

Features

- Frequency: 2GHz~4GHz
- Gain: 29dB
- Noise Figure: 0.5dB
- OutputP_{-1dB}:9dBm
- Power Supply: +5V@30mA
- Die Size: 1.08mmx1.21mmx0.1mm

Typical Applications

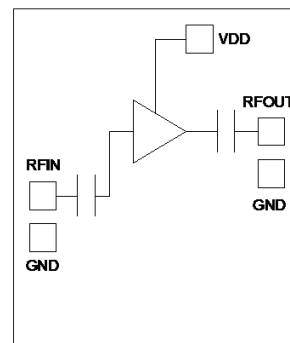
- Microwave radio
- Telecommunication
- Test instrumentation

General Description

SAC3056 is a GaAs MMIC Low Noise Amplifier which operates between 2GHz~4GHz. The amplifier can provide 29dB gain, 9dBm OutputP_{-1dB}, 0.5dB noise figure from a +5V supply voltage.

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

Functional Diagram



Electrical Performance (T_A=25°C, V_D=+5V, I_D=30mA, Z₀=50Ω)

Parameter	Min	Typ.	Max	Units
Frequency Range	2~4			GHz
Gain	26	29	—	dB
Gain Flatness	—	±0.5	—	dB
Reverse Isolation	-35	-41	—	dB
Input VSWR	—	1.4	1.6	:1
Output VSWR	—	1.4	1.6	:1
Noise Figure	—	0.5	0.6	dB
Output Power for 1 dB Compression (OP _{-1dB})	7	9	—	dBm
Output IP ₃ *	—	20	—	dBm
Supply Voltage (V _D)	4.85	5	5.5	V
Supply Current(I _D)	—	30	—	mA

Absolute Maximum Ratings

Maximum Input Power	+12dBm	Operating Temperature	-40°C~+85°C
Channel Temperature	150°C	Storage Temperature	-65°C~+150°C
Maximum V _D	+5.7V		

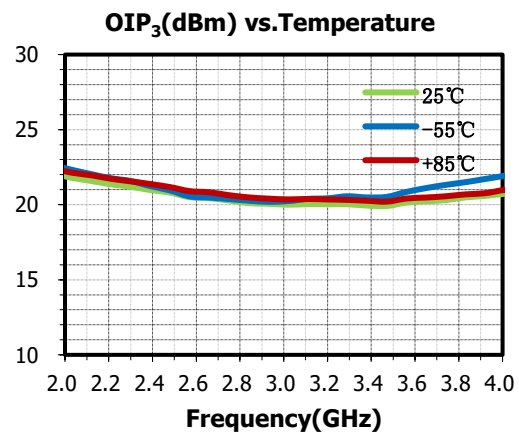
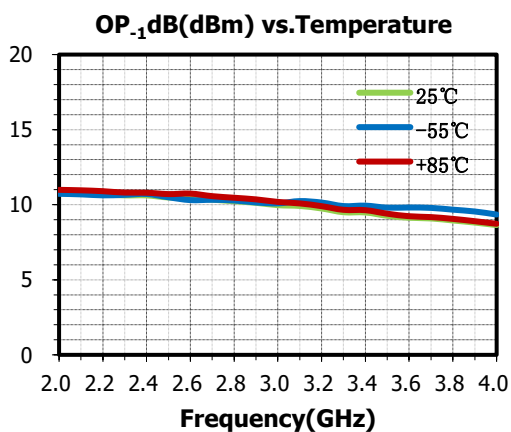
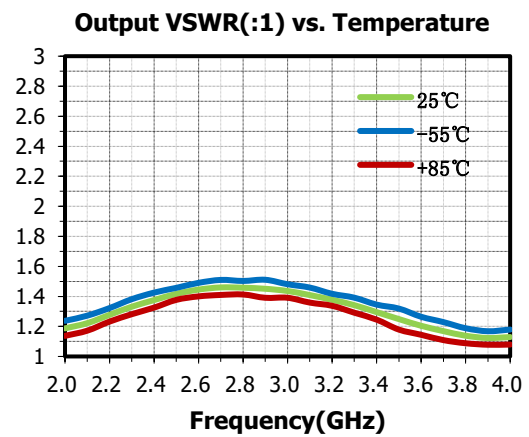
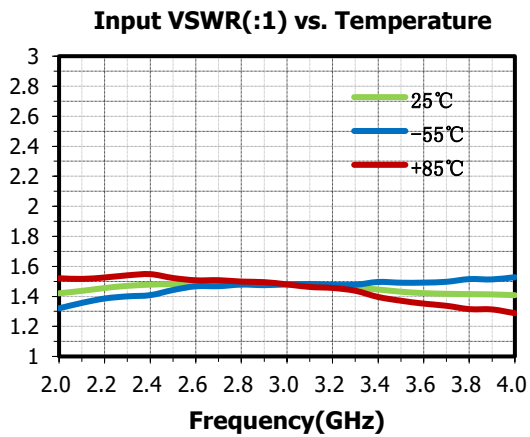
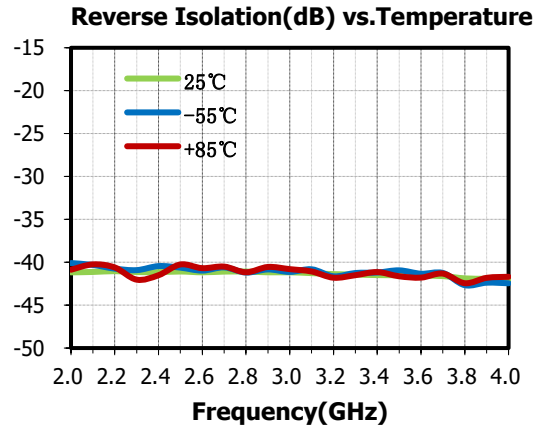
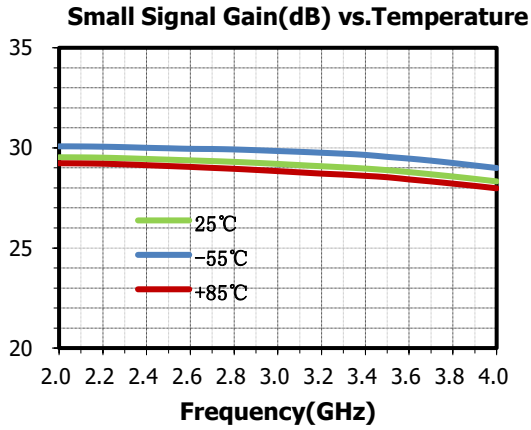
SAC3056



GaAs MMIC Low Noise Amplifier
2GHz~4GHz NF 0.5dB

Rev 1.2

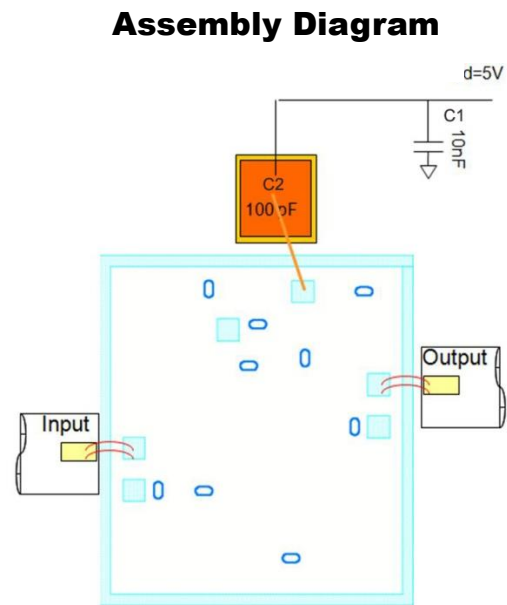
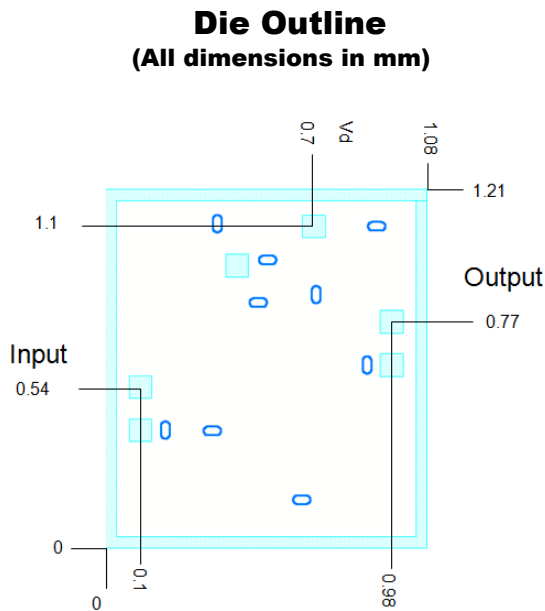
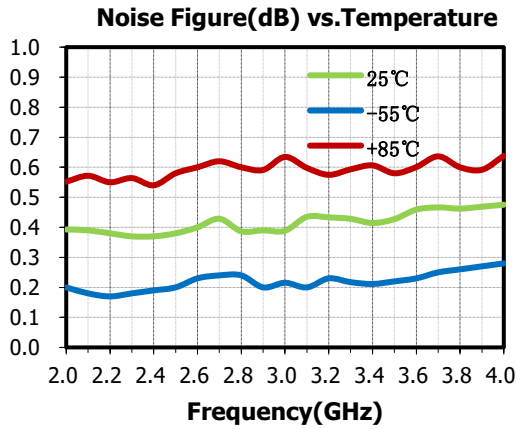
Typical Performance Curve



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2GHz~4GHz NF 0.5dB

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Component list

Reference Des.	Value	Part Number	Manuf.	Size
C1	10nF		Murata	0402
C2	100pF			Chip capacitor

Attention:

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