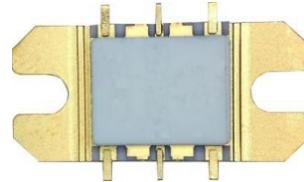


GaAs MMIC Power Amplifier Chip, 8-12 GHz

Performance characteristics

- Frequency range: 8 - 12 GHz
- Small signal gain: 23.5dB
- Gain flatness: ± 1.6 dB
- P -1 dB : 33.5dBm
- Psat : 34.0dBm
- Power supply: +8 V 550mA
- 50Ohm input / output
- Chip size: CFP6

Appearance



Product Introduction

GPA- 0812F - CFP6 is a broadband amplifier based on GaAs technology , with a frequency range of 8 GHz~ 12 GHz, a small signal gain of 23.5dB , and a Psat output of 34dBm . GPA -0812F -CFP6 is powered by +8 V power supply. This chip adopts CFP6 metal ceramic surface mount package, and the surface of the pin pad is gold-plated, which is suitable for surface mount installation process.

Using the Limit Parameter

Maximum drain voltage	+10V
Maximum gate bias	-3V
Maximum input power	+25dBm
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 =+8V)

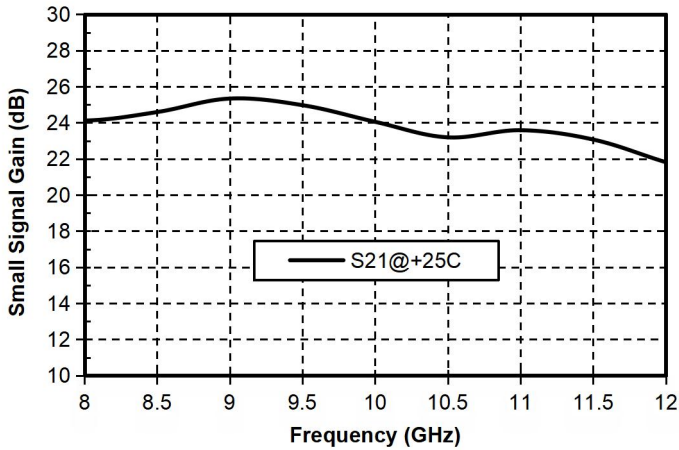
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	8-12			G Hz
Small Signal Gain	-	23.5	-	dB
Gain Flatness		± 1.6		dB
P -1dB	-	33.5	-	dBm
Psat	-	34.0	-	dBm
Input return loss	-	16	-	dB
Output return loss	-	11	-	dB
Quiescent Current		550		mA

* By tuning the Vg terminal voltage from -2V to 0V , the recommended Vg terminal voltage is -0.8V .

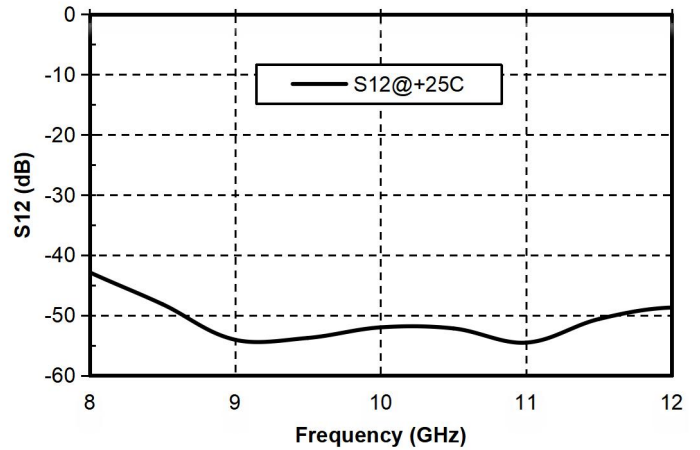
GaAs MMIC Power Amplifier Chip, 8-12 GHz

Main index test curve

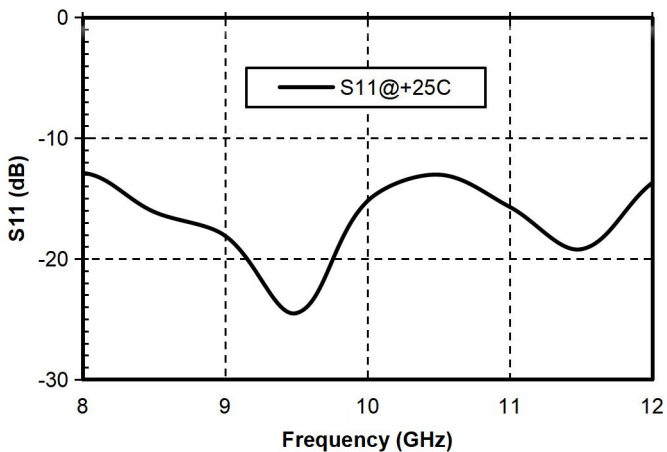
Gain vs. Frequency



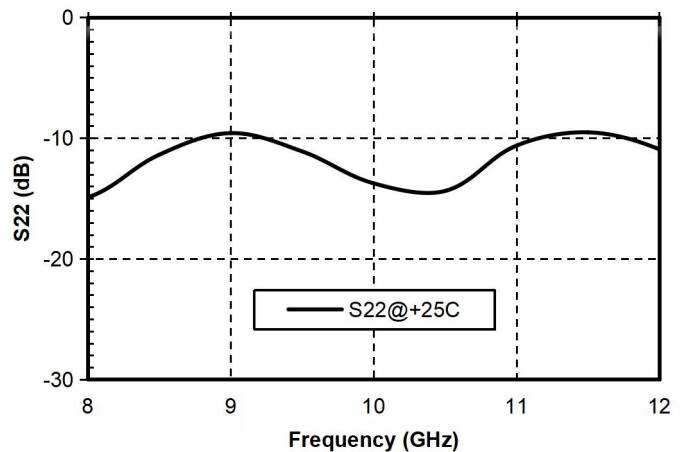
Reverse Isolation vs. Frequency



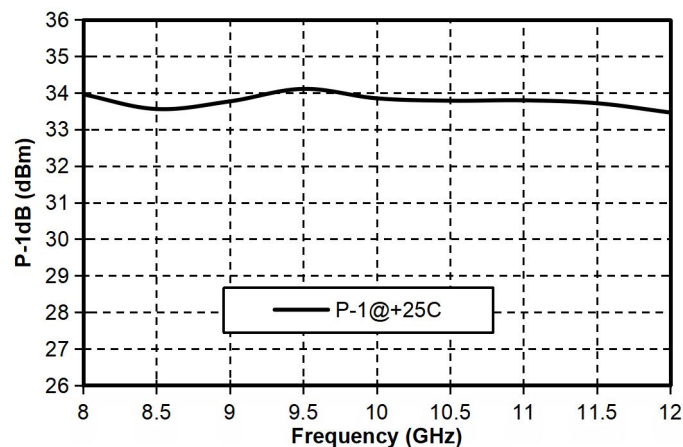
Input Return Loss vs. Frequency



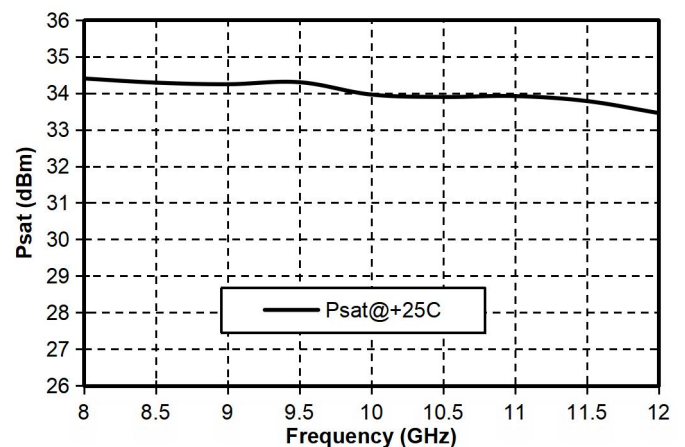
Output Return Loss vs. Frequency



P-1dB vs. Frequency

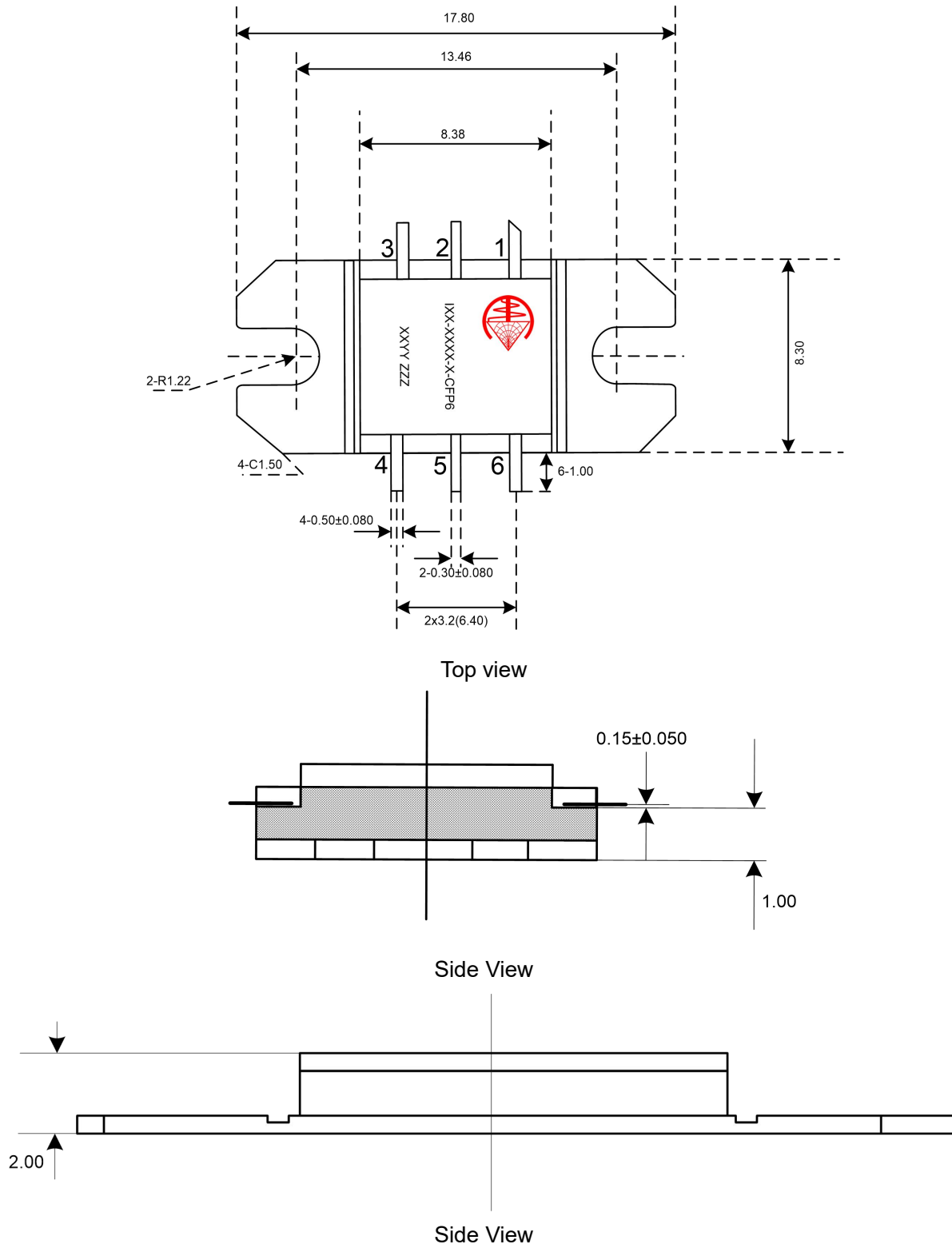


P sat vs. frequency



GaAs MMIC Power Amplifier Chip, 8-12 GHz

Appearance structure

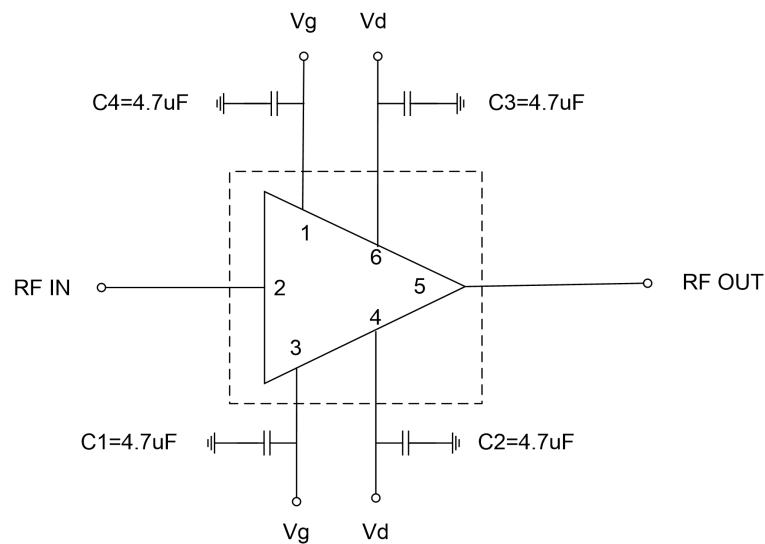


All units in the figures are millimeters .

GaAs MMIC Power Amplifier Chip, 8-12 GHz

Pin Definition		
Pin Definition	Function Symbol	Functional Description
2	RFIN	RF signal input terminal, no DC blocking capacitor required
5	RFOUT	RF signal output terminal, no DC blocking capacitor required
1,3	Vg	Amplifier gate bias, requires external 4.7uF bypass capacitor
4, 6	Vd	Amplifier drain bias , requires external 4.7uF bypass capacitor
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

Recommended Circuit



Precautions for use

- Sealing material : Ceramic material that meets ROHS standards
- Lead frame material: copper alloy
- Lead surface plating: gold, gold layer thickness 0.3um MIN
- Maximum reflow peak temperature: 260 °C