

## Features

- Frequency: 0.4GHz~0.6GHz
- Gain: 38dB
- Noise Figure: 0.6dB
- Supply Voltage: +5V@80mA
- Die Size: 1.3mm×1.25mm×0.1mm

## Typical Applications

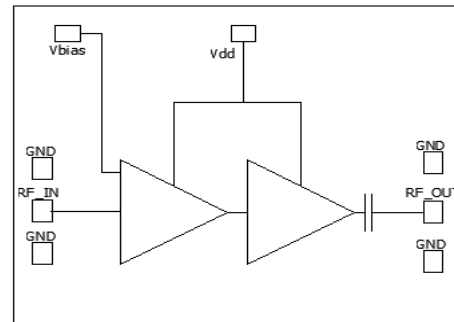
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and measurement
- Fiber Optics

## General Description

SAC3007 is a GaAs MMIC low noise amplifier die which operates between 0.4GHz~0.6GHz. The amplifier can provide 38dB gain, 18.5dBm OutputP<sub>1dB</sub> and 0.6dB noise figure from 80 mA 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



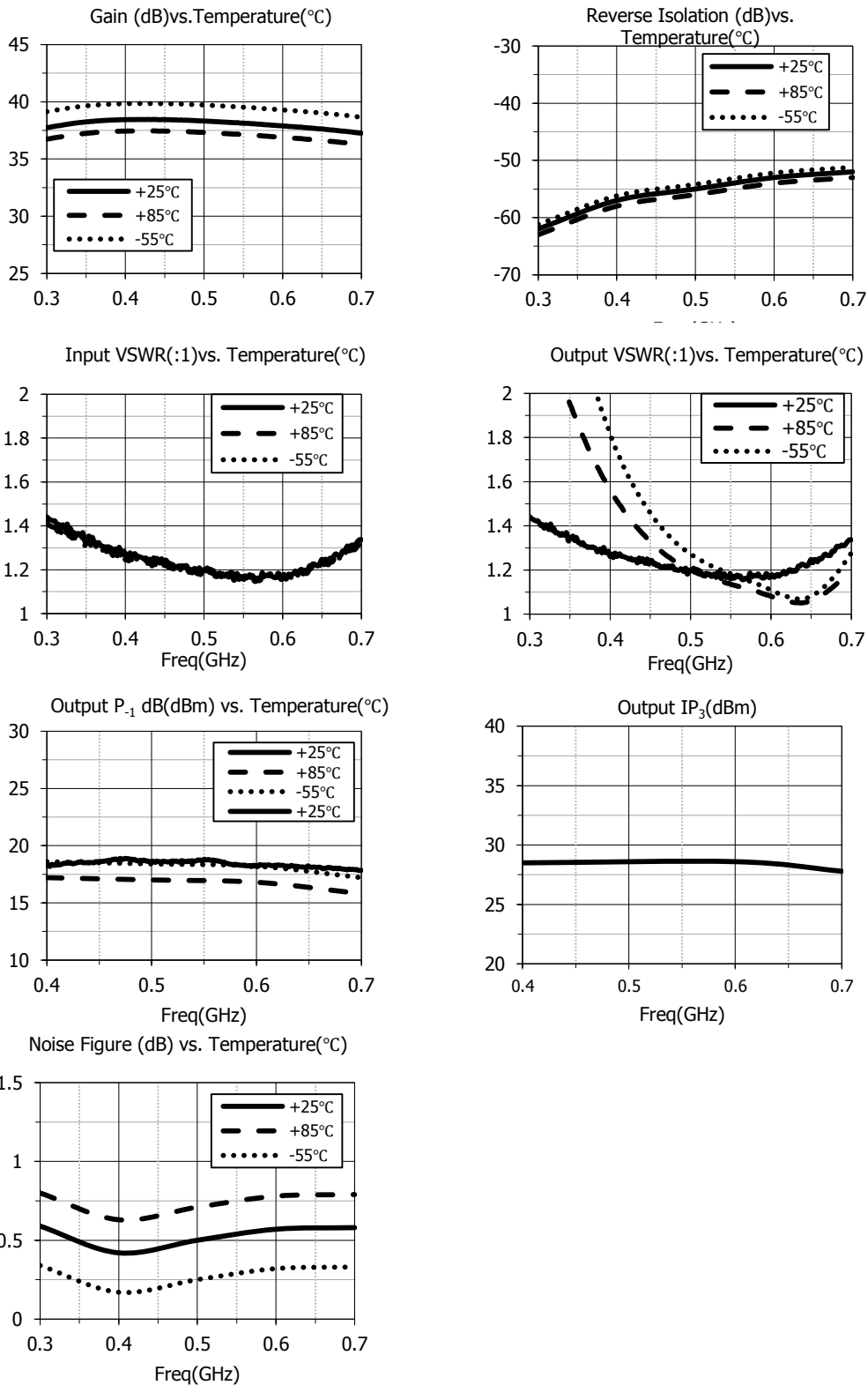
## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>= +5V, I<sub>D</sub>=80mA, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.4~0.6			GHz
Gain	—	38	—	dB
Gain Flatness	—	0.2	—	dB
Reverse Isolation	—	-55	—	dB
Input/Output VSWR	—	1.2	—	:1
Noise Figure	—	0.6	—	dB
Output Power for 1 dB Compression (OP <sub>1dB</sub> )	—	18.5	—	dBm
Output Third Order Intercept (OIP <sub>3</sub> )	—	28	—	dBm
Supply Current(I <sub>D</sub> )	—	80	—	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

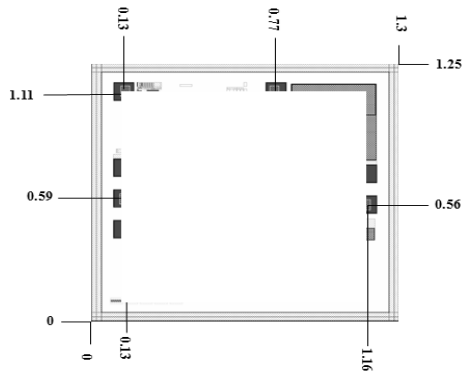


# SAC3007

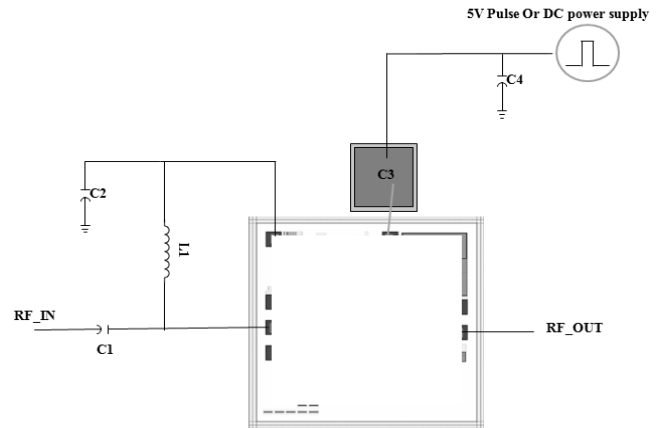
GaAs MMIC Low Noise Amplifier  
0.4GHz~0.6GHz

Rev 2.0

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



**Assembly Diagram**



## Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	47pF	GRM1555C1H470JZ01D	MURATA	0402
C2	100pF	GRM1555C1H101JA01D	MURATA	0402
C3	300pF	—	RADVISTA	Chip
C4	10nF	GRM155R71H103KA88D	MURATA	0402
L1	39nH	0402CS-39NXGE	COILCRAFT	0402

### Attention:

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