

# SAC3051Q5



GaAs MMIC Low Noise Amplifier  
DC~22GHz

Rev 1.3

## Features

- Frequency: DC~22GHz
- Gain: 16dB
- OutputP<sub>-1dB</sub>: 14dBm
- Supply Voltage: +8V@60mA
- Size: 5mmx5mmx1.2mm

## Typical Applications

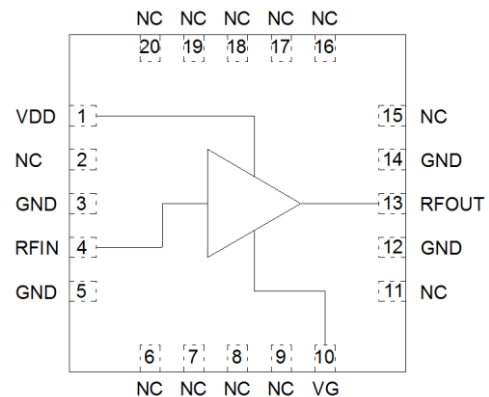
- Microwave radio including point to point communication
- Telecommunication
- Weather radar
- Optical communication
- Test instrumentation
- SatCom
- VSAT
- Military and Aerospace

## General Description

SAC3051Q5 is a GaAs MMIC Low Noise Amplifier in QFN surface mount package, which operates between DC~22GHz. The amplifier can provide 16dB gain, 14dBm OutputP<sub>-1dB</sub>, 3dB noise figure from a 60mA supply current.

SAC3051Q5 is assembled in a 5mm x 5mm QFN plastic package.

## Functional Diagram



## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>=+8V, I<sub>D</sub>=60mA, Z<sub>0</sub>=50Ω )

Parameter	Min	Typ.	Max	Units
Frequency Range	DC~22			GHz
Gain	—	16	—	dB
Gain Flatness	—	±1.0	—	dB
Input VSWR	—	1.5	—	:1
Output VSWR	—	1.5	—	:1
Noise Figure	—	3	—	dB
Output Power for 1 dB Compression (OP <sub>-1dB</sub> )	—	14	—	dBm
Supply Current(I <sub>D</sub> )	—	60	—	mA

- Adjust VG between -1 to 0V to achieve IDQ = 60mA Typical.

## Absolute Maximum Ratings

Maximum Input Power	+5dBm	Operating Temperature	-55°C~+85°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C

## 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

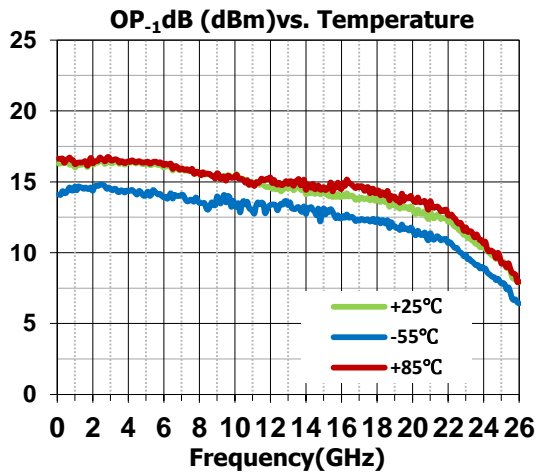
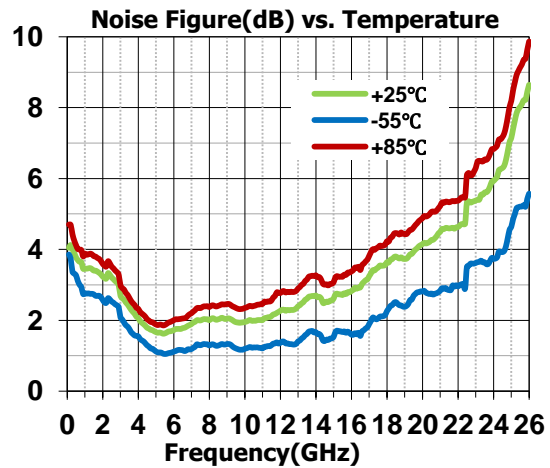
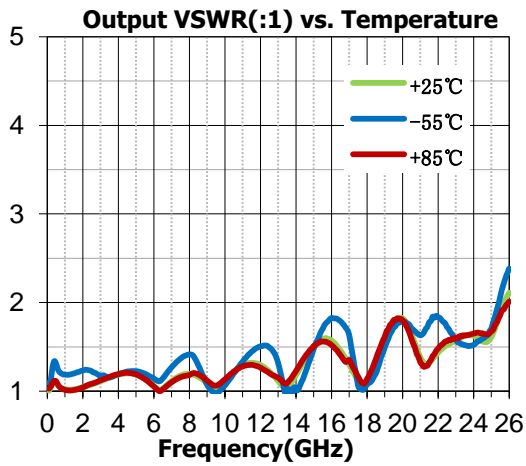
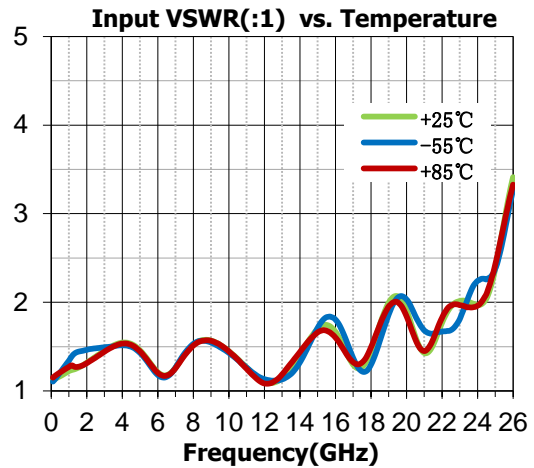
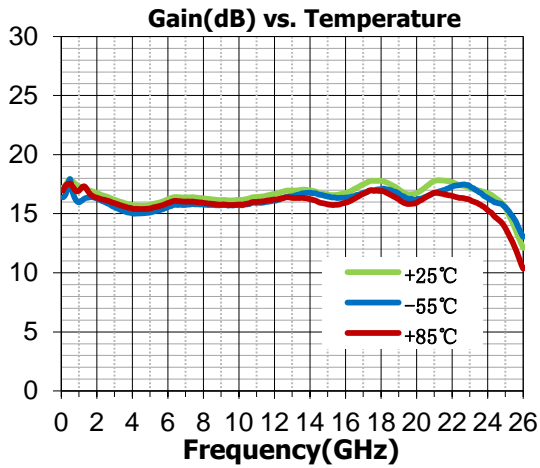
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## Typical Performance Curve



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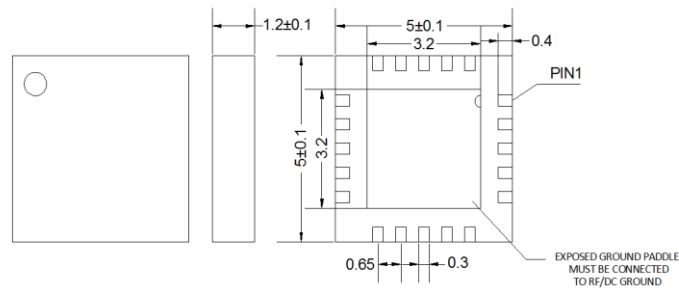
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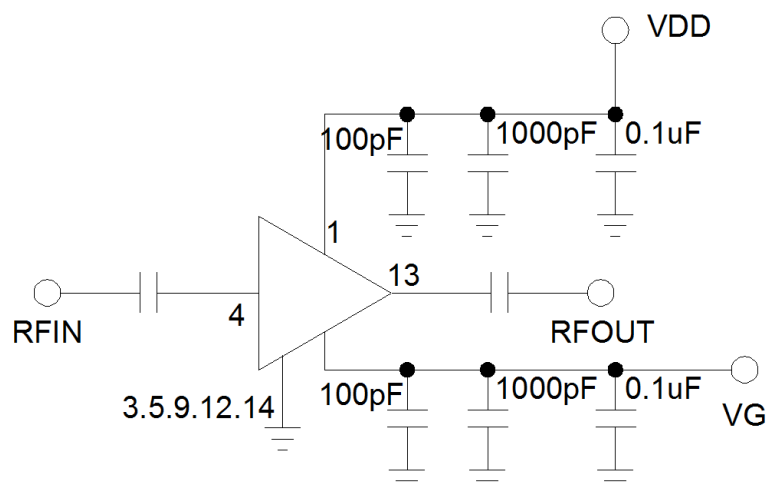
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## Outline Drawing(mm)



## Assembly Diagram



### Attention:

1. The moisture resistant grade of products is 2A, the storage environment  $\leq 30^{\circ}$  C/60% RH. The surrounding workshop Life is 4 weeks. 2. After un-packing, It is necessary to bake the parts for 6 hours in 125+/-5 degree environment before soldering.