

# SAC3042

GaAs MMIC Low Noise Amplifier  
1~12GHz

Rev 2.0

## Features

- Frequency: 1~12GHz
- Gain: 20.5dB
- Noise Figure: 2.3dB
- Die Size: 1.6mm×1.25mm×0.1mm

## Typical Applications

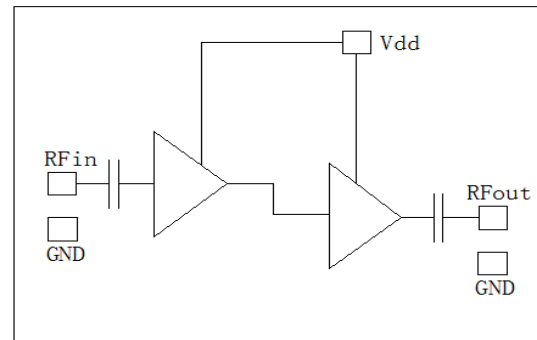
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and Measurement
- Fiber Optics

## General Description

SAC3042 is a GaAs MMIC low noise amplifier die which operates between 1~12GHz. The amplifier can provide 20.5dB gain, 16dBm Output P<sub>1dB</sub> and 2.3dB noise figure from a 60mA supply current.

The chip offers full passivation for increased reliability and moisture protection. This amplifier is the perfect alternative to higher cost hybrid amplifiers.

## Functional Diagram



## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>=+5V, I<sub>D</sub>=60mA, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	1~12			GHz
Gain	—	20.5	—	dB
Gain Flatness	—	1.8	—	dB
Input VSWR	—	1.3	—	:1
Output VSWR	—	1.6	—	:1
Noise Figure	—	2.3	—	dB
Output P <sub>1dB</sub>	—	16	—	dBm
Supply Current(I <sub>D</sub> )	—	60	—	mA

## Absolute Maximum Ratings

Maximum Input Power	+10dBm	Operating Temperature	-40°C~+85°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C
Supply Voltage	5.5VDC	Supply Current	170 mA

### SuperApex, LLC

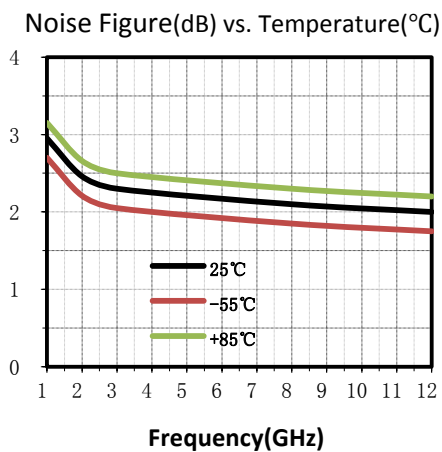
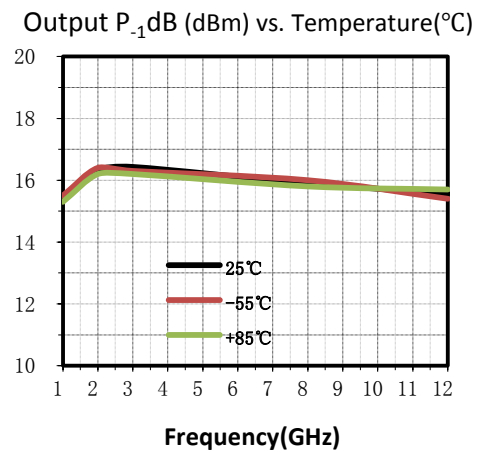
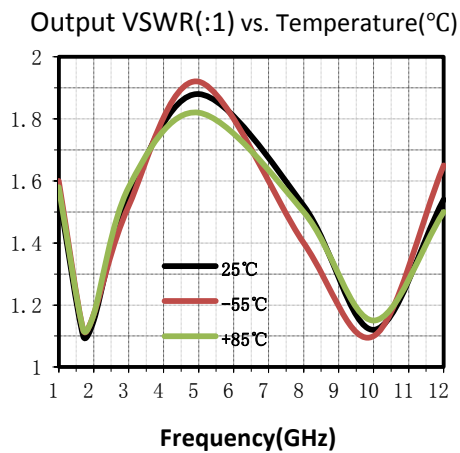
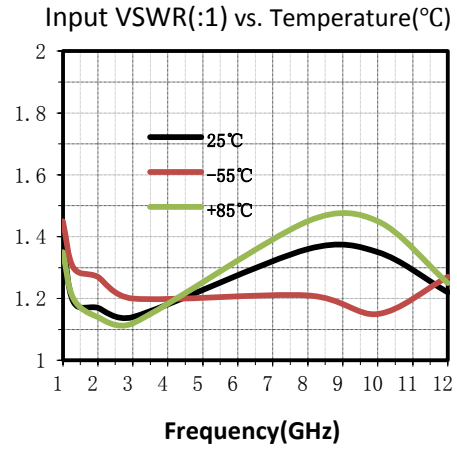
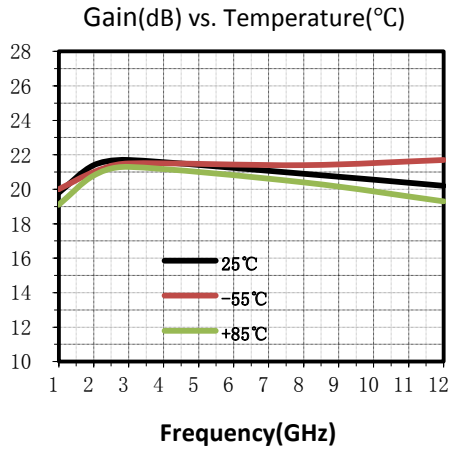
1580 S. Milwaukee Ave. Suite 405, Libertyville, IL 60048, USA

Tel: 1-847-505-8319, 1-847-573-9866

E-mail: sales@superapexco.com

Website: www.superapexco.com

## Typical Performance Curve

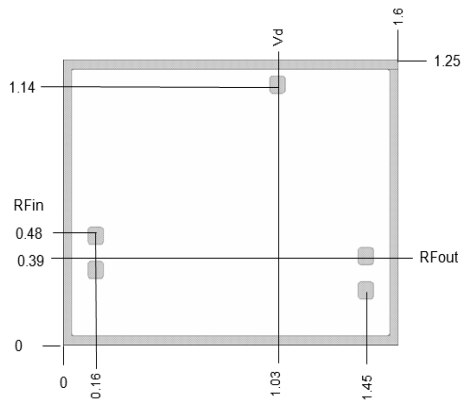


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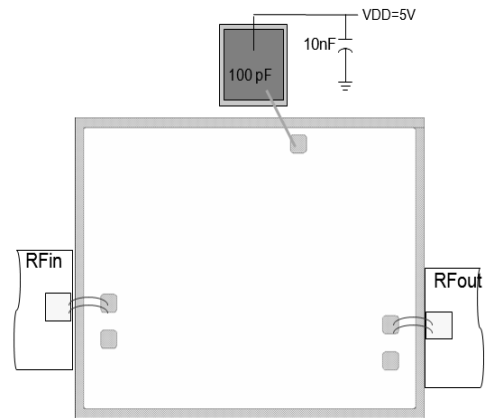
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**Die Outline**  
(All dimensions in mm)



**Assembly Diagram**



**Attention:**

GaAs MMIC devices are susceptible to damage from Electrostatic Discharge. Proper precautions should be observed during handling, assembly and test.