

## GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

### Performance characteristics

- Frequency range: 6 - 18 GHz
- Small signal gain: 20dB
- Noise figure: 1.3dB Typ.
- P -1 dB: 17.5 dBm
- Power supply: + 5V /90mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 3X3

### Product Introduction

GLA-0618E-PQ3 is a broadband low noise amplifier chip with a frequency range of 6GHz~18GHz, a small signal gain of 20dB, and an in-band noise figure of 1.3dB. GLA-0618E-PQ3 is powered by a single +5V power supply. This chip is packaged in a 3 x 3 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.

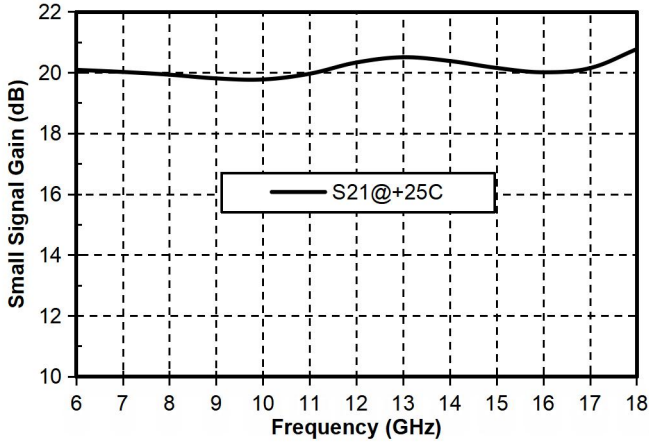
### Electrical performance parameters ( TA = +25°C, Vd=+5V )

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	6-18			G Hz
Small Signal Gain	19.5	20	20.5	dB
Gain Flatness		± 0 . 5		dB
Noise Figure	-	1.3	1.5	dB
P -1dB	-	17.5	-	dBm
Psat	-	18	-	dBm
Input return loss	-	15	-	dB
Output return loss	-	15	-	dB
Quiescent Current	-	90	-	mA

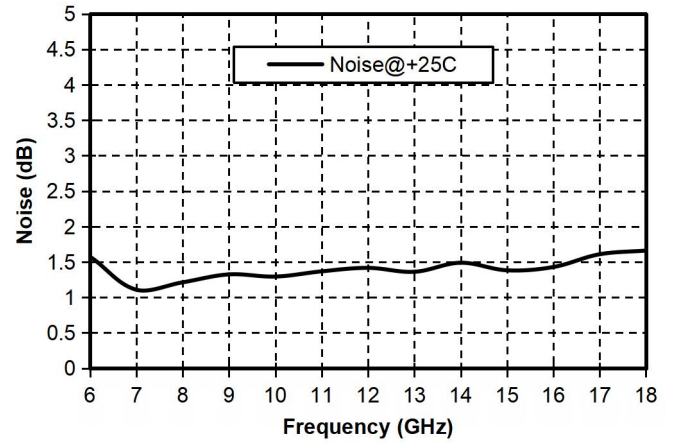
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Main index test curve

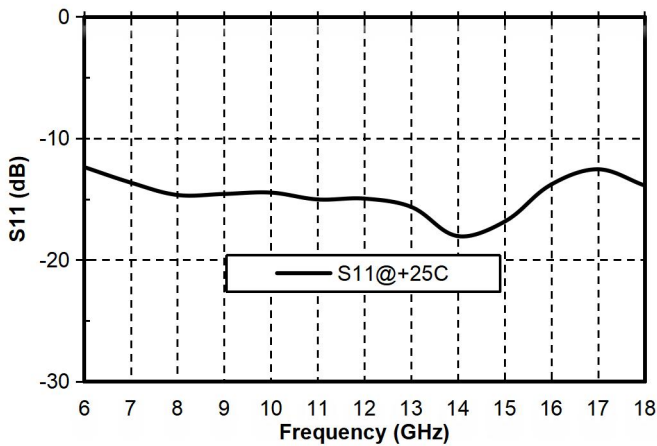
Gain vs. Frequency



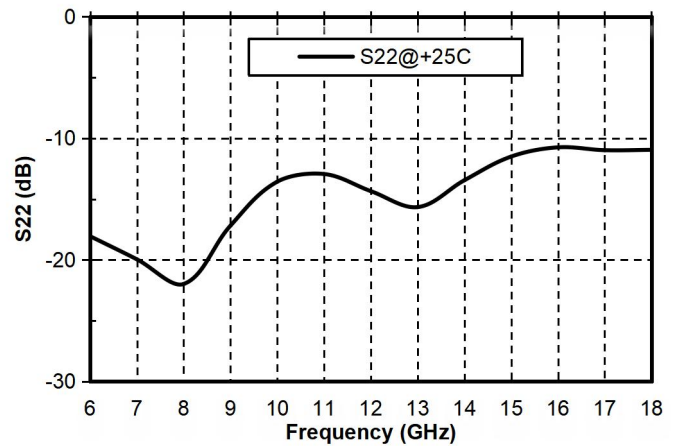
Noise Figure vs. Frequency



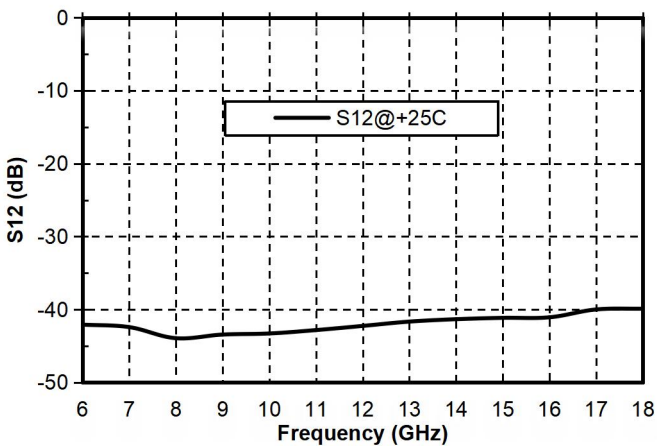
Input Return Loss vs. Frequency



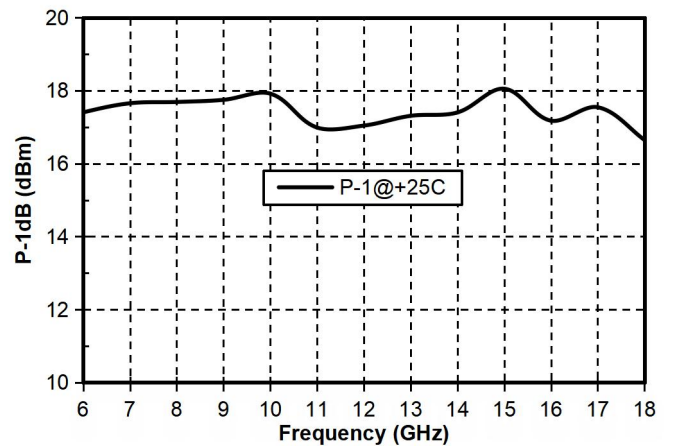
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

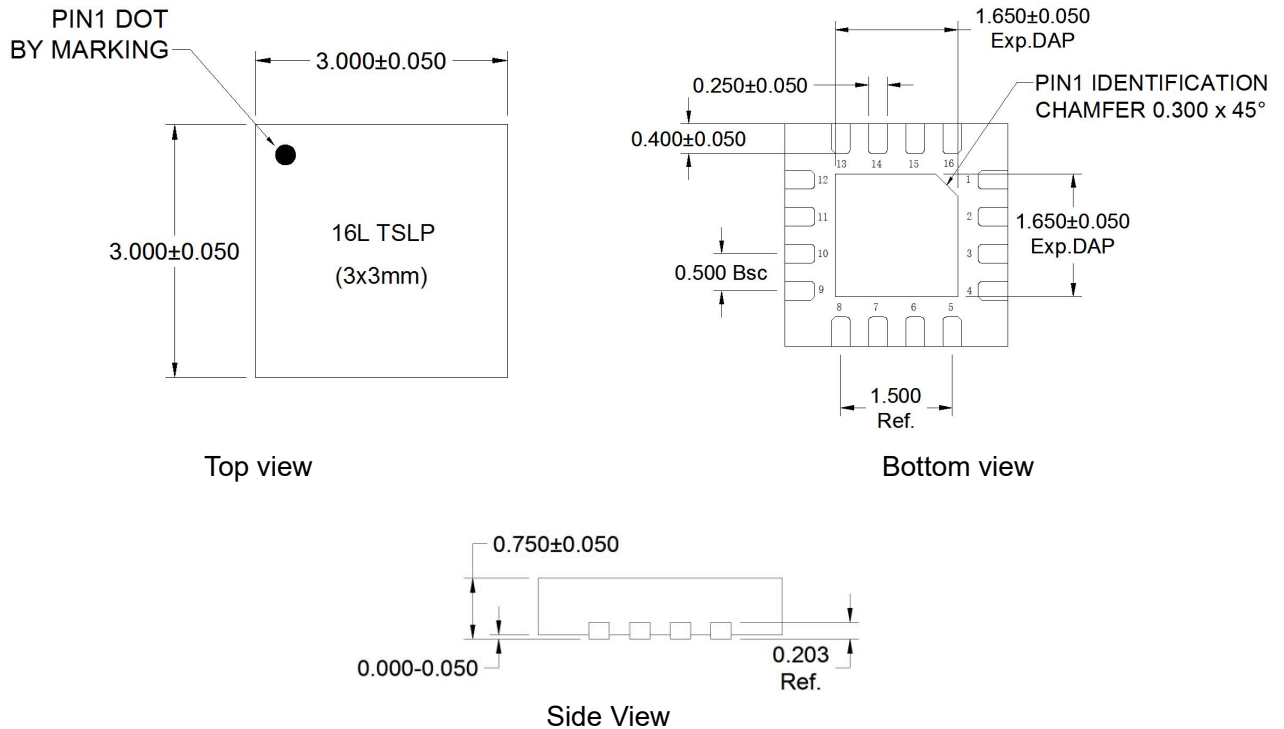


P-1dB vs. Frequency



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### Appearance structure

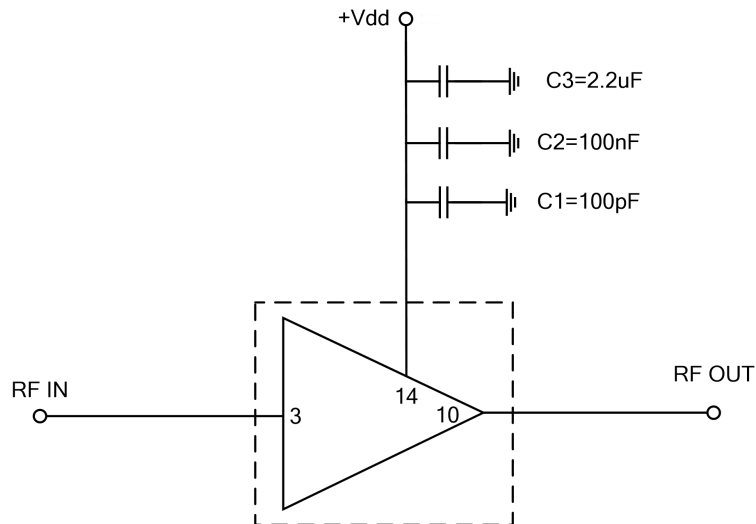


The units in the figure are all millimeters, with a tolerance of  $\pm 0.05$  mm.

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	No welding required

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### Recommended Circuit



Raw material	Capacitance, inductance, resistance
C1	100pF
C 2	100nF
C 3	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