GLA-0713C

GaAs MMIC Low Noise Amplifier Chip，7-13GHz

Performance characteristics

- Frequency range: 7-13GHz
- Small signal gain:22.5dB
- Gain flatness: ±0.4dB
- Noise figure:1.1dB
- P-1dB: 18.5dBm
- Power supply: 5V/85mA
- Input/Output: 50Ohm
- 100% on-chip testing
- Chip size: 2.0 x 1.07 x 0.1 mm

Product Introduction

GLA-0713C is a gallium arsenide single-chip amplifier operating at 7-13GHz. The noise figure of this amplifier is 1.1dB, and it can provide a gain of 22.5dB with a P-1dB output power of+18.5dBm. The chip adopts an on chip through-hole metalization process to ensure good grounding, without the need for additional grounding measures, making it simple and convenient to use. The back of the chip has undergone metalization treatment, suitable for eutectic sintering or conductive adhesive bonding processes.

Use restriction parameters[1]	
Maximum leakage voltage	+8V
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		7-13		GHz
Small signal gain	-	22.5	-	dB
Gain flatness	-	±0.4	-	
Input return loss	-	17	-	dB
Output return Loss	-	21	-	dB
Reverse isolation	-	33	-	dB
P-1dB	-	18.5	-	dBm
Psat	-	19	-	dBm
Noise figure	-	1.1	-	dB
Static current		85		mA
*The noise coefficient testing instrument is N5245B.				

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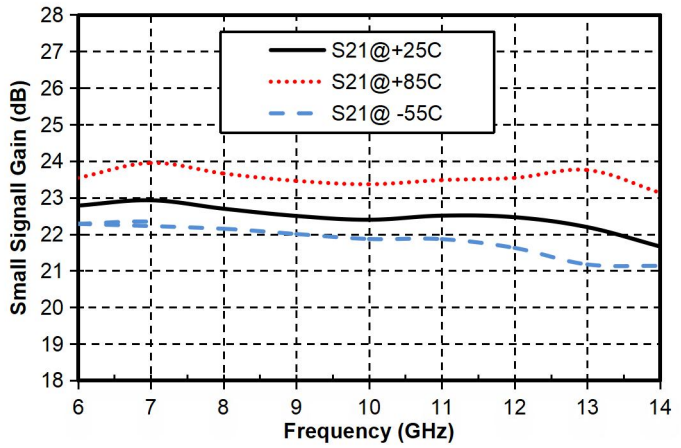
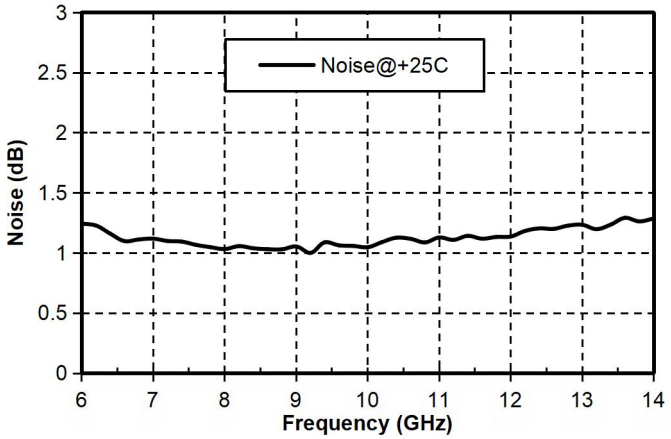
Main indicator testing curve

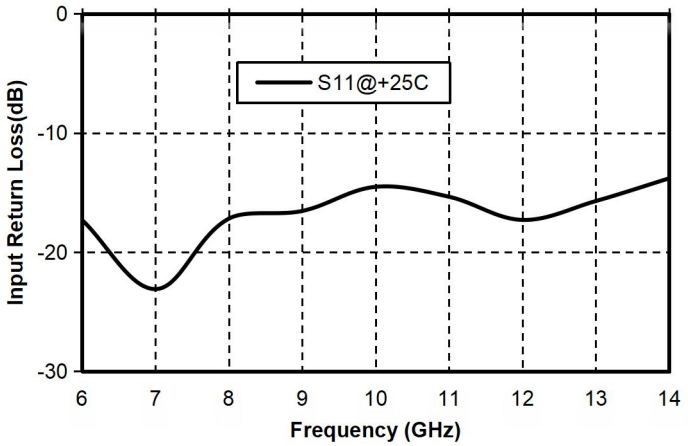
Gain vs. Frequency range



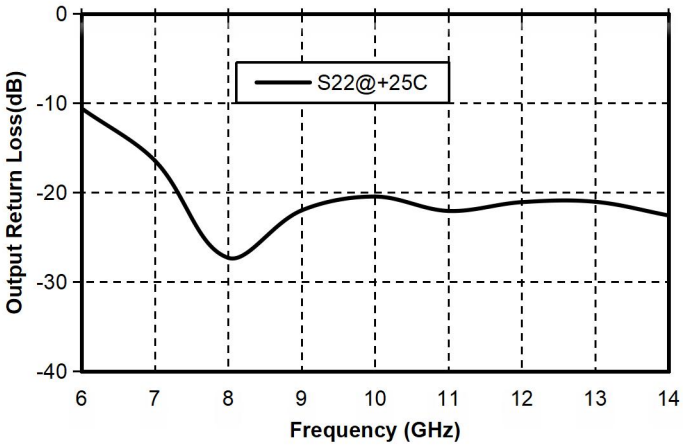
Noise Figure vs. Frequency



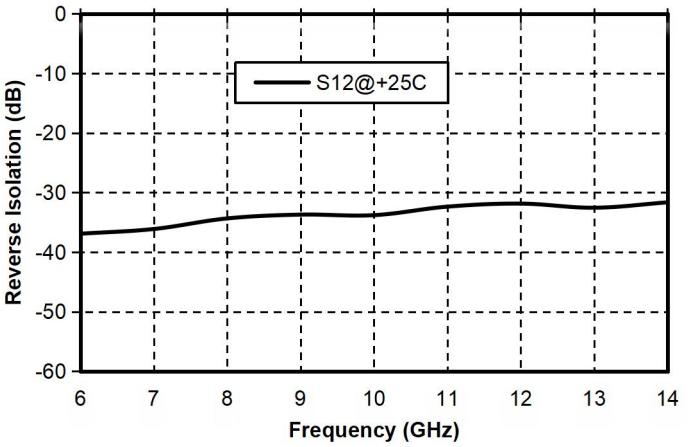
Input return loss vs. Frequency



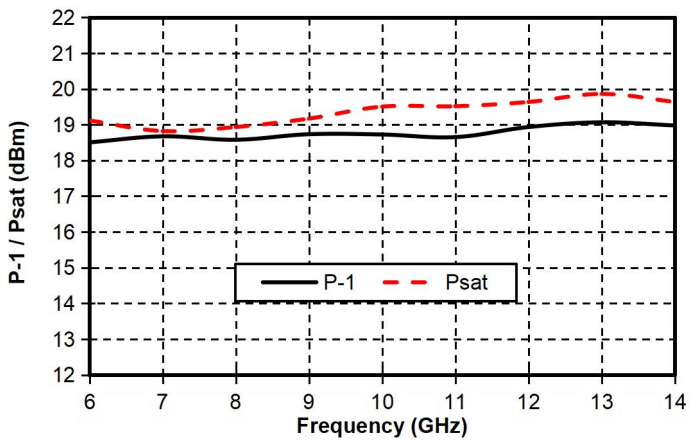
Output return Loss vs. Frequency



Reverse isolation vs. Frequency



P-1dB/Psat vs. Frequency



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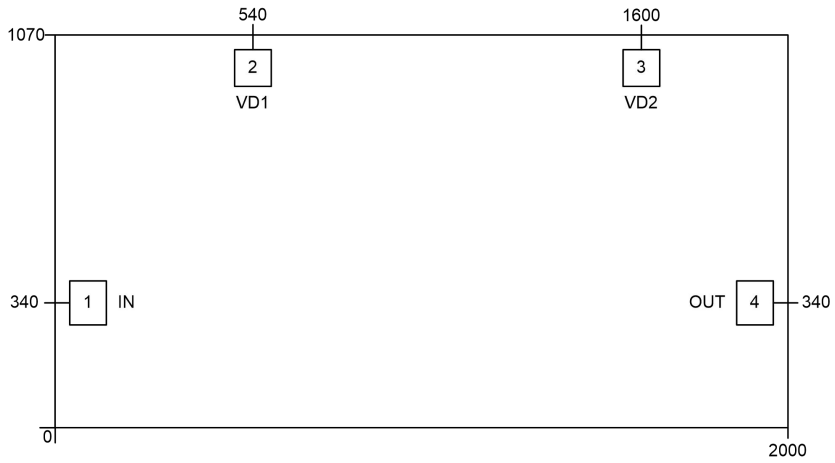
External structure[2]



【2】The units in the figure are all millimeters,with a tolerance of ±100um.

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	VDD	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