

## Features

- Frequency: 1.4GHz~3GHz
- Gain: 36dB
- Noise Figure: 0.8dB
- Supply Voltage: +5V@100mA
- Die Size: 1.57mm×1.25mm×0.1mm

## Typical Applications

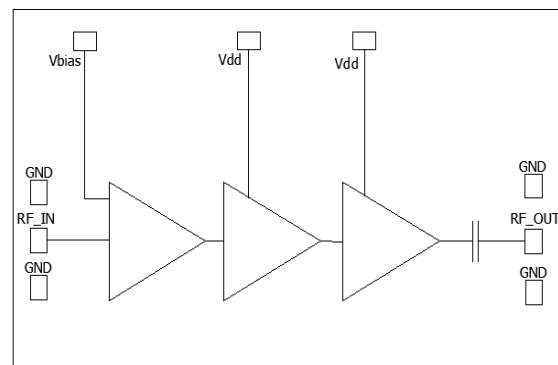
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and Measurement
- Fiber Optics

## General Description

SAC3023 is a GaAs MMIC low noise amplifier die which operates between 1.4GHz~3GHz. The amplifier can provide 36dB gain, 18dBm Output P<sub>-1dB</sub> and 0.8dB noise figure from a 100mA 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



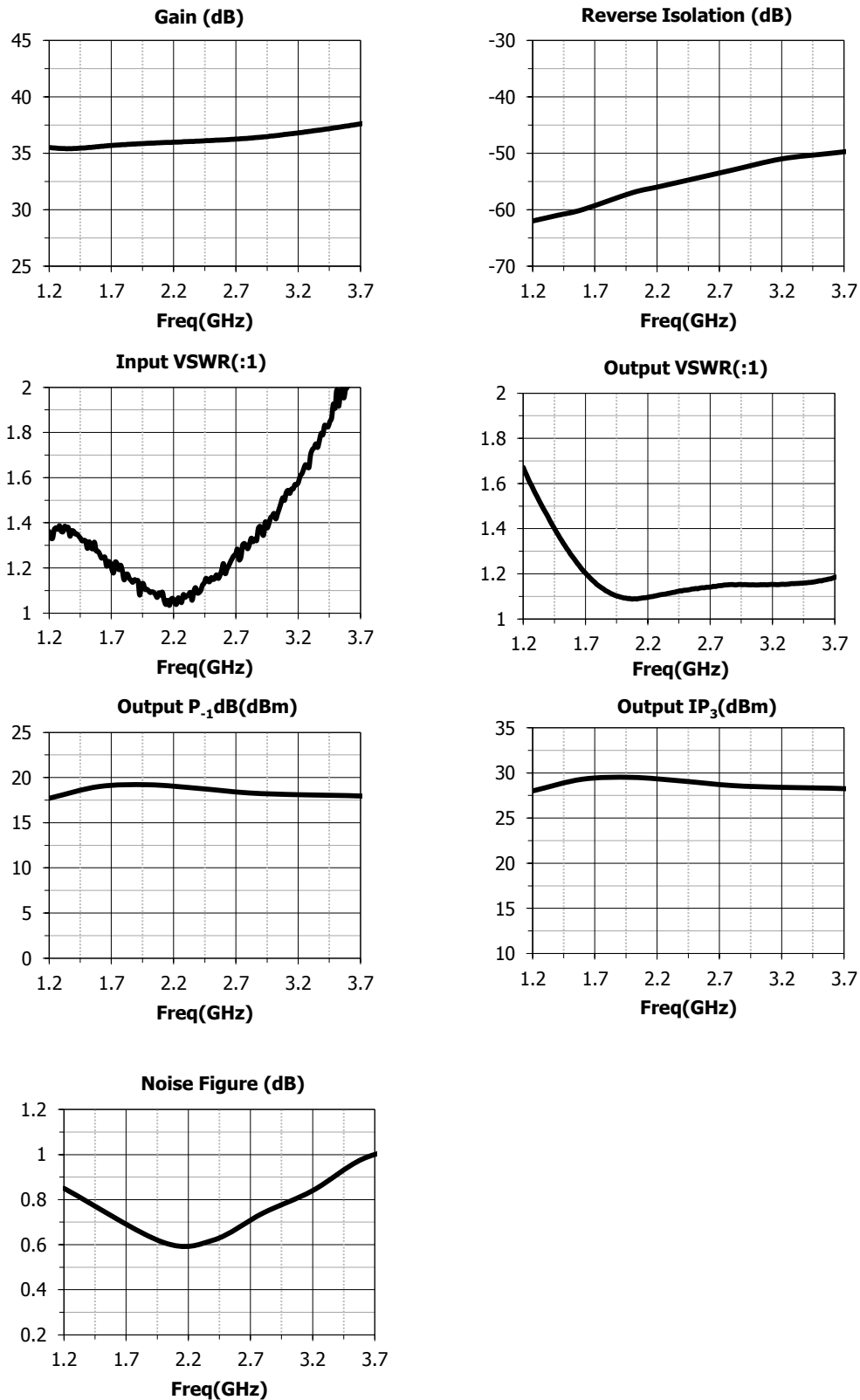
## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>=+5V, I<sub>D</sub>=100mA, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	1.4~3			GHz
Gain	—	36	—	dB
Gain Flatness	—	1	—	dB
Reverse Isolation	—	-55	—	dB
Input/Output VSWR	—	1.4	—	:1
Noise Figure	—	0.8	—	dB
Output Power for 1 dB Compression (OP <sub>-1dB</sub> )	—	18	—	dBm
Output Third Order Intercept (OIP <sub>3</sub> )	—	28	—	dBm
Supply Current(I <sub>D</sub> )	—	100	—	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

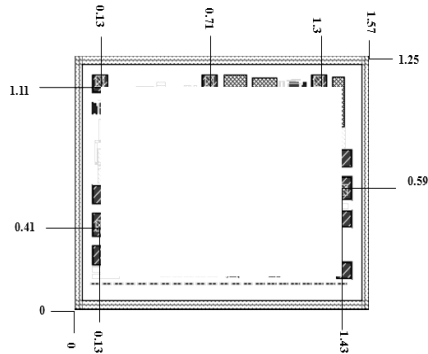


# SAC3023

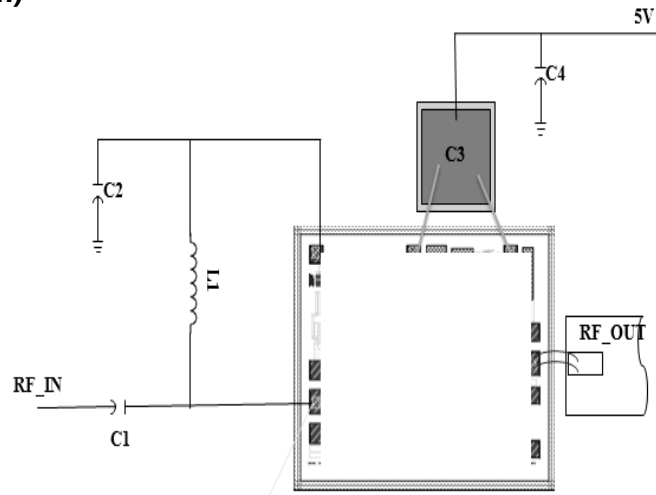
GaAs MMIC Low Noise Amplifier  
1.4GHz~3GHz

Rev2.1

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



**Assembly Diagram**



## Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	47pF	GRM1555C1H470JZ01D	MURATA	0402
C2	47pF	GRM1555C1H470JZ01D	MURATA	0402
C3	100pF	—	RADVISTA	Chip
C4	10nF	GRM155R71H103KA88D	MURATA	0402
L1	6.8nH	BKW402UC6N8KGT	COILCRAFT	0402

### Attention:

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