

Features

- Frequency: 0.4~2.1GHz
- Gain: 27dB
- OutputP_{-1dB}:14dBm
- Supply Voltage: +5V@50mA
- Die Size: 1.5mmx1.1mmx0.1mm

Typical Applications

- Microwave Radios
- SATCOM
- Test and Measurement
- Fiber Optics

General Description

SAC3054B is a GaAs MMIC Low Noise Amplifier die which operates between 0.4~2.1GHz. The amplifier can provide 27dB gain, 14dBm OutputP_{-1dB}, 1dB noise figure from a 78mA supply current.

The chip offers full passivation for increased reliability and moisture protection.

Electrical Performance (T_A=25°C, V_D= +5V, I_D=78mA, Z₀=50Ω)

Parameter	Min	Typ.	Max	Units
Frequency Range	0.4~2.1			GHz
Gain	24.5	27	30.5	dB
Gain Flatness	—	±1	±2	dB
Reverse Isolation	55	60	—	dB
Input/Output VSWR	—	1.3	2	:1
Noise Figure	—	1.2	1.9	dB
Output Power for 1 dB Compression (OP _{-1dB})	13	14	—	dBm
Output IP ₃	—	24	—	dBm
Supply Current(I _D)	—	50	—	mA

Absolute Maximum Ratings

Maximum Input Power	+18dBm, 1min	Operating Temperature	-55°C~+85°C
Maximum V _D	+5.5V	Storage Temperature	-55°C~+150°C

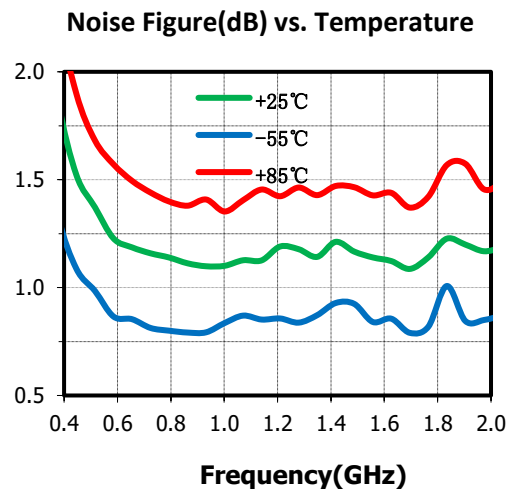
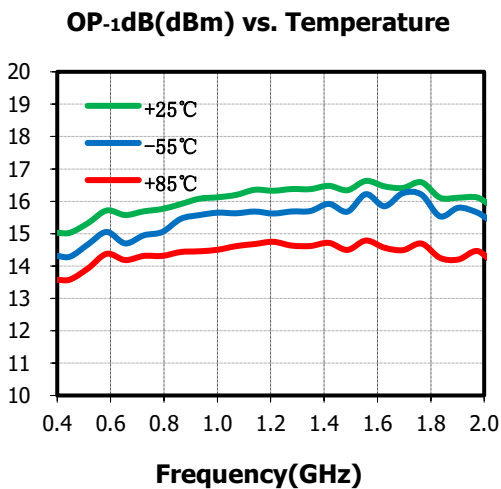
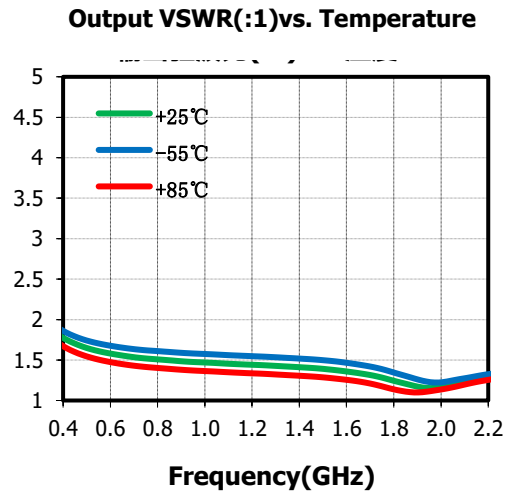
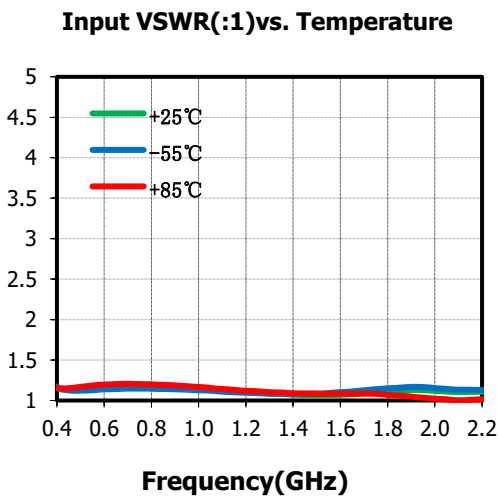
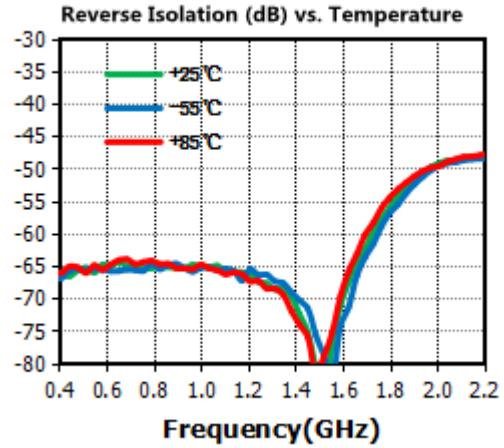
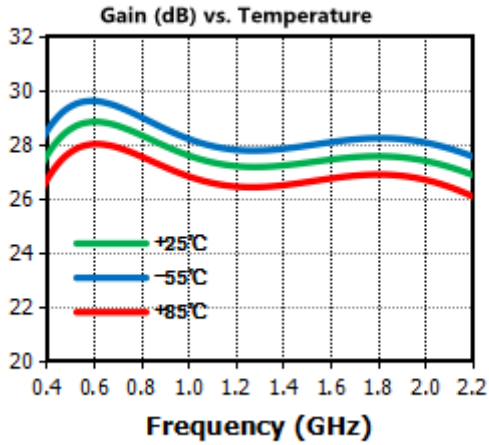
SAC3054B



GaAs MMIC Low Noise Amplifier
0.4GHz~2.1GHz

Rev 1.0

Typical Performance Curve



SuperApex, LLC

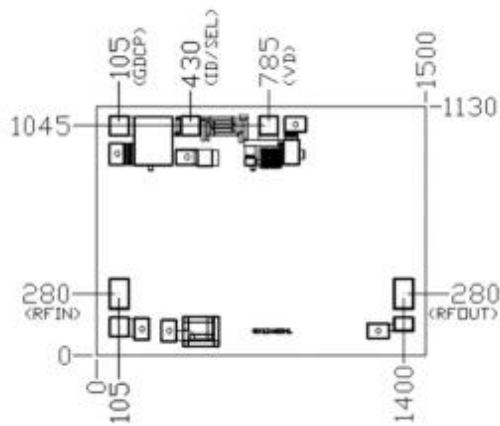
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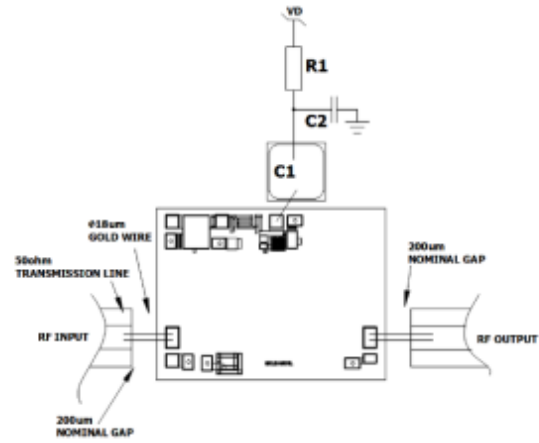
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0.4GHz~2.1GHz

Rev 1.0

Die Outline
(All dimensions in mm)



Assembly Diagram



Component list

Reference Des.	Value	Part Number	Manuf.	Size
R1	15Ω			0603
C1	100pF	-	-	SLC
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.