SAC3052

GaAs MMIC Low Noise Amplifier
8～12GHz

Rev 1.2

Features

- Frequency：8～12GHz
- Gain：22dB
- Noise Figure: 1.3dB
- OutputP_{-1}dB：14dBm
- Supply Voltage：+5V@32mA
- Die Size：1.52mmx1.22mmx0.1mm

Typical Applications

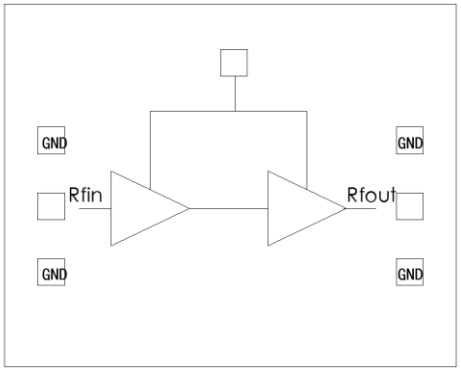
- Microwave radio including point to point communication
- Telecommunication
- Weather radar
- Optical communication
- Test instrumentation
- SatCom
- VSAT
- Military and Aerospace

General Description

SAC3052 is a GaAs MMIC Low Noise Amplifier die which operates between 8～12GHz. The amplifier can provide 22dB gain, 14dBm OutputP_{-1}dB, 1.3dB noise figure from a 32mA 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℃, V_D=+5V, I_D=32mA, Z_0=50Ω)

Parameter	Min	Typ.	Max	Units
Frequency Range		8～12		GHz
Gain	—	22	—	dB
Gain Flatness	—	±0.8	—	dB
Input Return Loss	—	-20	—	dB
Output Return Loss	—	-22	—	dB
Noise Figure	—	1.3	—	dB
Output Power for 1 dB Compression (OP$_{-1}$dB)	—	14	—	dBm
Supply Current(I_D)	—	32	—	mA

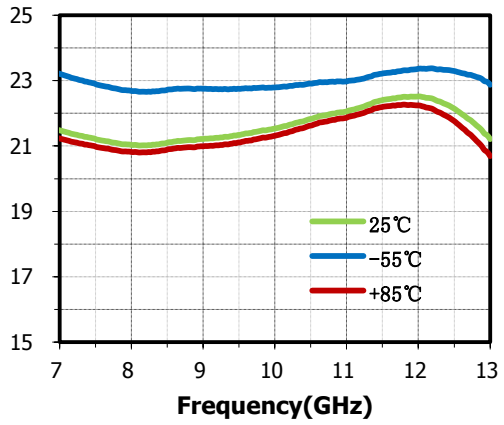
Absolute Maximum Ratings

Maximum Input Power	+10dBm	Operating Temperature	-55℃～+85℃
Channel Temperature	+150℃	Storage Temperature	-65℃～+150℃

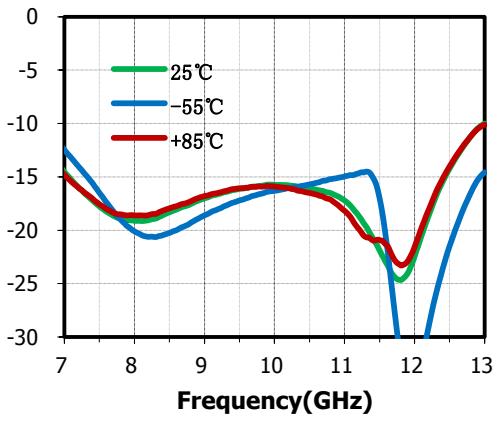
SuperApex, LLC
1580 S. Milwaukee Ave. Suite 405, Libertyville, IL 60048, USA
Tel: 1-847-505-8319, 1-847-573-9866
E-mail: sales@superapexco.com
Website: www.superapexco.com

Typical Performance Curve

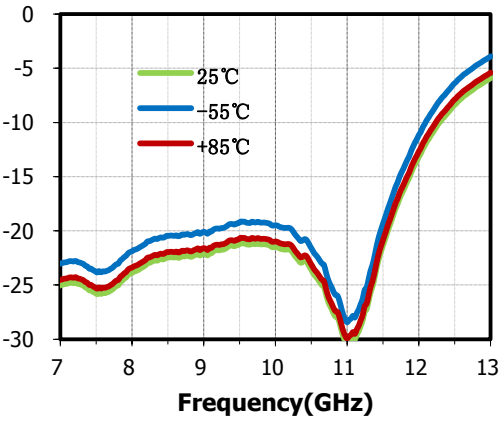
Small Signal Gain(dB) vs.Temperature



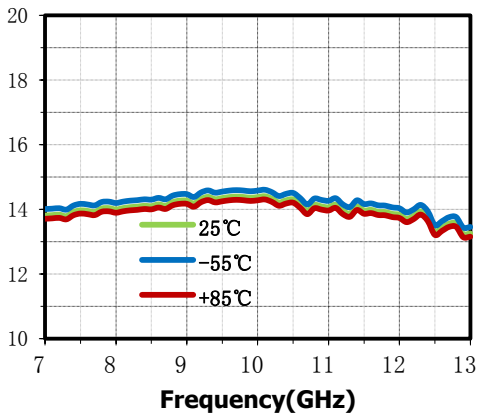
Input Return Loss(dB) vs.Temperature



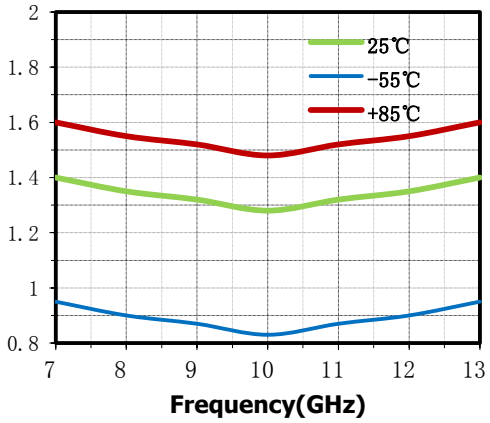
Output Return Loss(dB) vs.Temperature



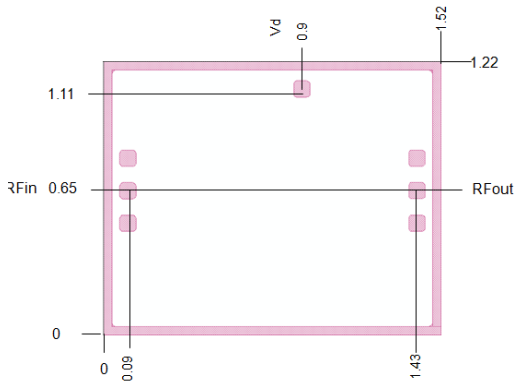
OP$_{-1}$dB(dBm) vs.Temperature



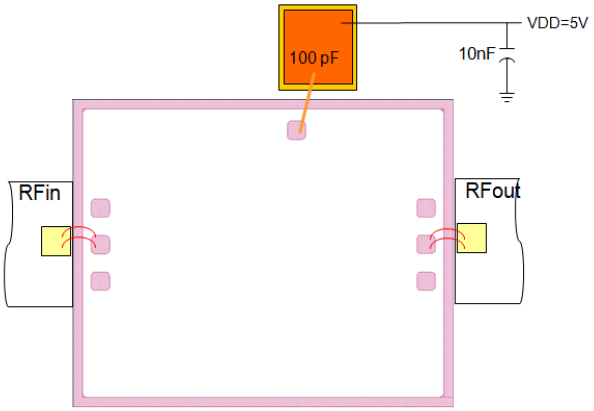
NF(dB) vs.Temperature



Outline Drawing(mm)



Assembly Diagram



Attention:

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