

SAC3016

GaAs MMIC Low Noise Amplifier
2.1GHz~2.5GHz

Rev 2.0

Features

- Frequency: 2.1GHz~2.5GHz
- Gain: 23dB
- Input/ Output VSWR: 1.1
- Supply Voltage: +5V@25mA
- Die Size: 1.57mm×1.25mm×0.1 mm

Typical Applications

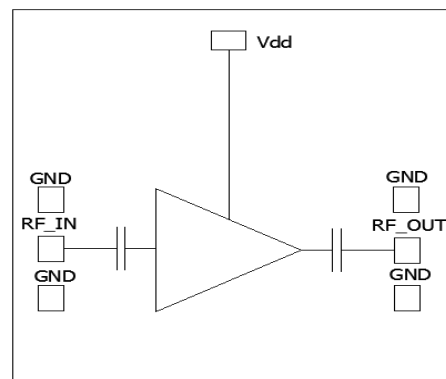
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and Measurement
- Fiber Optics

General Description

SAC3016 is a GaAs MMIC low noise amplifier die which operates between 2.1~2.5GHz. The amplifier can provide 23dB gain, 8.5dBm Output P_{-1dB} and 2.6dB noise figure from a 25mA 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_A=25°C, V_D=+5V, I_D=25mA, Z₀=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	2.1~2.5			GHz
Gain	—	23	—	dB
Gain Flatness	—	1.5	—	dB
Reverse Isolation	—	-35	—	dB
Input/Output VSWR	—	1.1	—	:1
Noise Figure	—	2.6	—	dB
Output Power for 1 dB Compression (OP _{-1dB})	—	8.5	—	dBm
Output Third Order Intercept (OIP ₃)	—	18	—	dBm
Supply Current(I _D)	—	25	—	mA

Absolute Maximum Ratings

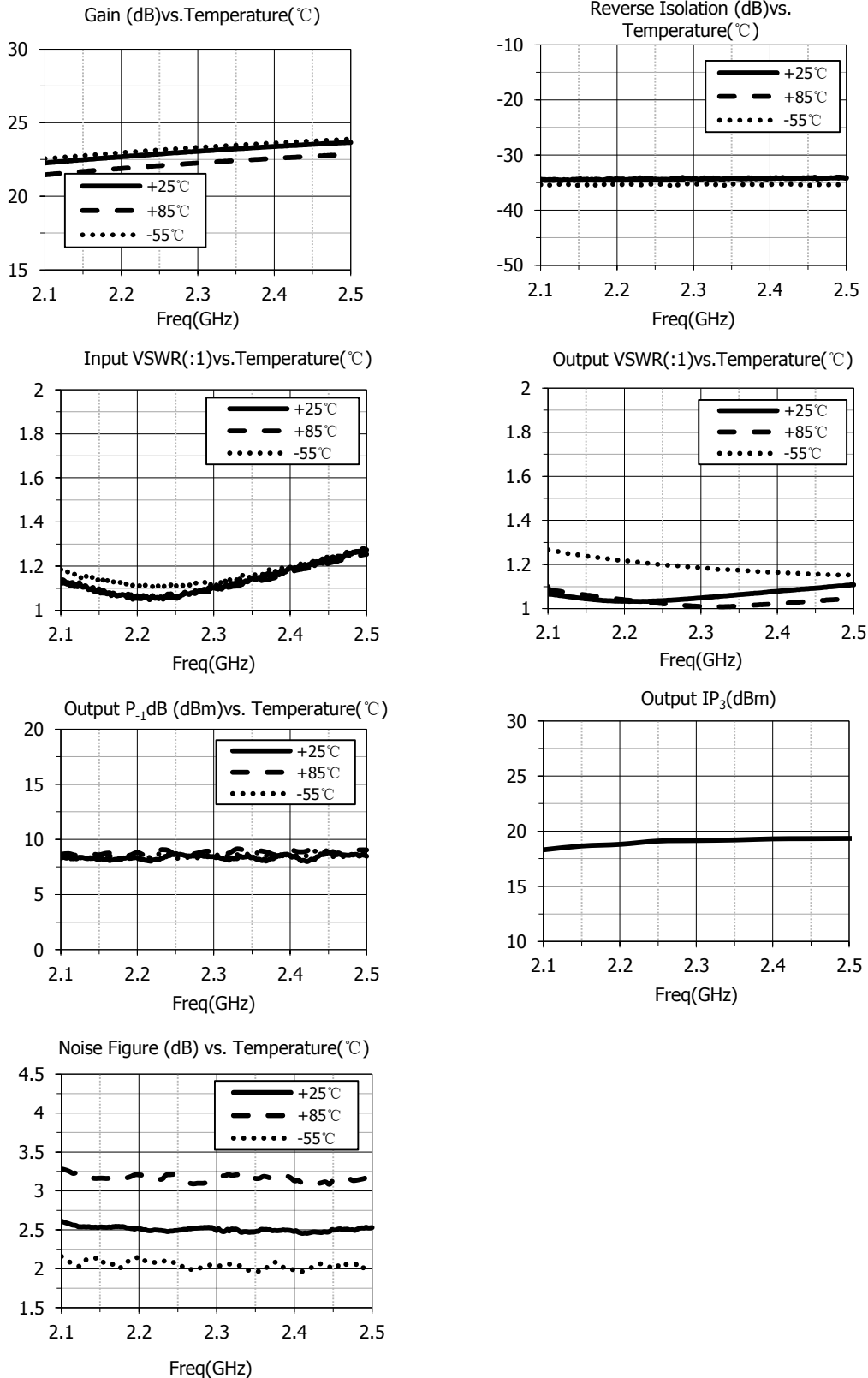
Maximum Input Power	+18dBm	Operating Temperature	-55°C ~+125°C
Channel Temperature	+150°C	Storage Temperature	-65°C ~+150°C

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Typical Performance Curve

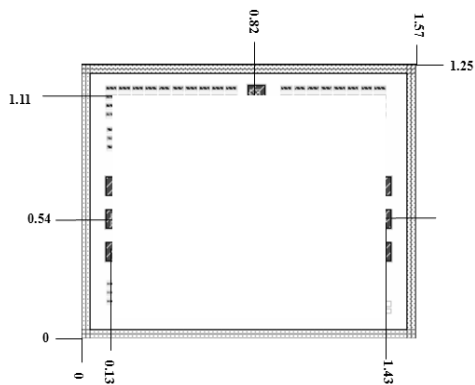


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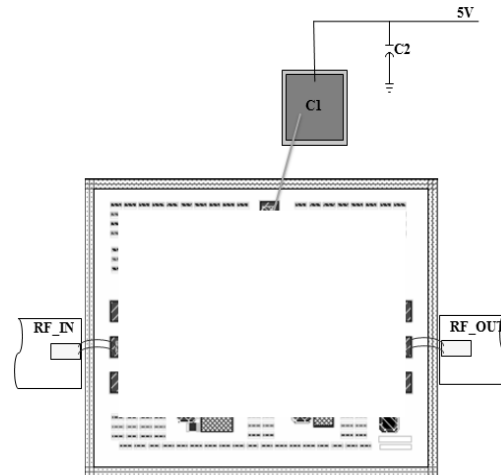
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Die Outline
(all dimensions in mm)



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.