

Features

- Frequency :0.7GHz~2.0GHz
- Gain:19.5dB
- Noise Figure:1.3dB
- Supply Voltage:+5V@30mA
- Die Size:1.1mm×1.24mm×0.1 mm

Typical Applications

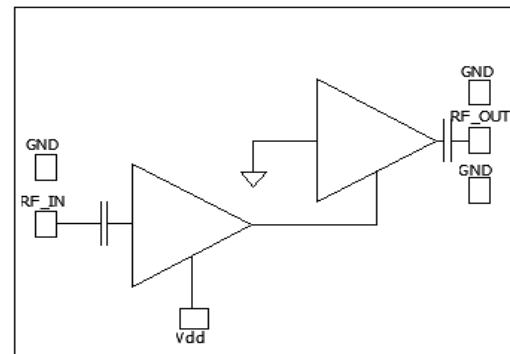
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and measurement
- Fiber Optics

General Description

SAC3030 is a GaAs MMIC low noise amplifier die which operates between 0.7GHz~2.0GHz. The amplifier can provide 19.5dB gain, 16dBm OutputP_{-1dB} and 1.3dB noise figure from a 30mA 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=30mA,Z_O=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 _{-1dB})	—	16	—	dBm
Output Third Order Intercept (OIP ₃)	—	27	—	dBm
Supply Current(I _D)	—	30	—	mA

Absolute Maximum Ratings

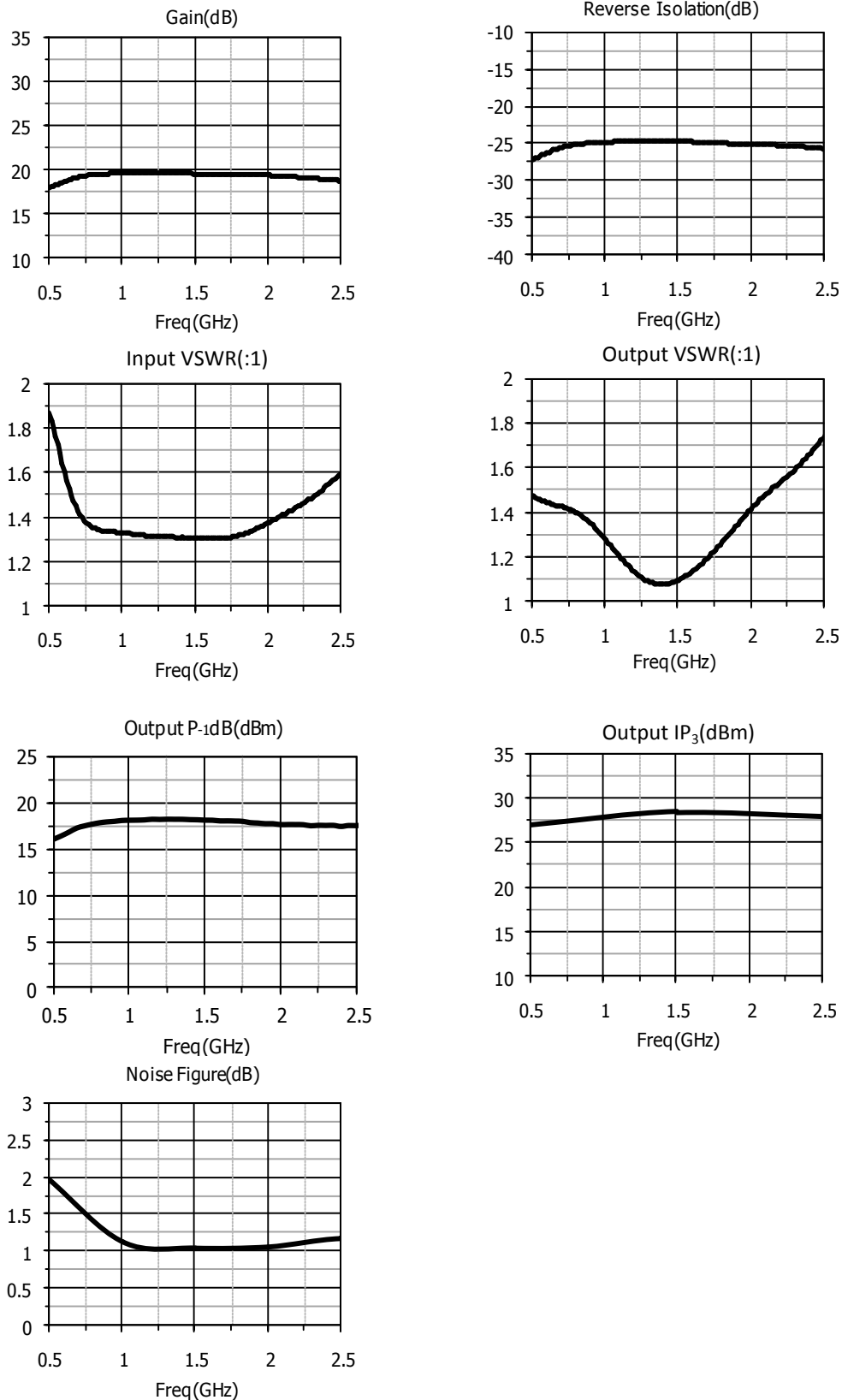
Maximum Input Power	+18dBm	Operating Temperature	-55°C~+85°C
Channel temperature	+150°C	Storage Temperature	-65°C~+150°C

SAC3030

GaAs MMIC Low Noise Amplifier
0.7GHz~2.0GHz

Rev 2.0

Typical Performance Curve



SuperApex Corporation

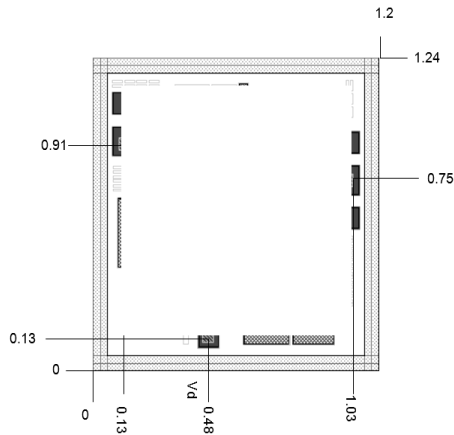
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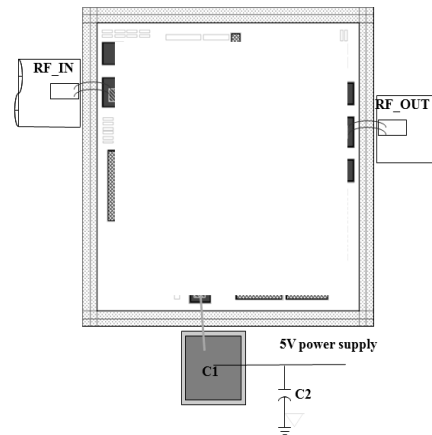
GaAs MMIC Low Noise Amplifier
0.7GHz~2.0GHz

Rev 2.0

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.