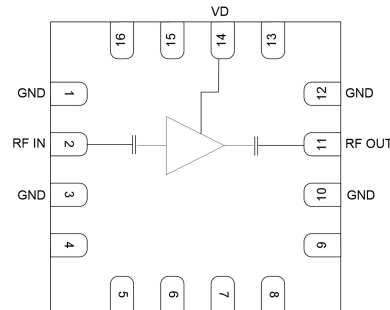


## GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

### Performance characteristics

- Frequency range: 6 - 18 GHz
- Small Signal Gain: 22.5 dB
- Noise figure: 1.5dB typ.
- P -1 dB: 13.5dBm
- Power supply: + 5V /40mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 3X3

### Block Diagram



### Product Introduction

GLA-0618I-PQ3 is a broadband low noise amplifier chip, covering the frequency range of 6GHz~18GHz, with a small signal gain of 22.5dB and an in-band noise figure of 1.5dB . GLA -0618I-PQ3 is powered by a single +5V power supply. The chip also has good performance indicators in the frequency range of 4-20GHz. The chip is packaged in a 3 x 3 mm plastic surface mount package, and the surface of the pin pad is tinned, which is suitable for reflow soldering installation process.

### Use restriction parameter <sup>1</sup>

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

【1】 Exceeding any of these maximum limits may cause permanent damage.

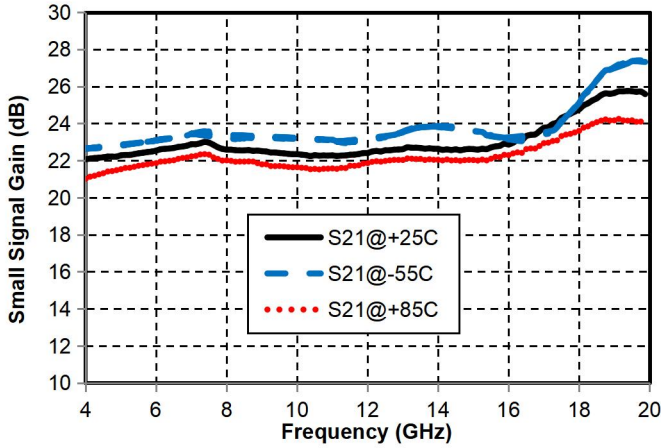
### Electrical performance parameters ( TA = +25°C, Vd = +5V )

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	6-18			G Hz
Small Signal Gain	-	22.5	-	dB
Gain Flatness		± 1.25		dB
Noise Figure	-	1.5	-	dB
P -1 dB	-	13.5	-	dBm
Psat	-	14	-	dBm
Input return loss	-	18	-	dB
Output return loss	-	16	-	dB
Quiescent Current		40		mA

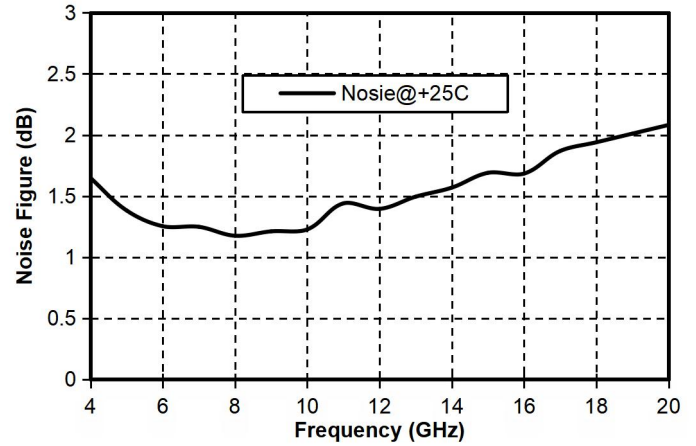
## GaAs MMIC Low Noise Amplifier Chip, 6-18 GHz

Main index test curve

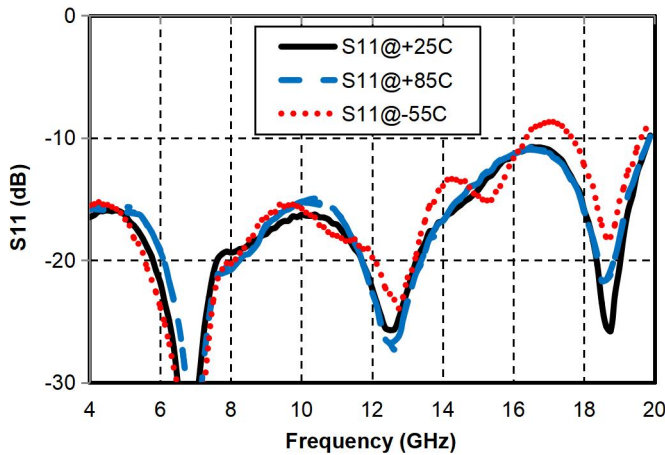
Gain vs. Frequency



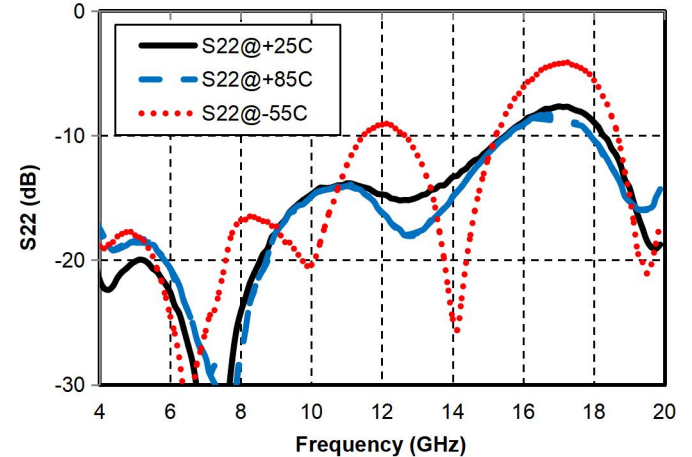
Noise Figure vs. Frequency



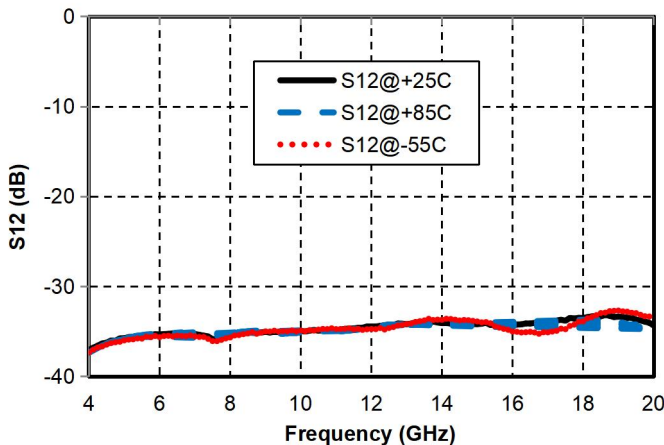
Input Return Loss vs. Frequency



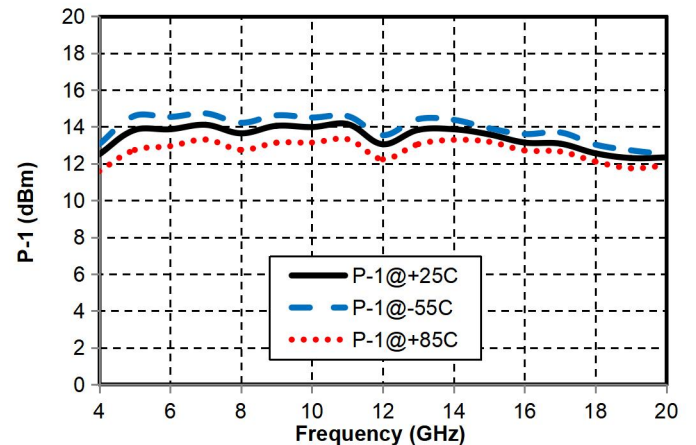
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

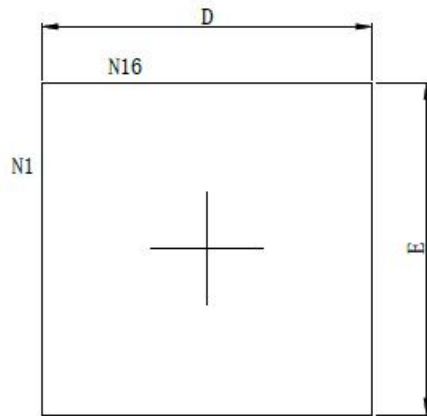


P-1dB vs. Frequency

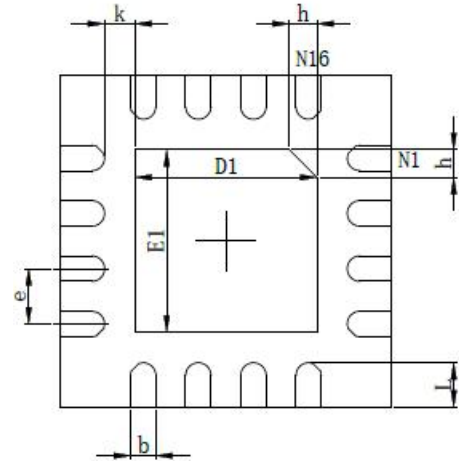


## GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

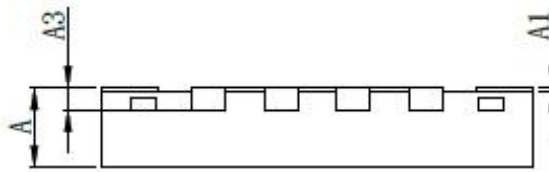
### Appearance structure



Top view



Bottom view



Side View

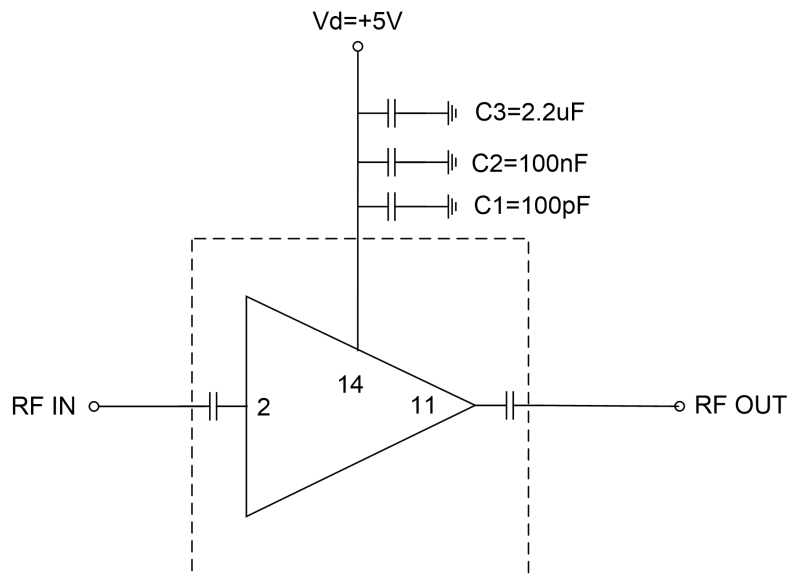
The units in the figure are all millimeters, with a tolerance of  $\pm 0.05$  mm.

SYMBOL	MIN	NOM	MAX
A	0.700	0.750	0.800
A1	0.000	0.020	0.05
A3	0.203 REF		
b	0.180	0.230	0.280
D	2.900	3.000	3.100
E	2.900	3.000	3.100
e	0.500 BSC.		
D1	1.550	1.650	1.750
E1	1.550	1.650	1.750
L	0.300	0.400	0.500
K	0.200 MIN.		
h	0.250 REF.		

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

Pin Definition		
Bonding point number	Function Symbol	Functional Description
2	RF IN	RF signal input terminal, no DC blocking capacitor required
11	RF OUT	RF signal output terminal, no DC blocking capacitor required
14	V d	Amplifier Drain Bias
1, 3, 10, 12	GND	The bottom of the chip needs to be well grounded to RF and DC
4~9, 13, 15, 16	NC	No welding required

### Recommended Circuit



Raw material	Capacitance, inductance, resistance
C 1	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
- Lead surface plating: nickel palladium gold
- Maximum reflow peak temperature: 260 °C