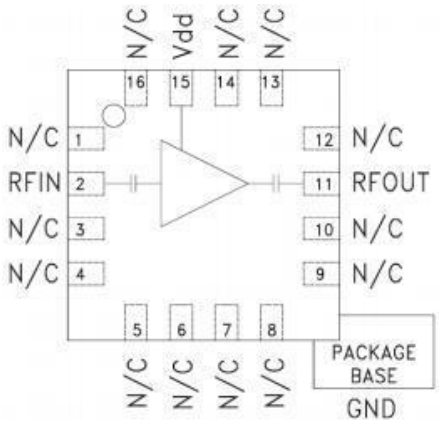
TFPA0218P
2~18 GHz GaAs MMIC Medium-Power Amplifier Chip

★1.Product Features

- Frequency range: 2~18 GHz
- Small-signal gain: 16 dB
- Noise figure: 2.5 dB typ.
- Gain flatness: ±0.3 dB
- Saturated output power (Psat): 21.5 dBm
- Operating voltage/quiescent current: +5 V/140 mA
- Package: QFN3×3mm-16L

Functional Block Diagram



★2.Product Introduction

TFPA0218P is a medium-power amplifier packaged chip with built-in DC blocking capacitors, operating in the 2~18 GHz frequency range. With a typical noise figure of 2.5 dB, it provides a small-signal gain of 16 dB and a saturated output power of 21.5 dBm at a supply voltage of +5 V, featuring low noise, high gain, positive gain slope over frequency, and excellent in-band flatness.

★3.Electrical Characteristics

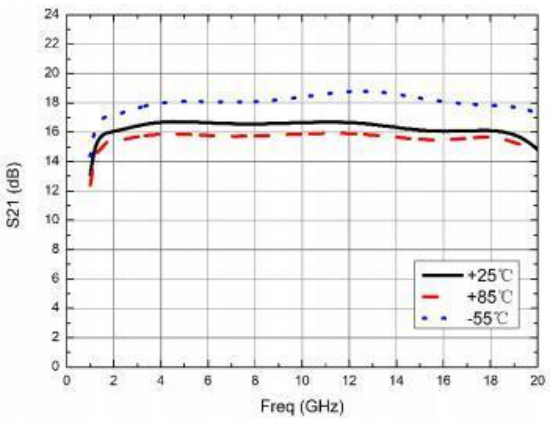
TA=+25℃, VD=+5V

	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Unit
BW	7		8	8		12.5	12.5		14	14		15.5	GHz
Gain	16	16.5		16	16.5		16	16.3		15.8	16.1		dB
RL-in		11			11			10.5			10.5		dB
RL-out		12.5			16			22			16		dB
P1dB	19.2	19.7		19.5	20		20	20.5		20.3	20.7		dBm
Psat	20.2	20.7		20.5	21		21	21.5		21.3	21.7		dBm
NF		2.3			2.3			2.3			2.3		dB
VD		5			5			5			5		V
ID		140			140			140			140		mA

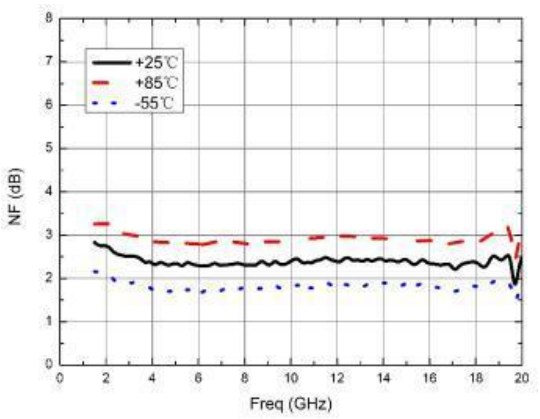
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Website:ttfelectronic.com
Address: Building 16, Area C, Entrepreneurship and R&D Park, Xi'an High-tech Industrial Development Zone, China

★4.Typical Test Curve

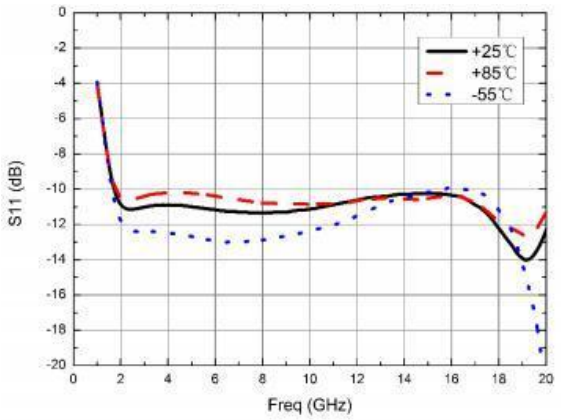
Gain vs. Frequency



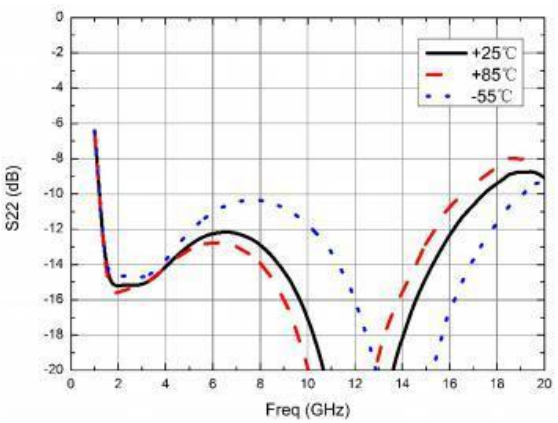
Noise Figure vs. Frequency



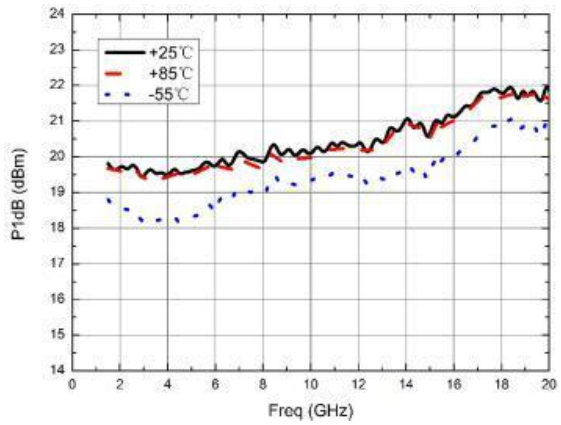
Input Return Loss vs. Frequency



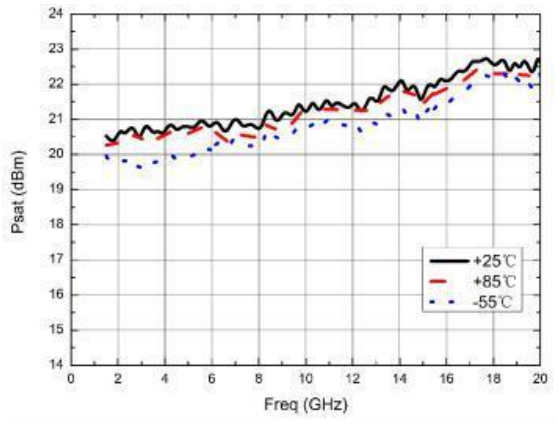
Output Return Loss vs. Frequency



Output P1dB vs. Frequency

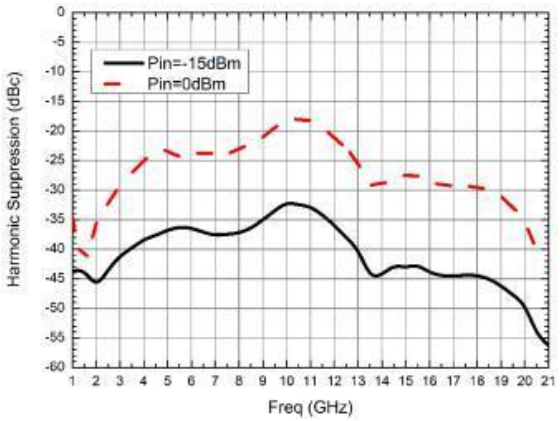


Saturated Output Power vs. Frequency



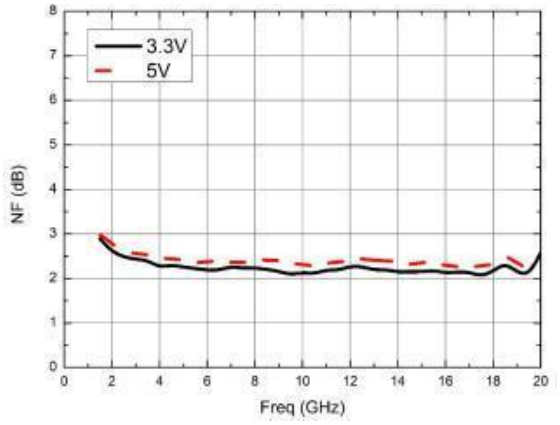
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Second Harmonic vs. Frequency

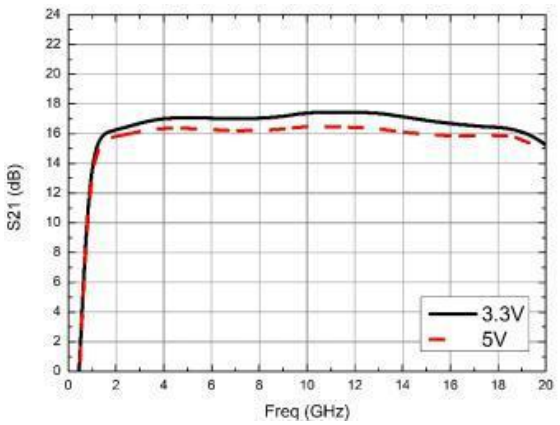


Test results under different voltages

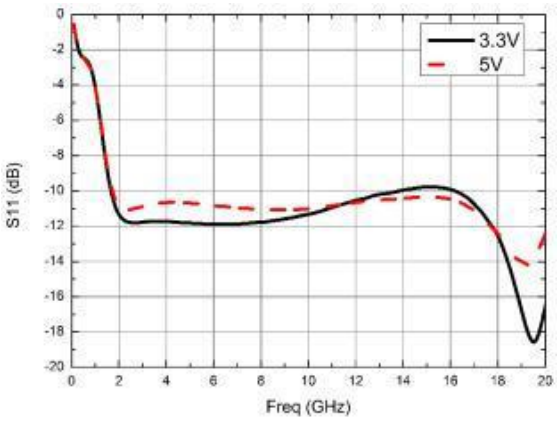
Noise Figure vs. Frequency



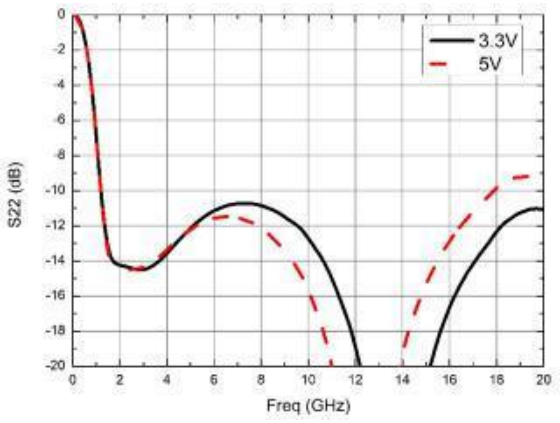
Gain vs. Frequency



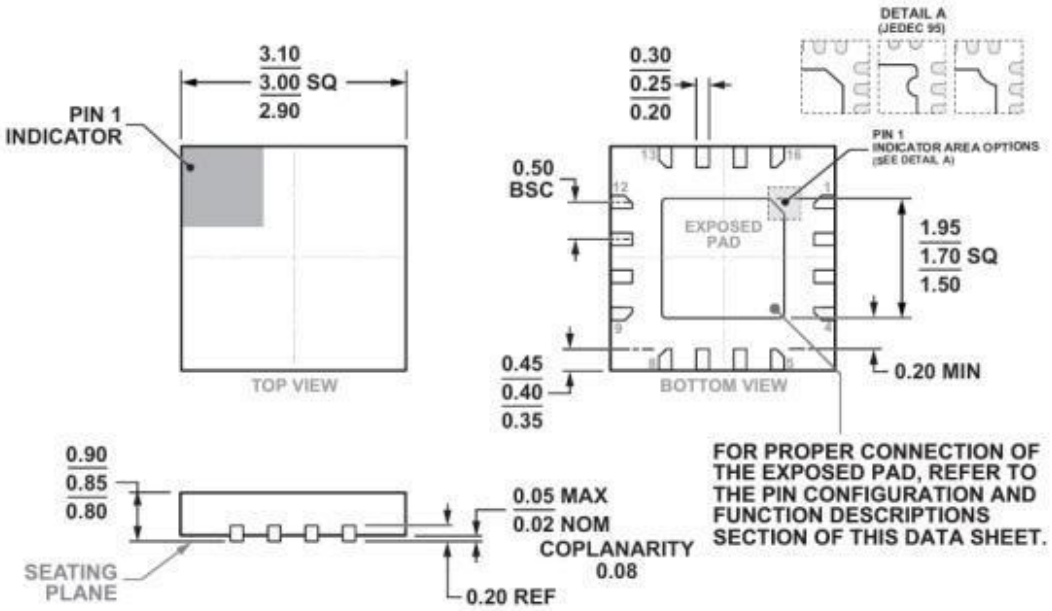
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



★5.Outline Dimensions



★6.Pin Description

Pin Number	Symbol	Function Description
2	RFin	RF input, internally DC-blocked and matched to 50 Ω
11	RFout	RF output, internally DC-blocked and matched to 50 Ω
15	VD	Amplifier drain voltage, an external bypass capacitor is required
1, 3-7, 8-10, 12-14, 16	GND	Ground

★7.Precautions

Parameter	Limit Value
Maximum Supply Voltage	+5.5 V
Maximum Input Power	+20 dBm
Operating Temperature	-55℃~+85℃
Storage Temperature	-65℃~+150℃
Exceeding any of the above conditions may cause permanent damage to the chip	



This product is sensitive to static electricity.

Please take precautions against static electricity during use.

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