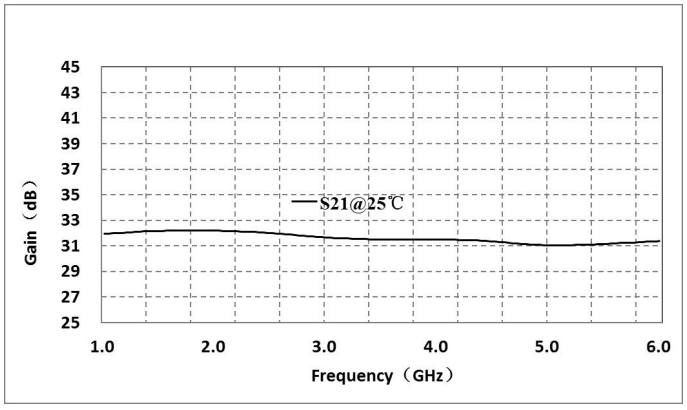
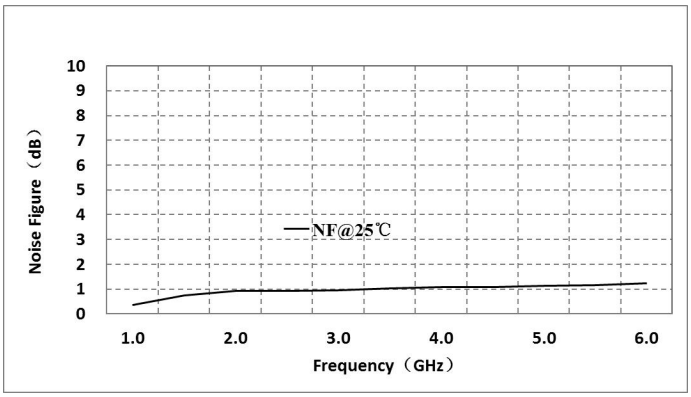
Electrical parameters(TA = +25°C, 50Ω system)				
Parameter	Min	Typ	Max	Unit
Operating frequency	1		6	GHz
gain		31		dB
Gain flatness		±0.8		dB
Noise coefficient		1.5		dB
input return loss		-15		bit
Output Return Loss		-15		dB
P-1dB		14.5		dB
Quiescent current		90		dB

Main indicator testing curve

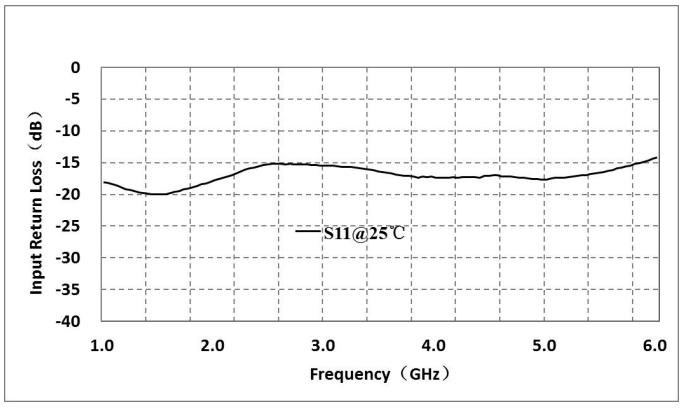
Gain VS. Frequency



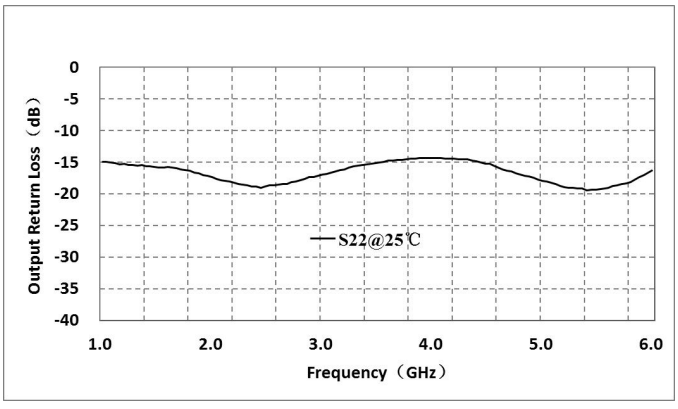
Noise figure VS. Frequency



Input return loss VS. Frequency



Output return loss VS. Frequency



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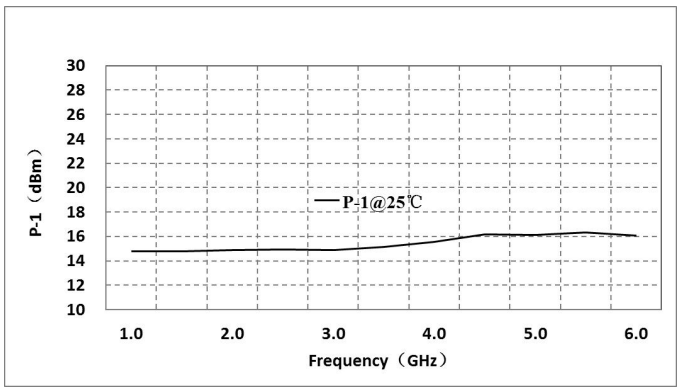
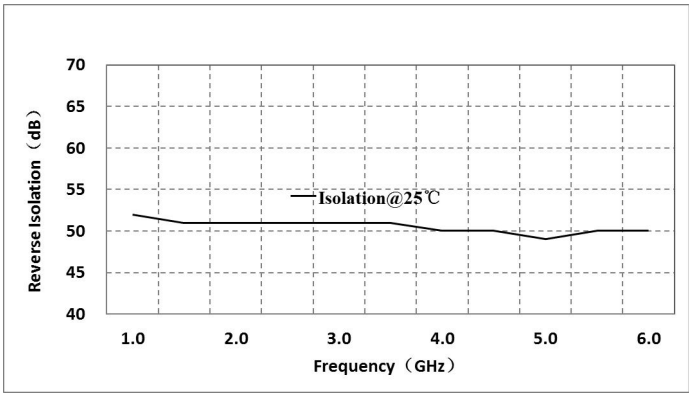
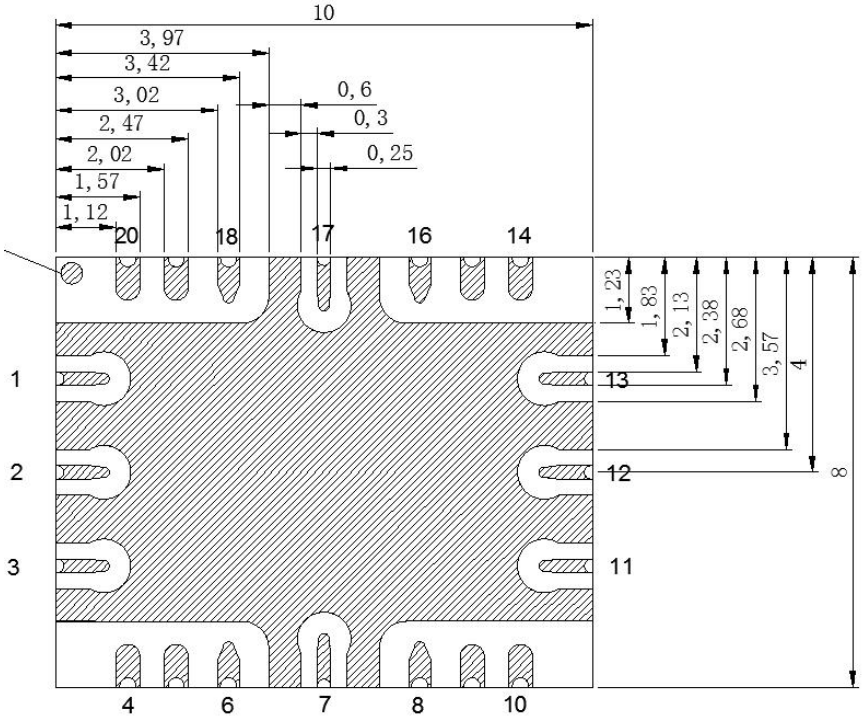
P-1 VS. Frequency



Reverse isolation VS. Frequency



External structure



Pin	Function	Description
1、13	+5V	+5V power supply
2	RFin	RF input, no need for blocking capacitors
3～11	GND	Ground
12	RFout	RF output, no need for blocking capacitors
14～20	GND	Ground

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Note:

- Unit: mm;
- The device should be stored in a dry and nitrogen environment. When the device cannot be used up after being unpacked, it should be immediately stored in a drying oven or vacuum sealed to avoid absorbing moisture from the air;
- Devices are sensitive to static electricity, and attention should be paid to anti-static measures during storage, transportation, assembly, and use;
- Please connect all grounding pins to RF ground;
- This product is suitable for reflow soldering installation process, with a maximum reflow soldering peak temperature of 260 ℃.