

SAC4004

GaAs MMIC Low Noise Amplifier
11~26GHz

Rev 1.0

Features

- Frequency: 11~26GHz
- Gain: 18dB
- Output P_{-1dB}: 5.5dBm@20GHz
- Supply Voltage: +5V@19mA
- Die Size: 1.2mm×1.8mm×0.1mm

Typical Applications

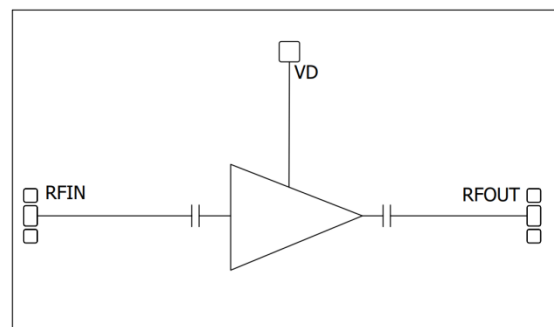
- Microwave radio including point to point communication
- Telecommunication
- Test instrumentation

General Description

SAC4004 is a GaAs MMIC Low Noise Amplifier die which operates between 11GHz~26GHz. The amplifier can provide 18dB gain, 5.5dBm Output P_{-1dB}, 1.8dB noise figure from a 19 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_A=25°C, V_D=+5V, I_D=19mA, Z₀=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	11~26			GHz
Gain	—	18	—	dB
Gain Flatness	—	±0.5	±1	dB
Reverse Isolation	—	30	—	dB
Input/Output VSWR	—	1.5	2.0	:1
Noise Figure	—	1.6	2.0	dB
Output Power for 1 dB Compression (OP _{-1dB})	5	5.5	—	dBm
Supply Current(I _D)	—	19	—	mA

Absolute Maximum Ratings

Maximum Input Power	+15dBm	Operating Temperature	-55°C~+85°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C

SuperApex, LLC

1580 S. Milwaukee Ave. Suite 405, Libertyville, IL 60048, USA
Tel: 1-847-505-8319, 1-847-573-9866
E-mail: sales@superapexco.com
Website: www.superapexco.com

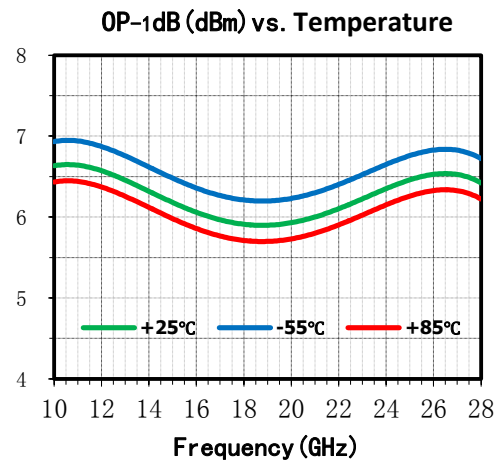
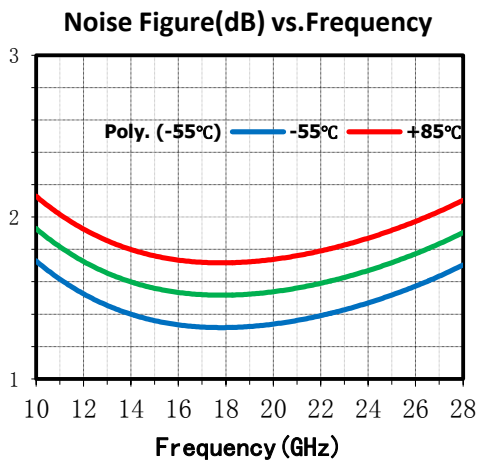
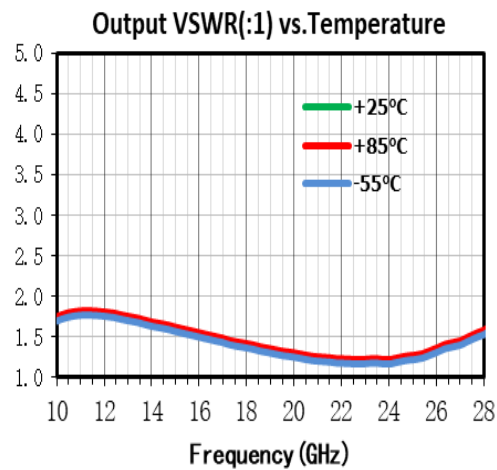
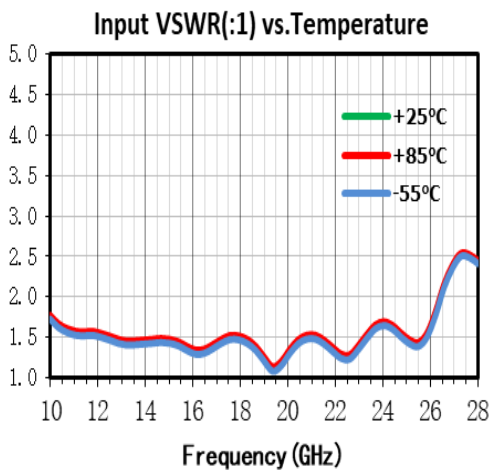
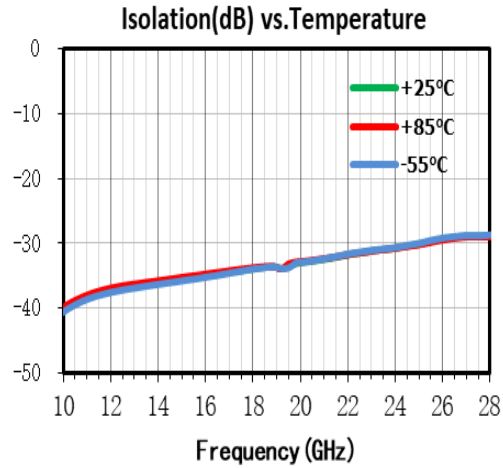
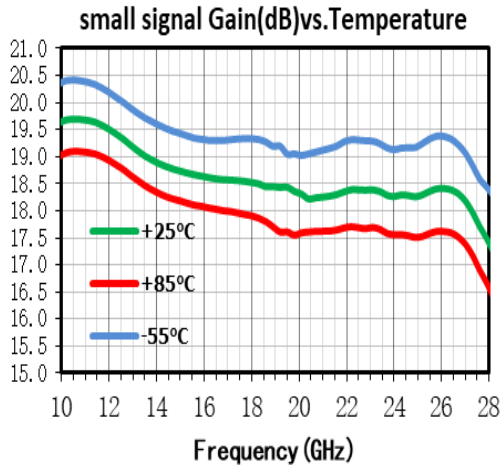
SAC4004



GaAs MMIC Low Noise Amplifier
11~26GHz

Rev 1.0

Typical Performance Curve



SuperApex, LLC

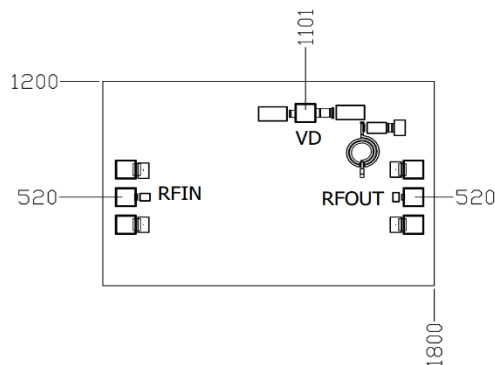
1580 S. Milwaukee Ave. Suite 405, Libertyville, IL 60048, USA
 Tel: 1-847-505-8319, 1-847-573-9866
 E-mail: sales@superapexco.com
 Website: www.superapexco.com

SAC4004

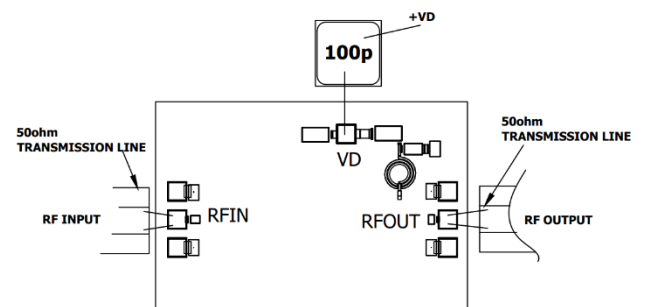
GaAs MMIC Low Noise Amplifier
11~26GHz

Rev 1.0

Die Outline
(All dimensions in mm)



Assembly



Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	100pF	CHIP CAPACITOR	Any	—

Attention:

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