

# SAC3030Q3



GaAs MMIC Low Noise Amplifier (Package)  
0.7GHz~2.0GHz

Rev 1.1

## Features

- Frequency :0.7GHz~2.0GHz
- Gain:19.5dB
- Noise Figure:1.3dB
- Supply Voltage:+5V@30mA
- Package Size:3mm×3mm×1.2mm

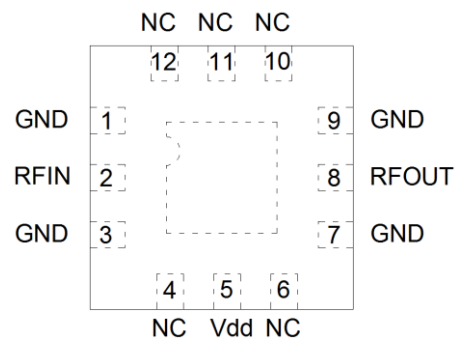
## Typical Applications

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

## General Description

SAC3030Q3 is a GaAs MMIC low noise amplifier in leadless 3x3mm surface mount package, which operates between 0.7GHz~2.0GHz. The amplifier can provide 19.5dB gain, 16dBm OutputP<sub>1dB</sub> and 1.3dB noise figure from a 30mA supply current.

## Functional Diagram



## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>=+5V, I<sub>D</sub>=30mA, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.7~2.0			GHz
Gain	—	19.5	—	dB
Gain Flatness	—	1	—	dB
Reverse Isolation	—	-25	—	dB
Input/Output VSWR	—	1.4	—	:1
Noise Figure	—	1.3	—	dB
Output Power for 1 dB Compression (OP <sub>1dB</sub> )	—	16	—	dBm
Output Third Order Intercept (OIP <sub>3</sub> )	—	27	—	dBm
Supply Current(I <sub>D</sub> )	—	30	—	mA

## Absolute Maximum Ratings

Maximum Input Power	+18dBm	Operating Temperature	-55°C~+85°C
Channel temperature	+150°C	Storage Temperature	-65°C~+150°C

## SuperApex, LLC

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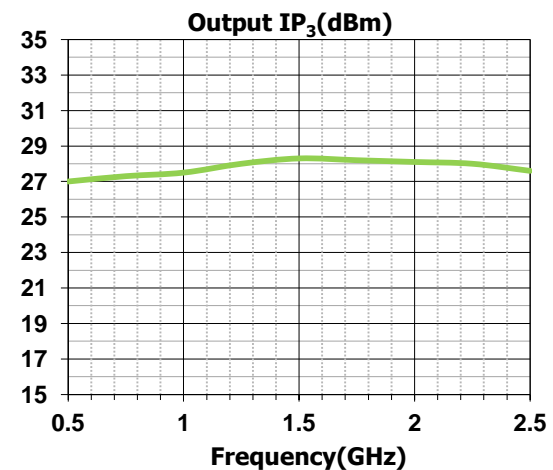
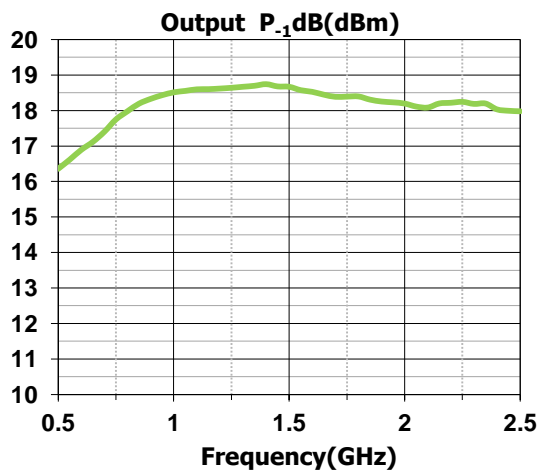
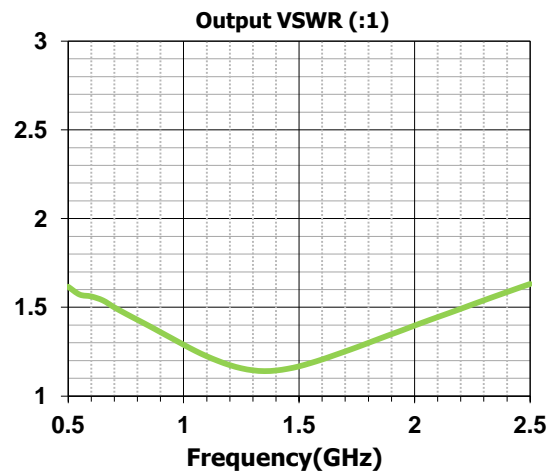
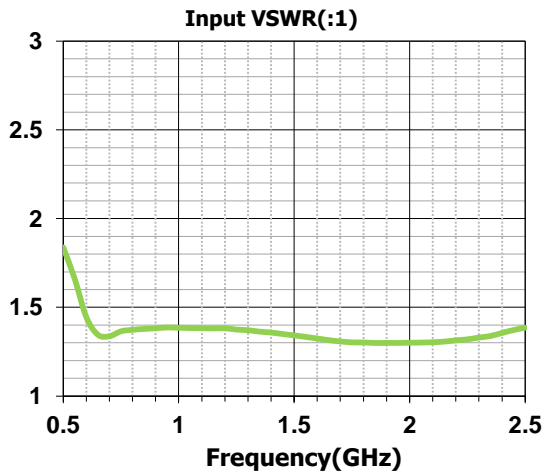
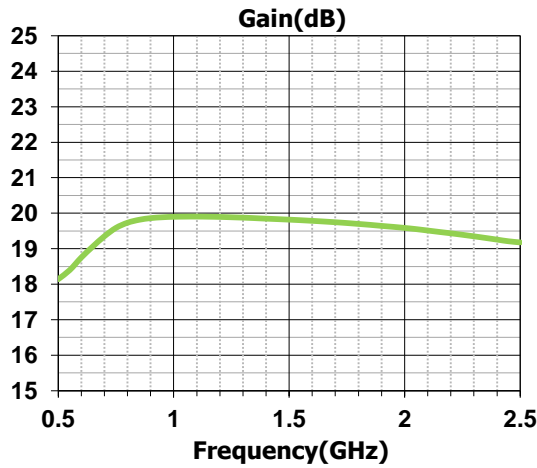
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## Typical Performance Curve



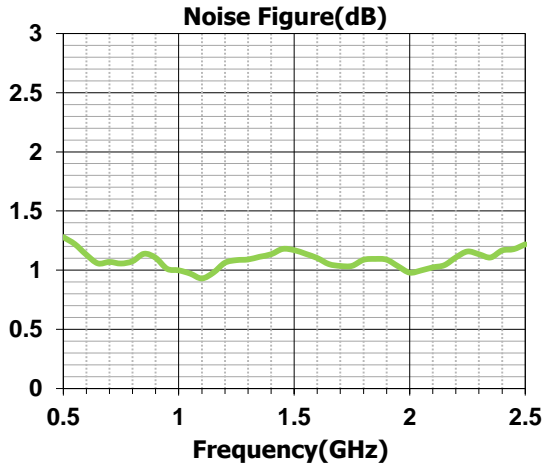
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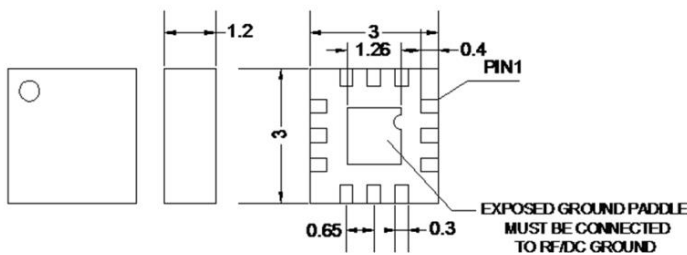
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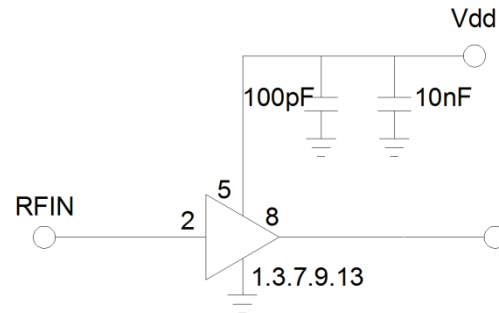
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**Outline Drawing**  
(All dimensions in mm)



**Assembly Diagram**



## Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	100pF	—	RADVISTA	Package
C2	10nF	GRM155R71H103KA88D	MURATA	0402-

**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  $125\pm 5$  degree environment before soldering.