

# SAC3043

GaAs MMIC Low Noise Amplifier  
6GHz~18GHz

Rev 2.3

## Features

- Frequency: 6GHz~18GHz
- Noise Figure: 1.5dB
- Gain:22dB
- Supply Voltage: +5V@55mA
- Die Size: 1.78mmX1.26mmX0.1mm

## Typical Applications

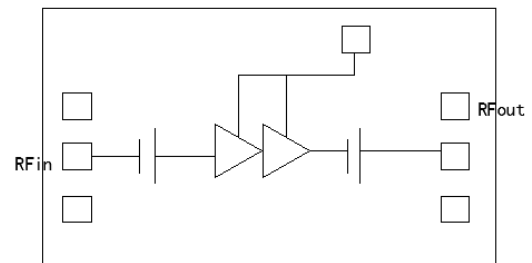
- Microwave radio including point to point communication
- Telecommunication
- Weather radar
- Optical communication
- Test instrumentation
- SatCom
- VSAT
- Military and Aerospace

## General Description

SAC3043 is a GaAs MMIC Low Noise Amplifier die which operates between 6GHz~18GHz. The amplifier can provide 22dB gain, with 1.5dB noise figure from a 55mA 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 ( $T_A=25^\circ\text{C}$ , $V_D=+5\text{V}$ , $I_D=55\text{mA}$ , $Z_0=50\Omega$ )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	6~18			GHz
Gain Flatness	—	$\pm 0.6$	—	dB
Small Signal Gain	21	22	24	dB
Noise Figure	—	1.5	2.0	dB
Input VSWR	—	1.3	1.6	:1
Output VSWR	—	1.4	1.7	:1
Output P <sub>1dB</sub>	12	14	—	dBm
Supply Voltage( $V_D$ )	—	5	5.5	V
Supply Current( $I_D$ )	—	55	—	mA

## Absolute Maximum Ratings

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

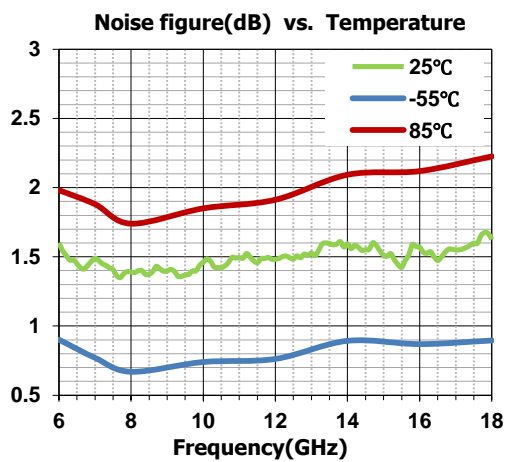
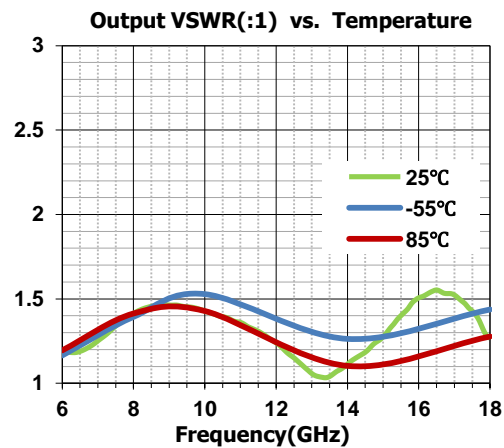
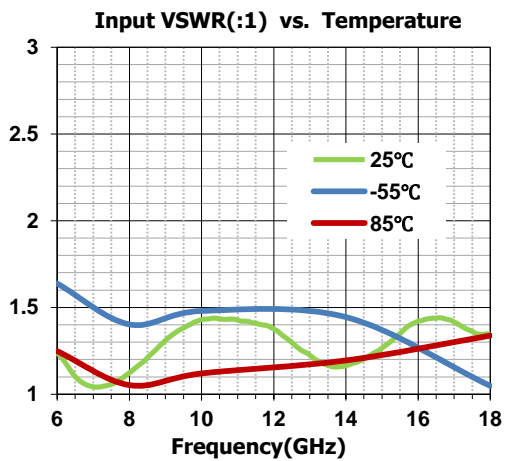
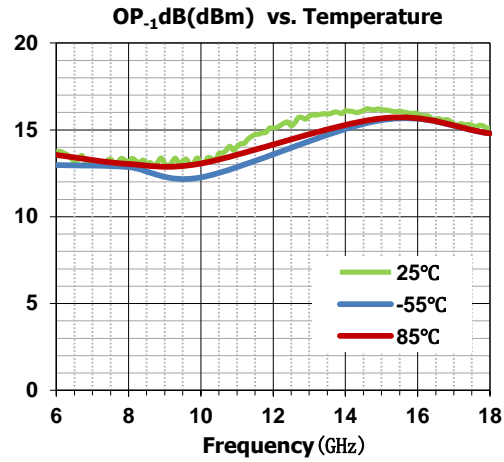
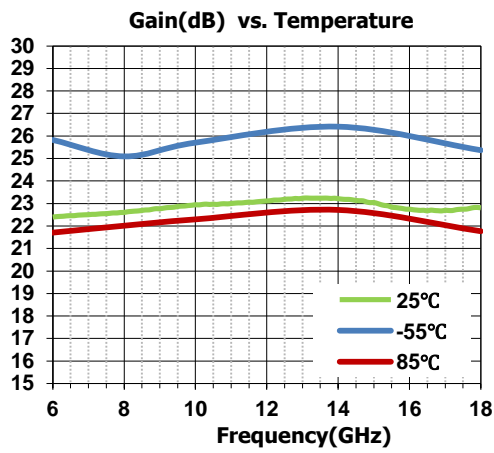
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## Typical Performance Curve



### SuperApex, LLC

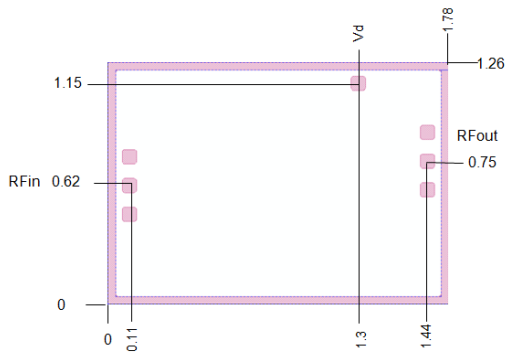
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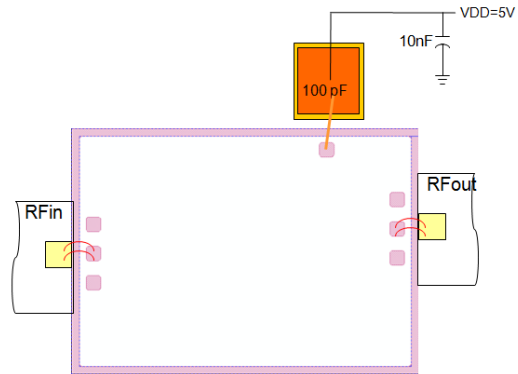
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**Die Outline**  
(All dimensions in mm)



**Assembly Diagram**



**Attention:**

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