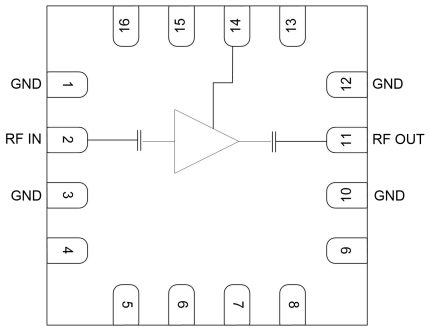
# GLA-1723D-PQ3

## GaAs MMIC Low Noise Amplifier Chip, 17 - 23 GHz

### Performance characteristics

- Frequency Range: 17 - 23 GHz
- Small signal gain: 25dB
- Gain flatness: ±0.8dB
- Noise figure: 1.6dB Typ.
- P -1 dB: 3dBm
- Power supply: + 5V /15mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 3X3

### Block Diagram




### Product Introduction

GLA-1723D-PQ3 is a broadband low noise amplifier chip with a frequency range of 17GHz~23GHz, a small signal gain of 25dB, and an in-band noise figure of 1.6dB. GLA-1723D-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 tinned, which is suitable for reflow soldering installation.

| Use limit parameters | |
|---|---|
| Maximum drain voltage | +7V |
| Maximum input power | +20dBm |
| Operating temperature | -55 ~ + 125 °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 | | 17-23 | | G Hz |
| Small Signal Gain | - | 25 | - | dB |
| Gain Flatness | - | ± 0 . 8 | - | dB |
| Noise Figure | - | 1.6 | - | dB |
| P -1dB | - | 3 | - | dBm |
| Psat | - | 4.5 | - | dBm |
| Input return loss | - | 20 | - | dB |
| Output return loss | - | 14 | - | dB |
| Quiescent Current | - | 15 | - | mA |

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Standard Circuit

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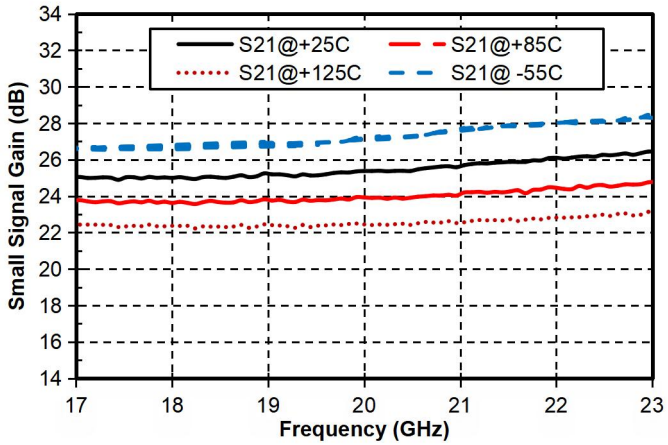
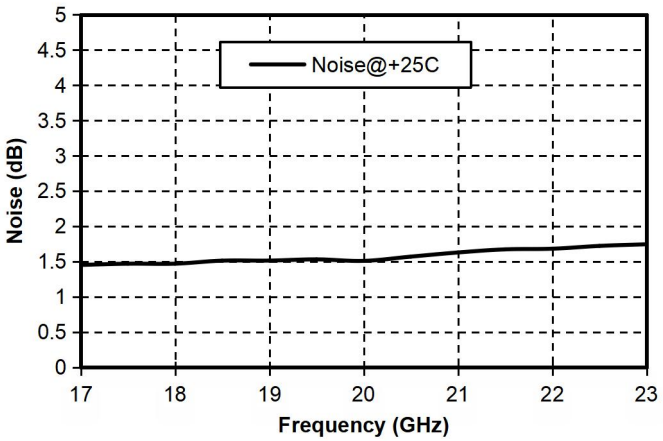
### Main index test curve

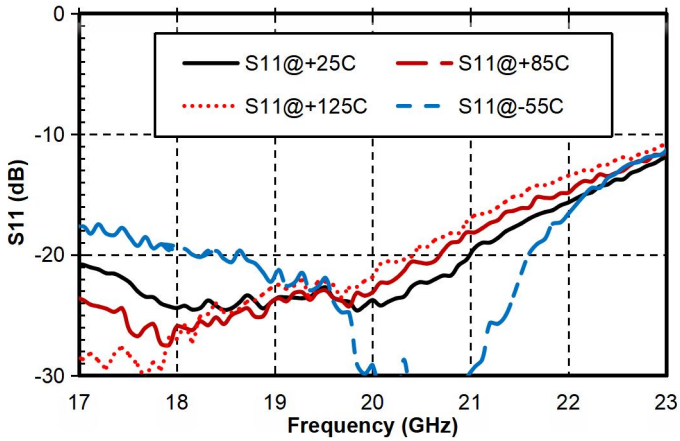
Gain vs. Frequency



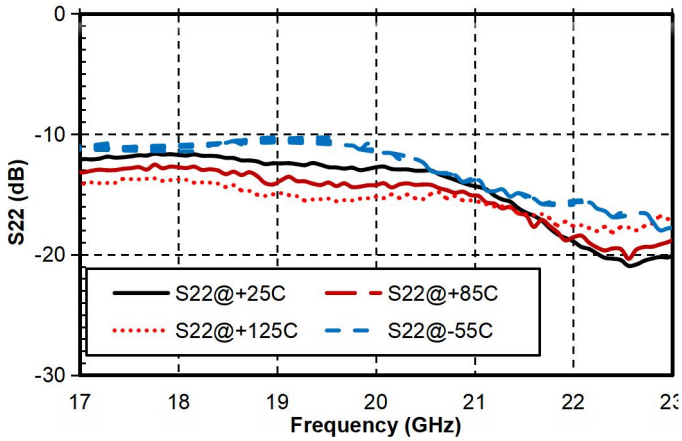

Noise Figure vs. Frequency



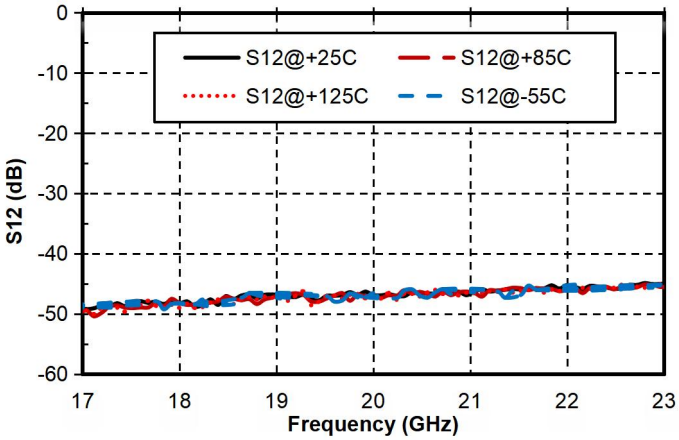

Input Return Loss vs. Frequency



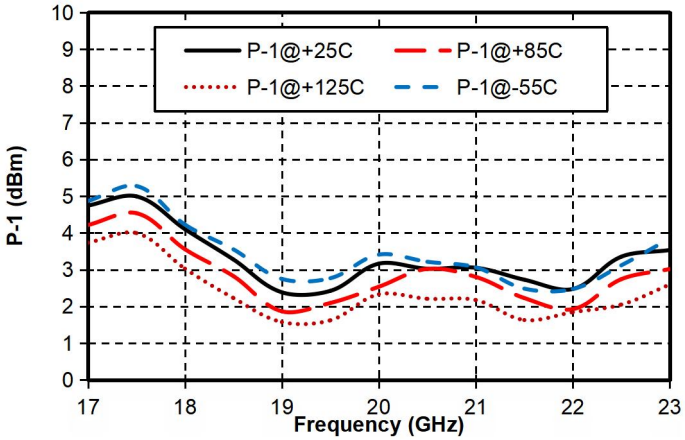

Output Return Loss vs. Frequency




Reverse Isolation vs. Frequency




P-1dB vs. Frequency





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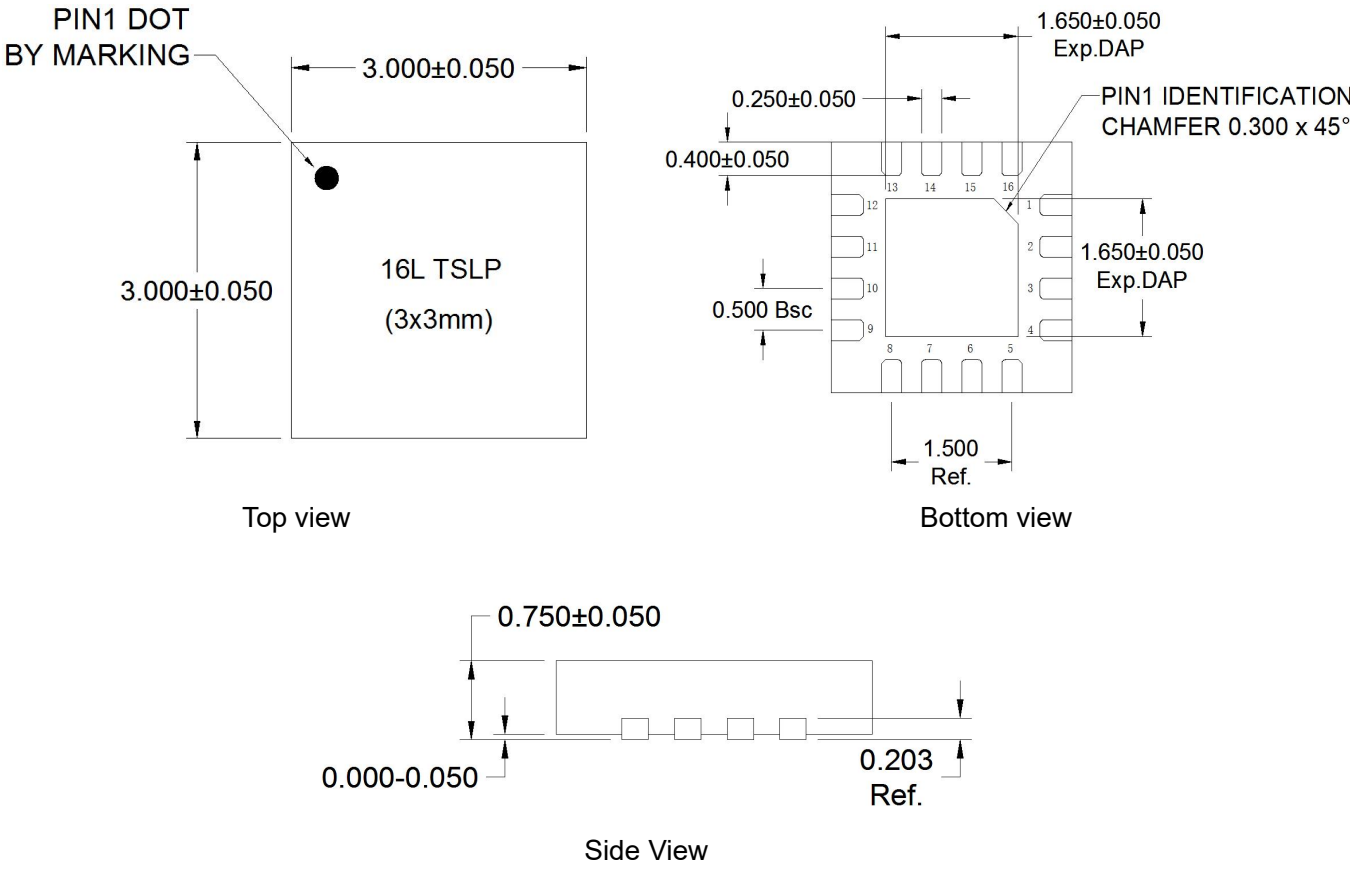
### Appearance structure




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

| Pin Definition | | |
|---|---|---|
| Solder 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 |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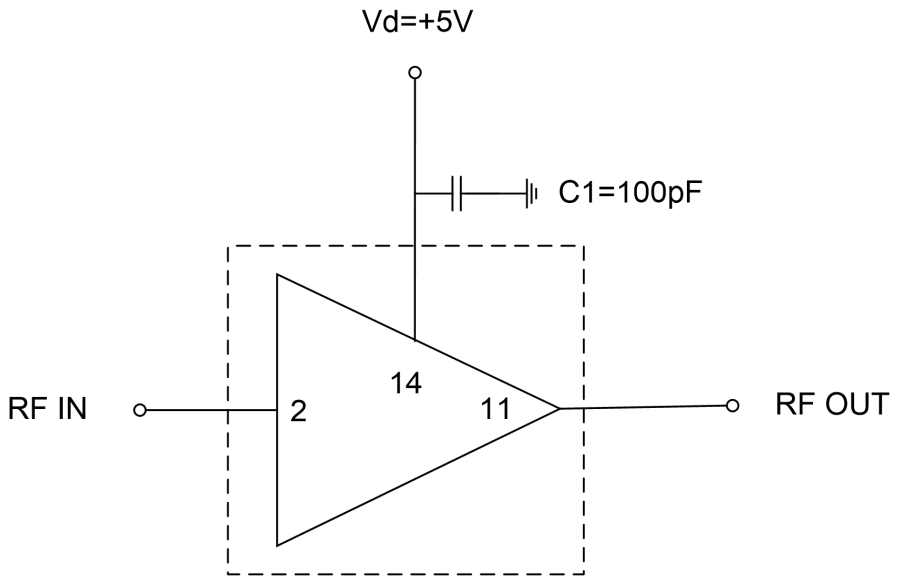
## GaAs MMIC Low Noise Amplifier Chip, 17 - 23 GHz

### Recommended Circuit




| Raw material | Capacitance, inductance, resistance |
|---|---|
| C1 | 100pF |

### Precautions for use

- Sealing material : Low-pressure injection molding plastic that meets ROSH specifications
- Lead frame material: copper
- Lead surface plating: nickel palladium gold
- Maximum reflow peak temperature: 260 ℃