

GaAs MMIC Low Noise Amplifier Chip, 2.5 - 3.5 GHz

Performance characteristics

- Frequency range: 2.5 - 3.5 GHz
- Small signal gain: 35dB
- Noise figure: 0.55dB Typ.
- P -1 dB: 12.5dBm
- Power supply: + 5V /40mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 4X4

Product Introduction

GLA-025035-0.5-PQ4 is a broadband low noise amplifier chip with a frequency range of 2.5GHz~3.5GHz, a small signal gain of 35dB, and an in-band noise figure of 0.55dB. GLA-025035-0.5-PQ4 is powered by a single +5V power supply. This chip is packaged in a 4 x 4 mm plastic surface mount package, and the surface of the pin pad is gold-plated, which is suitable for reflow soldering installation.

Use limit parameters

Maximum drain voltage	+7V
Maximum input power	+20dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

Exceeding any of these maximum limits may cause permanent damage.

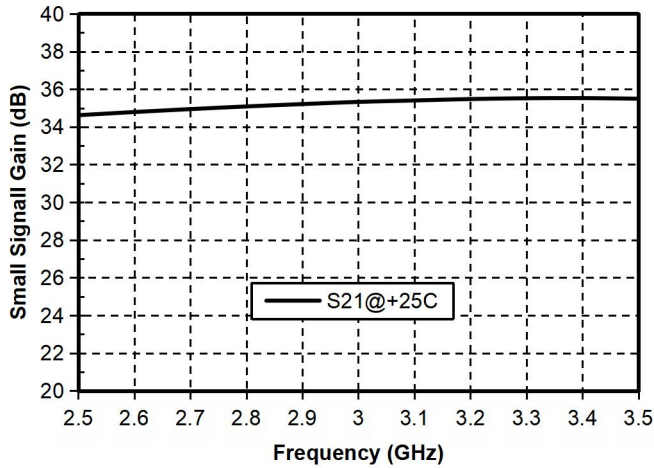
Electrical performance parameters (TA = +25°C, Vd=+5V)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	2.5-3.5			G Hz
Small Signal Gain	34.5	35	35.5	dB
Gain Flatness		± 0 . 5		dB
Noise Figure	-	0.55	-	dB
P -1dB	-	12.5	-	dBm
Psat	-	14	-	dBm
Input return loss	11.5	16	-	dB
Output return loss	12.5	16	-	dB
Quiescent Current	-	40	-	mA

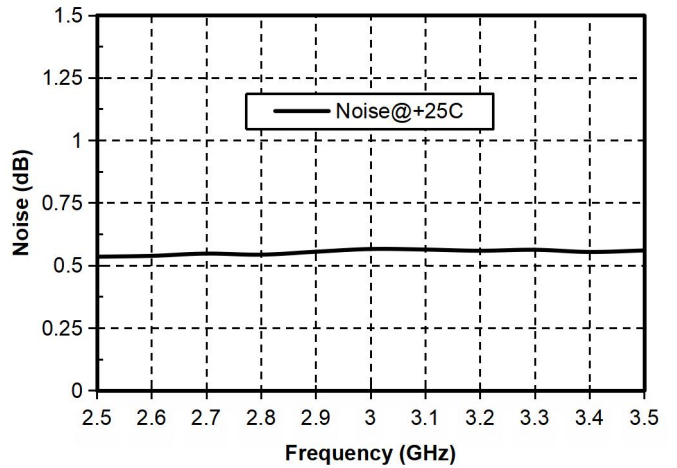
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Main index test curve

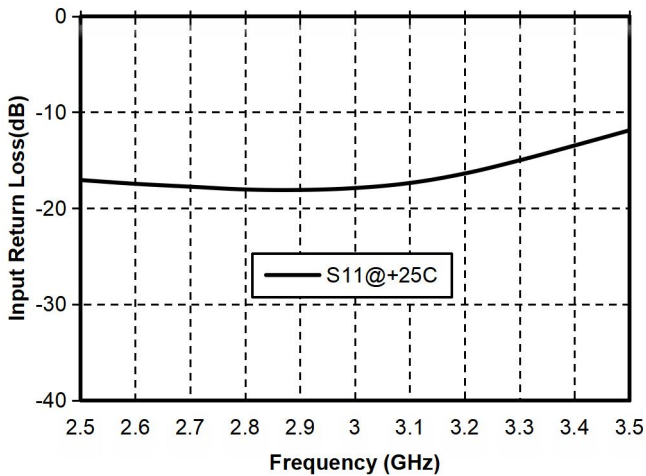
Gain vs. Frequency



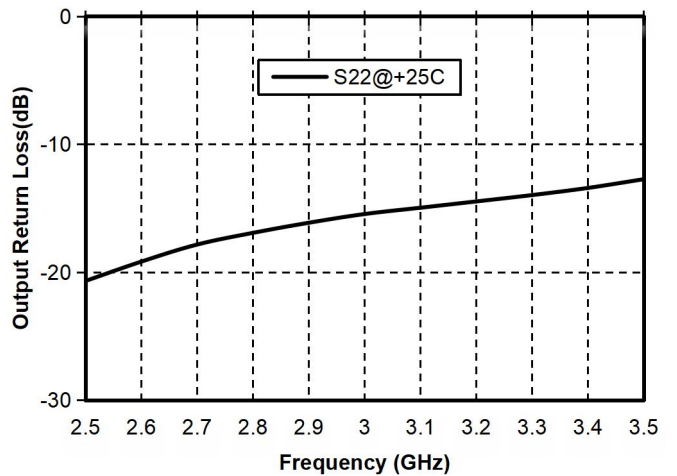
Noise Figure vs. Frequency



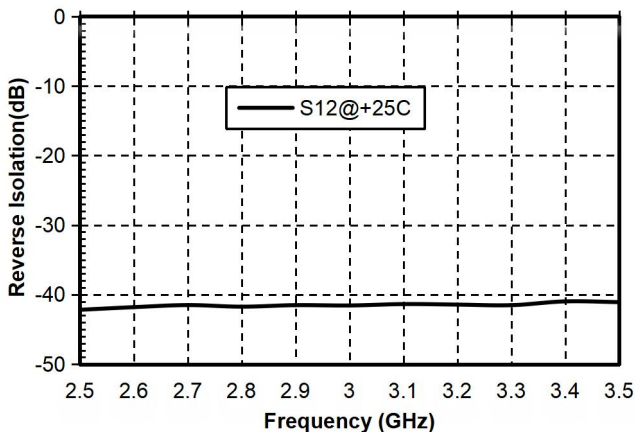
Input Return Loss vs. Frequency



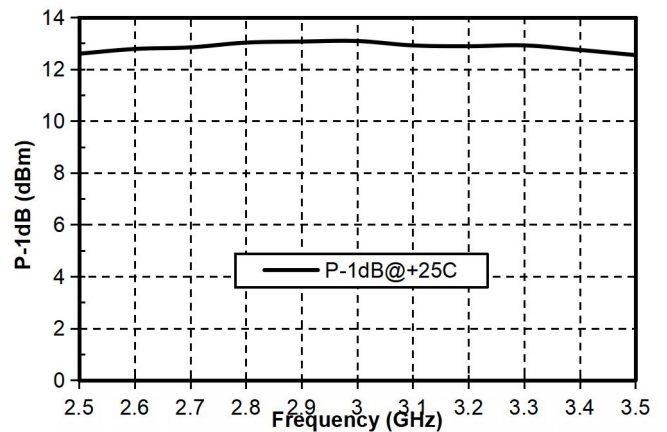
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

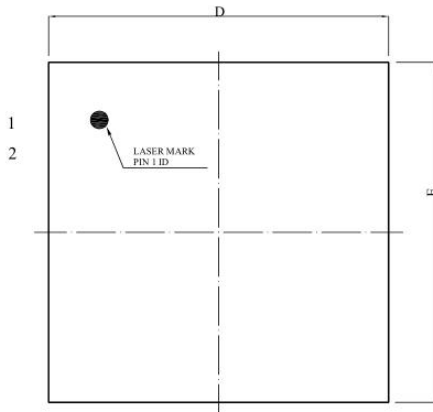


P-1dB vs. Frequency

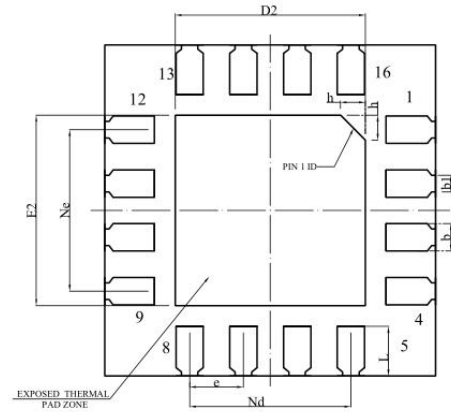


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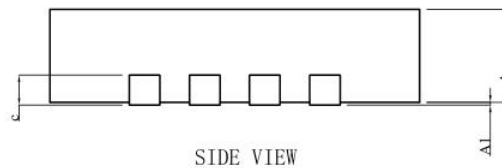
Appearance structure



Top view



Bottom view



SIDE VIEW

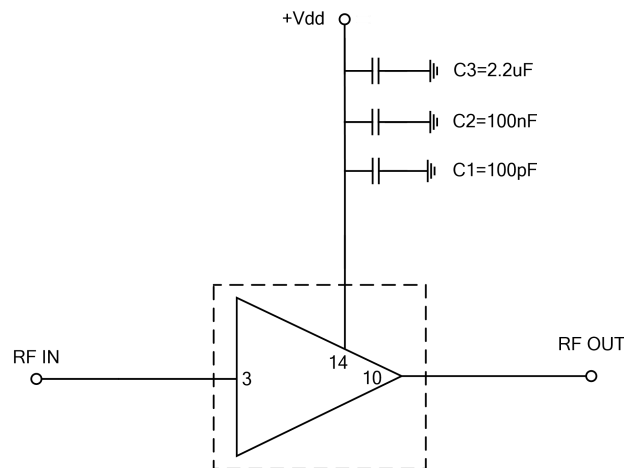
All units in the figures are millimeters .

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.70	0.75	0.80
A1	—	0.02	0.05
b	0.27	0.33	0.39
b1	0.20REF		
c	0.203REF		
D	3.90	4.00	4.10
D2	2.15	2.30	—
e	0.65BSC		
N_e	1.95BSC		
N_d	1.95BSC		
E	3.90	4.00	4.10
E2	2.15	2.30	—
L	0.50	0.60	0.70
h	0.20	0.30	0.40

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Pin Definition		
Bonding point number	Function Symbol	Functional Description
3	RFIN	RF signal input terminal, no DC blocking capacitor required
10	RFOUT	RF signal output terminal, no DC blocking capacitor required
14	VDD	Amplifier Drain Bias
2, 4, 9, 11	GND	The bottom of the chip needs to be well grounded to RF and DC
1, 5~8, 12, 13, 15, 16	NC	Floating pin, can be grounded

Recommended Circuit



Raw material	Capacitance, inductance, resistance
C1	100pF
C 2	100nF
C3	2.2uF

Precautions for use

- Sealing material: Low-pressure injection molding plastic that meets ROHS specifications
- Lead frame material: copper alloy
- Lead surface plating: 100% matte tin
- Maximum reflow peak temperature: 260 °C