

# SAC3015

GaAs MMIC Low Noise Amplifier  
2.0GHz~8.0GHz

Rev 2.0

## Features

- Frequency: 2.0GHz~8.0GHz
- Gain: 28.5dB
- Output P<sub>1</sub>dB: 16.5dBm
- Supply Voltage: +5V@85mA
- Die Size: 1.4mm×1.25mm×0.1mm

## Typical Applications

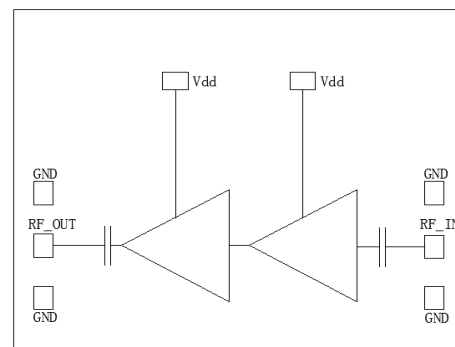
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and Measurement
- Fiber Optics

## General Description

SAC3015 is a GaAs MMIC low noise amplifier die which operates between 2.0GHz~8.0GHz. The amplifier can provide 28.5dB gain, 16.5dBm Output P<sub>1</sub>dB and 2.3dB noise figure from 85mA 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



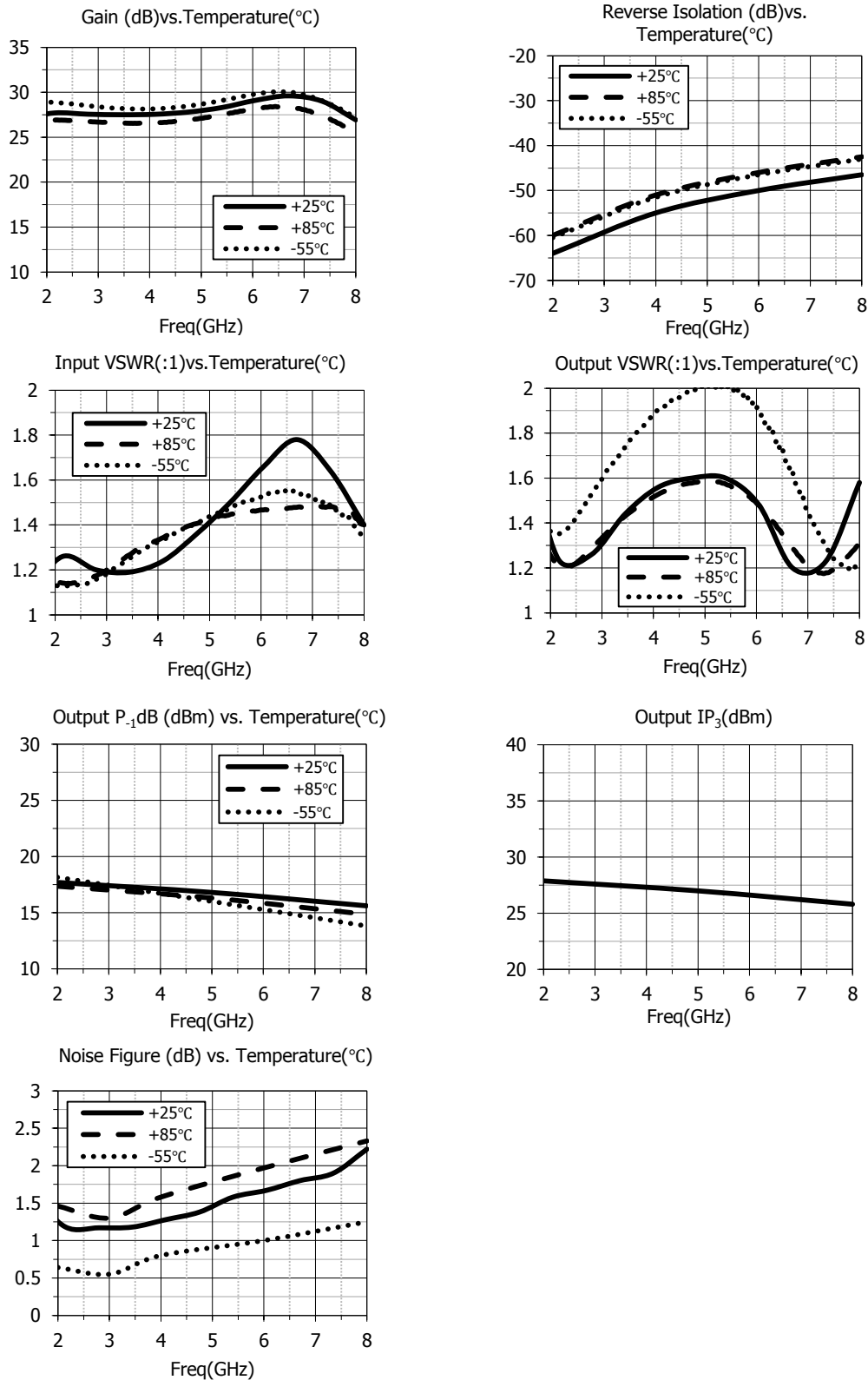
## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>= +5V, I<sub>D</sub>=85mA, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	2~8			GHz
Gain	—	28.5	—	dB
Gain Flatness	—	2.6	—	dB
Reverse Isolation	—	-50	—	dB
Input/Output VSWR	—	1.6	—	:1
Noise Figure	—	2.3	—	dB
Output Power for 1 dB Compression (OP <sub>1</sub> dB)	—	16.5	—	dBm
Output Third Order Intercept (OIP <sub>3</sub> )	—	27	—	dBm
Supply Current(I <sub>D</sub> )	—	85	—	mA

## Absolute Maximum Ratings

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

## Typical Performance Curve

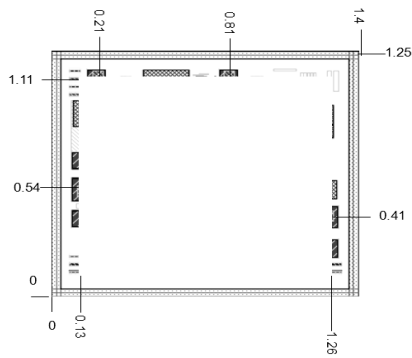


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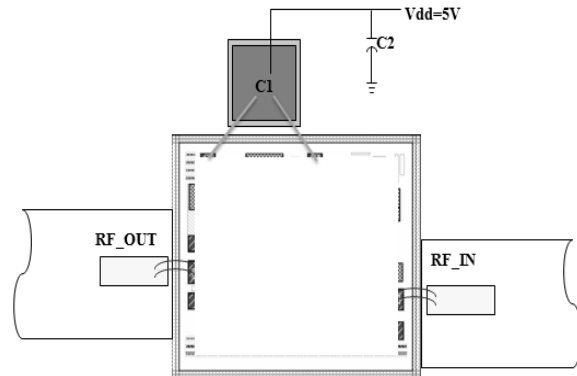
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**Die Outline**  
(All dimensions in mm)



**Assembly Diagram**



## Components List

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

### Attention:

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