

GaAs MMIC Low Noise Amplifier Chip, 7-13GHz

Performance characteristics

- Frequency range: 7-13GHz
- Small signal gain: 23.5dB
- Gain flatness: ± 0.5 dB
- Noise figure: 0.6dB typ.(Vector network testing)
- P-1dB: 11.5dBm
- Power supply: +5V/40mA
- Input/Output: 50Ohm
- 100% on-chip testing
- Chip size: 1.41 x 0.95 x 0.1 mm

Product Introduction

GLA-0713D is a broadband low-noise amplifier chip with a frequency range of 7GHz~13GHz, small signal gain of 23.5dB, and in band noise figure of 0.6dB. GLA-0713D uses a +5V single power supply with a current of 40mA.

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

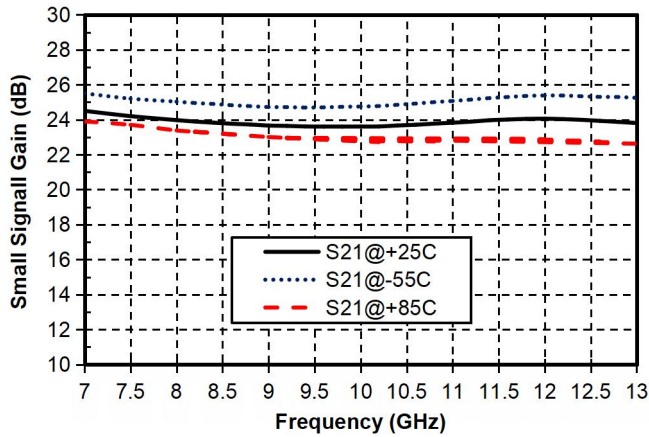
【1】 Exceeding any of the above maximum limits may result in permanent damage.

Electrical performance parameters($T_A = +25^\circ\text{C}$, $V_D = +5\text{V}$)				
Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	7-13			GHz
Small signal gain	-	23.5	-	dB
Gain flatness		± 0.5		dB
Noise coefficient (vector network)	-	0.6	-	dB
Noise coefficient (noise meter)		0.8		dB
P-1dB	-	11.5	-	dBm
Psat		14.0		dBm
Input return loss	-	16	-	dB
Output return Loss	-	12	-	dB
Static current		40		mA

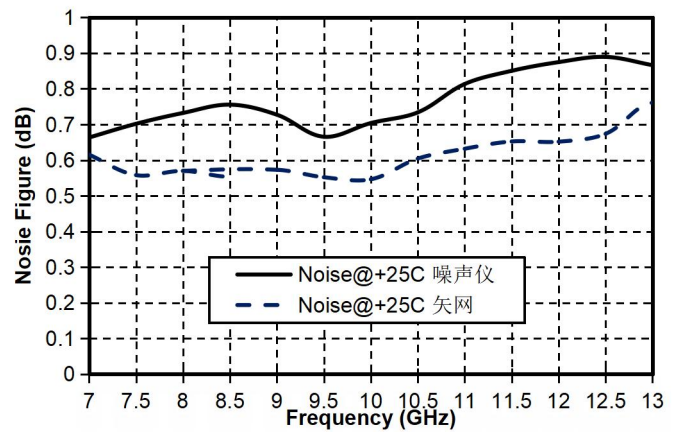
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Main indicator testing curve

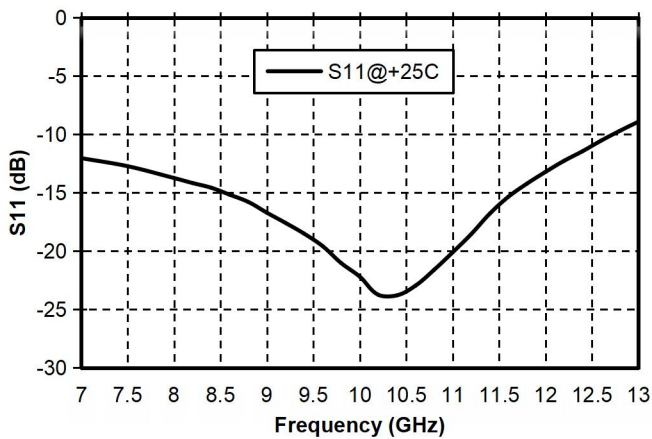
Gain vs. Temperature



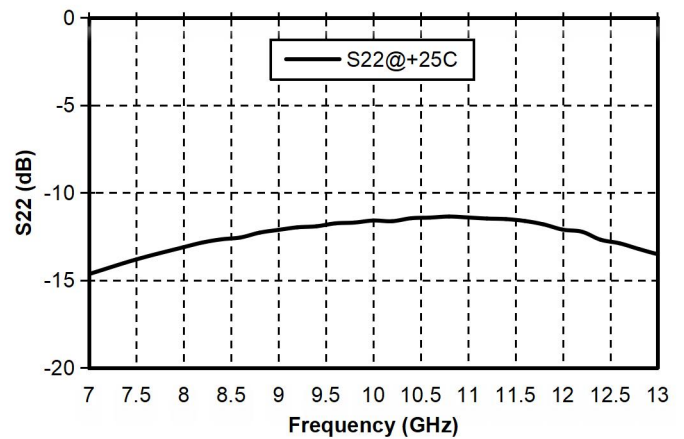
Noise Figure vs. Frequency



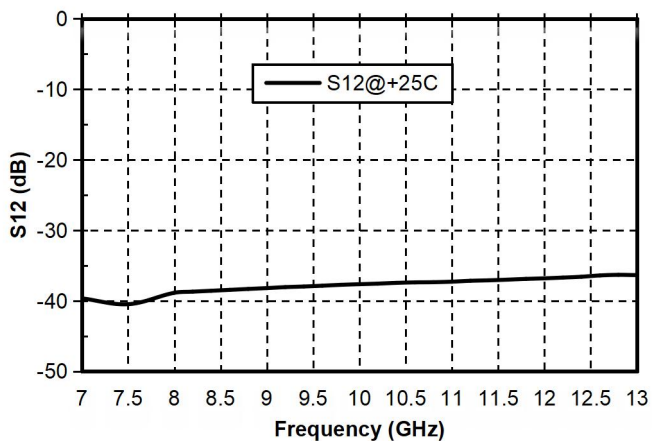
Input return loss vs. Frequency



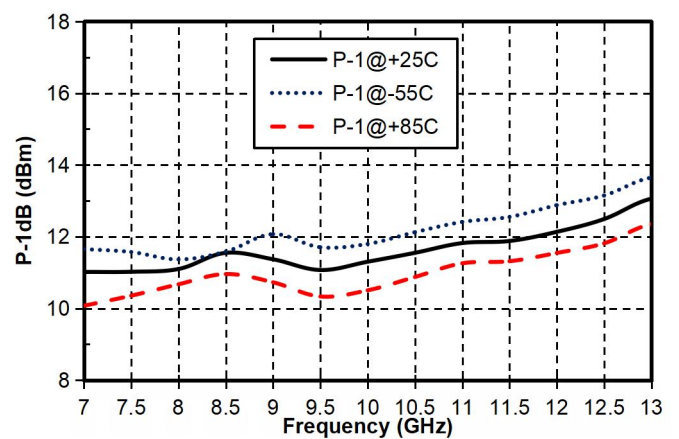
Output return Loss vs. Frequency



Reverse isolation vs. Frequency

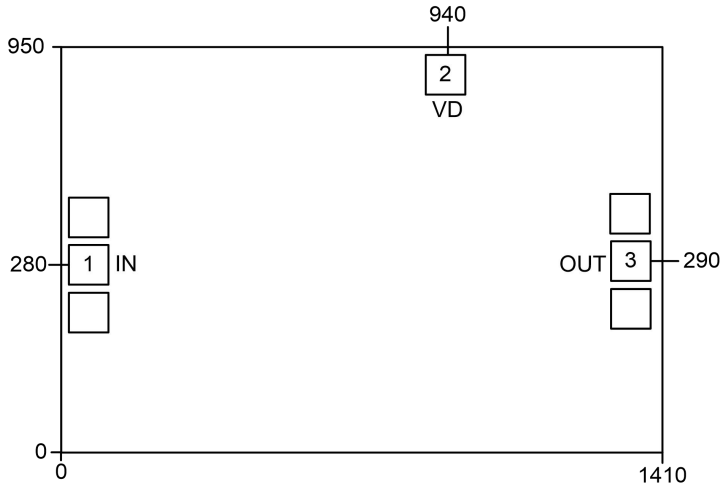


P-1dB vs. Frequency



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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.
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

