

# SAC3036

GaAs MMIC Low Noise Amplifiers  
3.0GHz~6.5GHz

Rev 2.1

## Features

- Frequency: 3GHz~6.5GHz
- Gain: 20dB
- Noise Figure: 2.8dB
- Output P<sub>-1dB</sub>: 15.5dBm
- Die Size: 1.74mm×1.2mm×0.1mm

## Typical Applications

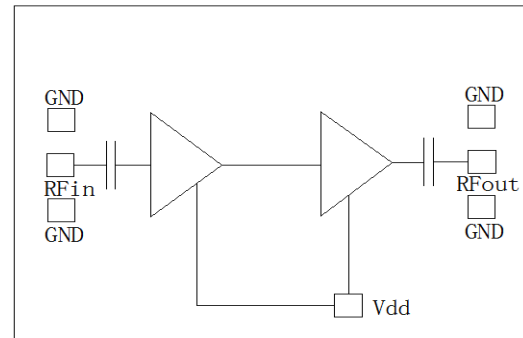
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and measurement
- Fiber Optics

## General Description

SAC3036 is a GaAs MMIC low noise amplifier die which operates between 3GHz~6.5GHz. The amplifier can provide 20dB gain, 15.5dBm Output P<sub>-1dB</sub> and 2.8dB noise figure from a 5V supply voltage.

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

## Functional Diagram



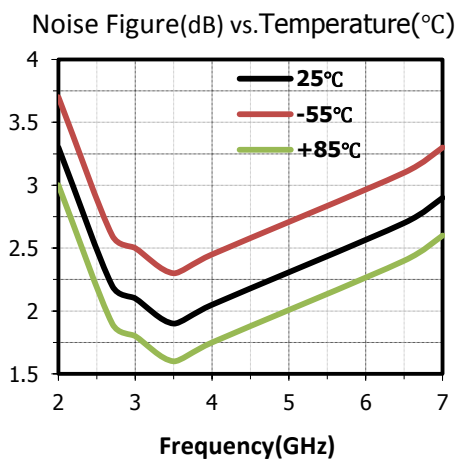
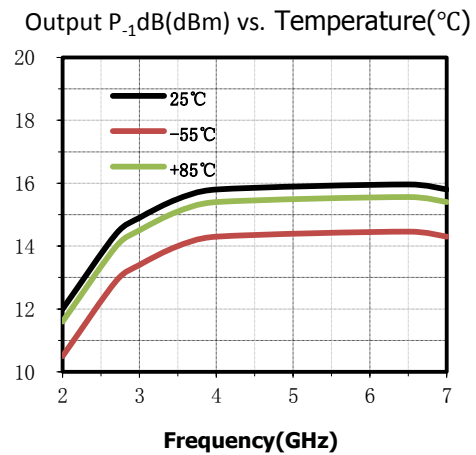
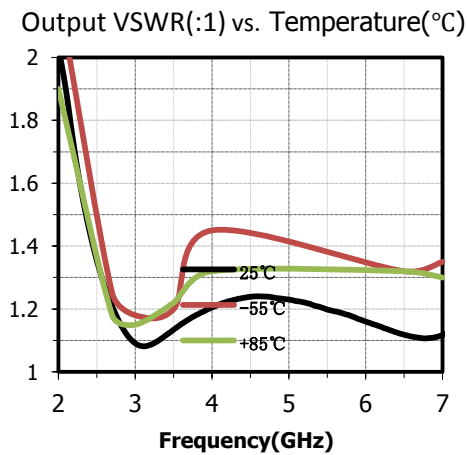
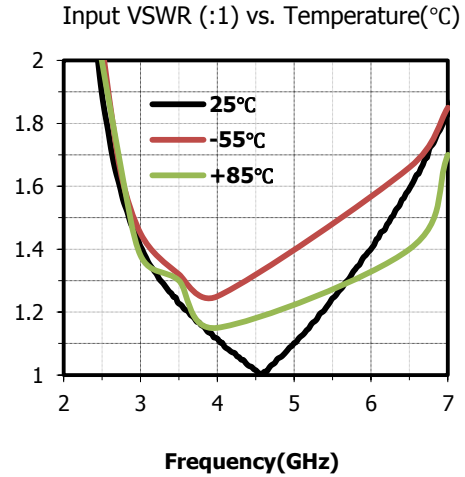
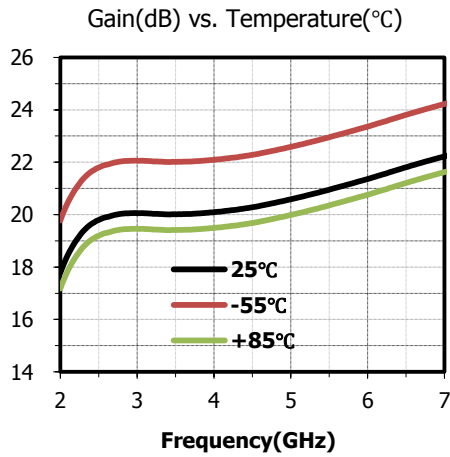
## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>= +5V, I<sub>D</sub>=60mA, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Gain	—	20	—	dB
Gain Flatness	—	2	—	dB
Input VSWR	—	1.4	—	:1
Output VSWR	—	1.3	—	:1
Noise Figure	—	2.8	—	dB
Output Power for 1 dB Compression (OP <sub>-1dB</sub> )	—	15.5	—	dBm
Supply Current(I <sub>D</sub> )	—	60	—	mA

## Absolute Maximum Ratings

Maximum Input Power	+10dBm	Operating Temperature	-55°C~+85°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C
Supply Current(I <sub>D</sub> )	100mA	Supply Voltage	5.5V

## Typical Performance Curve

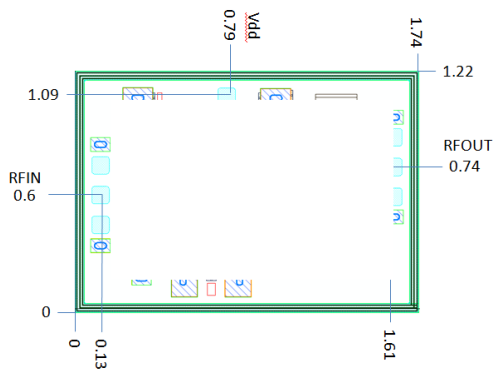


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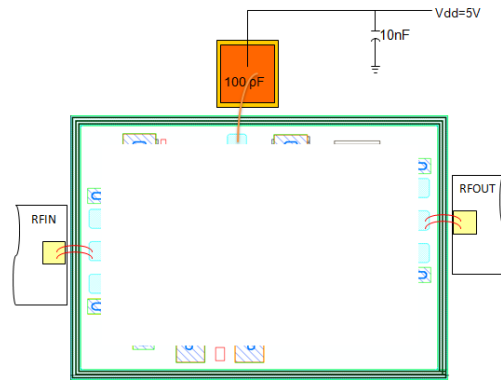
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**Die Outline**  
(All dimensions in mm)



**Assembly Diagram**



**Attention:**

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