Standard Circuit

GPA- 1418D-CQ5

GaAs MMIC Driver Amplifier Chip, 14-18 GHz

Performance characteristics

- Frequency range: 14-18 GHz
- Small signal gain: 25dB
- Gain Flatness: ± 1.0dB
- P-1: 27dBm
- Psat : 27.5dBm
- Power supply: +5 V /300mA
- 50Ohm input / output
- Chip size: QFN 5X5

Product Introduction

GPA-1418D-CQ5 is a driver amplifier based on GaAs technology , with a frequency range of 14GHz~18GHz. GPA-1418D-CQ5 supports +5V power supply. This chip adopts 5 x 5 mm ceramic surface mount package, and the surface of the pin pad is gold-plated, which is suitable for reflow soldering installation process.

Using the Limit Parameter	
Maximum drain voltage	+7 V
Maximum input power	+2 0 dBm
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		14-18		G Hz
Small Signal Gain	-	25	-	dB
Gain Flatness		± 1.0		dB
P-1		27		dBm
Psat	-	27.5	-	dBm
Input return loss	-	21	-	dB
Output return loss	-	13	-	dB
Quiescent Current		300		mA
* By tuning the Vg terminal voltage from -2V to 0V , the recommended Vg terminal voltage is -0.75V .				

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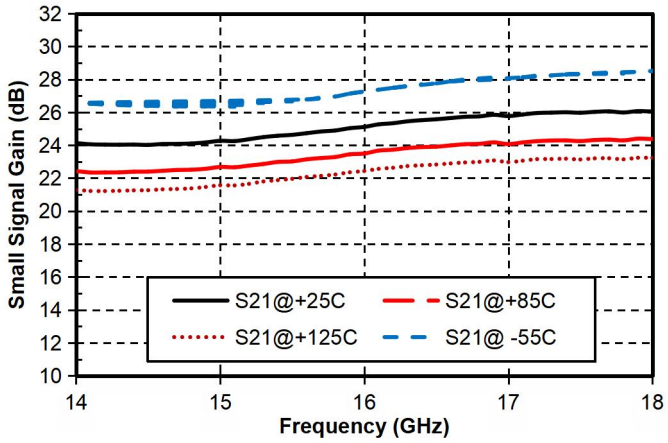
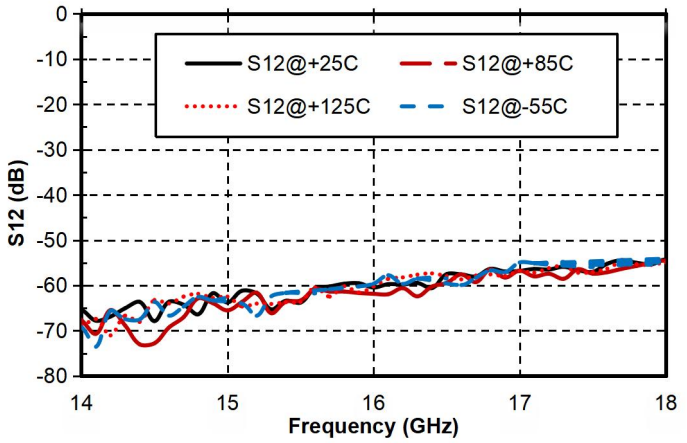
Main index test curve @+5V

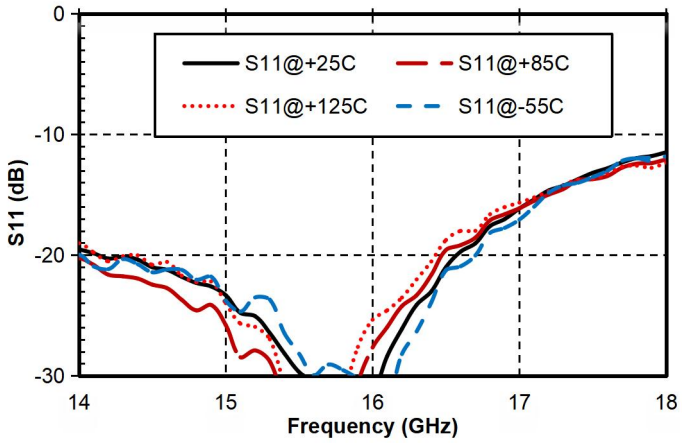
Gain vs. Frequency



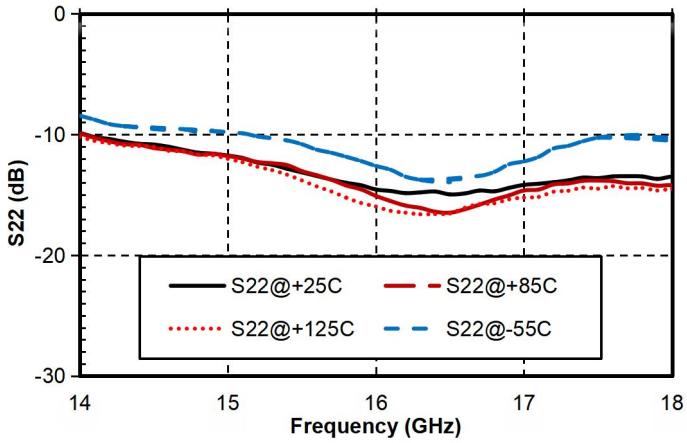
Reverse Isolation vs. Frequency



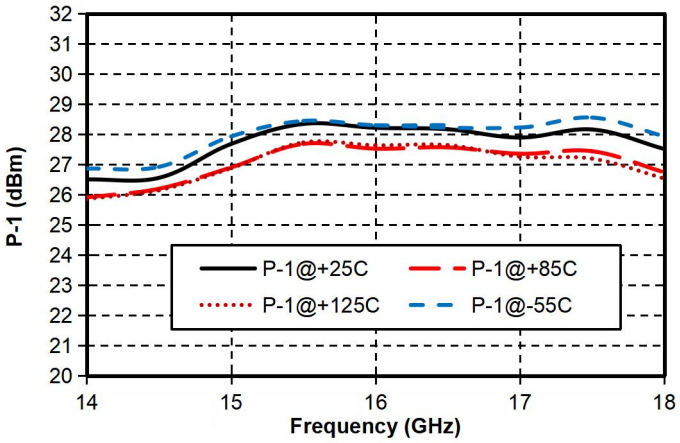
Input Return Loss vs. Frequency



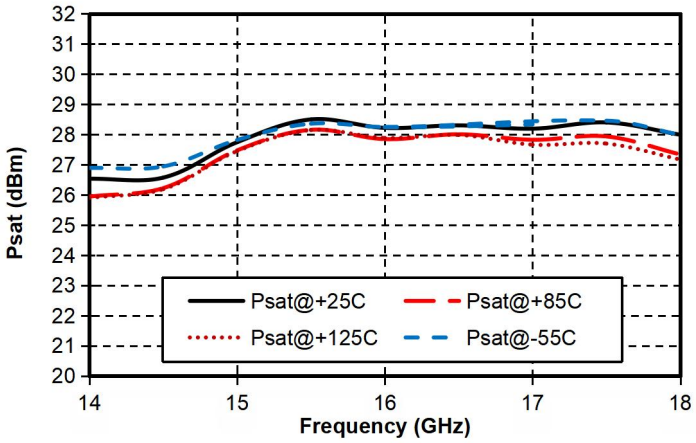
Output Return Loss vs. Frequency



P-1dB vs. Frequency



P sat vs. frequency



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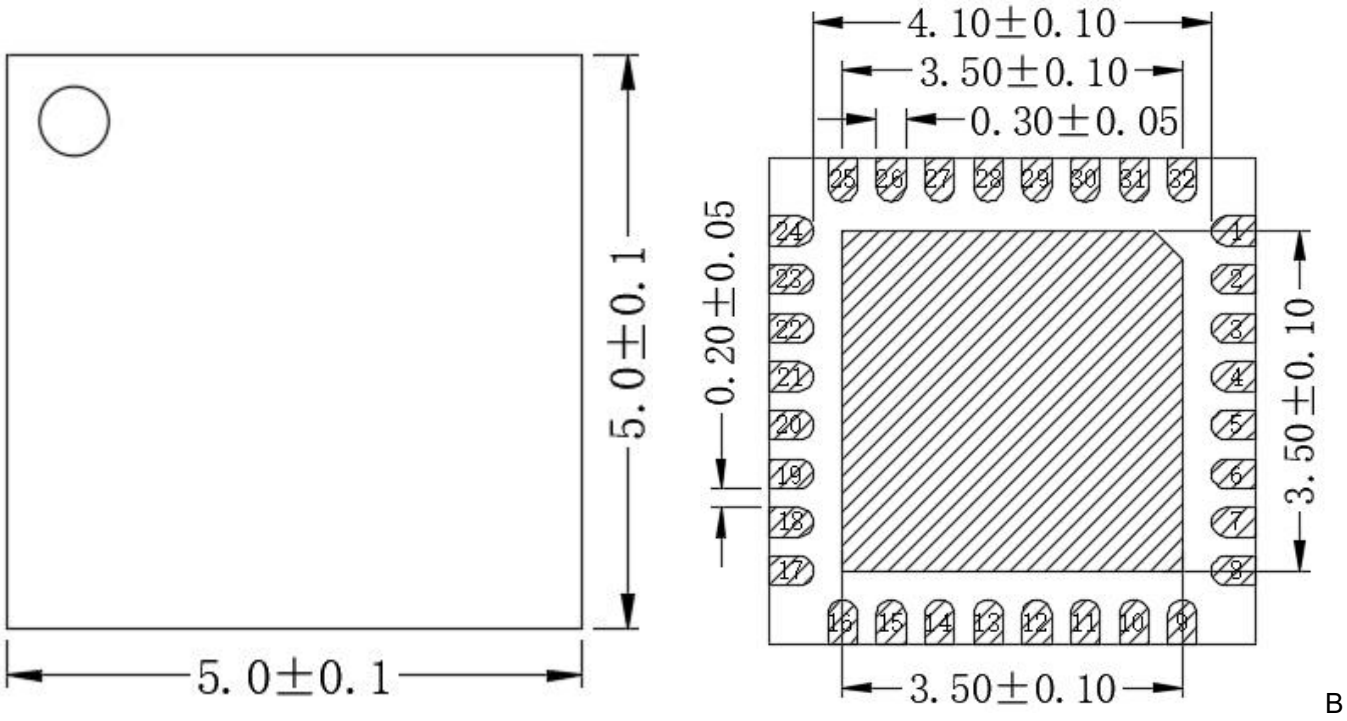
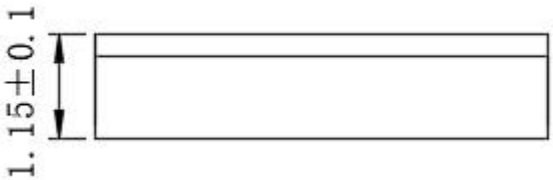
Appearance structure



Top view

ottom view



Side View

All units in the figures are millimeters .

Pin Definition		
Pin number	Function Symbol	Functional Description
4	RFIN	The signal input terminal is connected to a 50 ohm circuit, and no DC blocking capacitor is required
21	RFOUT	The signal output terminal is connected to a 50 ohm circuit, and no DC blocking capacitor is required
1 0	VG	Amplifier Gate Bias
2 6	VD	Amplifier Drain Bias
1-3 、 5-9 、 16-20 、 22-25 、 32	GND	The pins need to be well grounded to the RF and DC grounds
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF

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		and DC
Other	NC	No welding required, can be grounded

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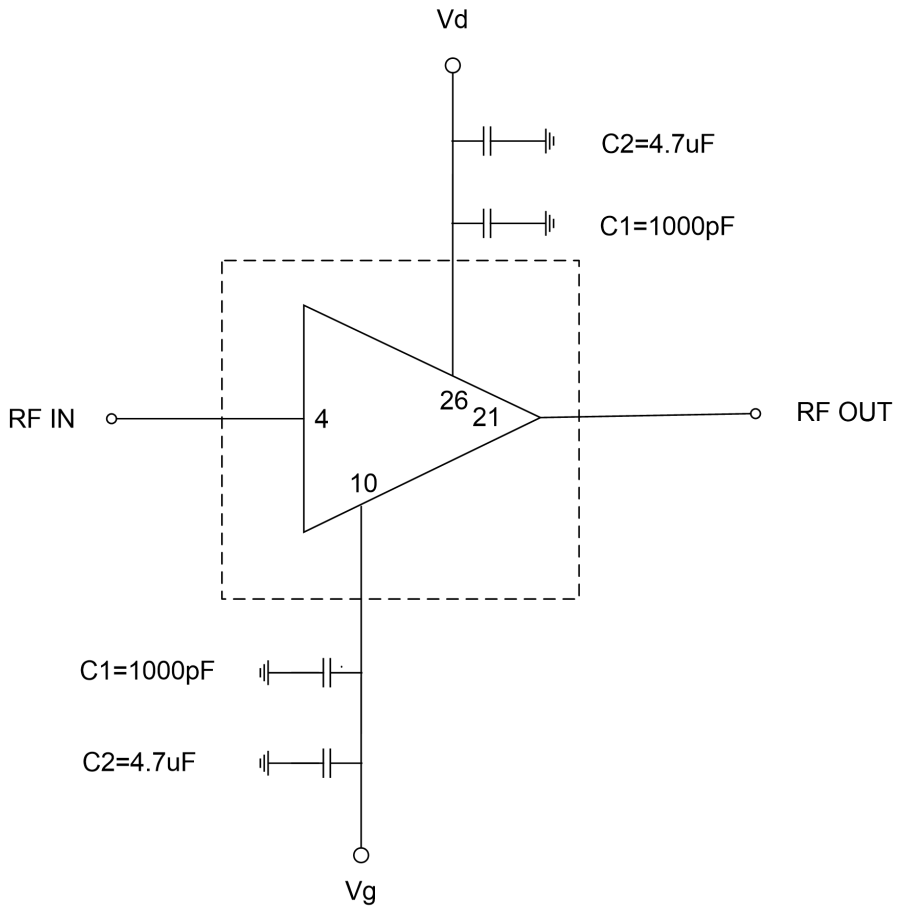
Recommended Circuit



Precautions for use

- Sealing material : Ceramic material that meets ROSH standards
- Lead surface plating: gold, gold layer thickness 0.3um MIN
- Maximum reflow peak temperature: 260 ℃