

SAC3008BQ3

GaAs MMIC Low Noise Amplifier
0.4~6GHz

Rev 1.0

Features

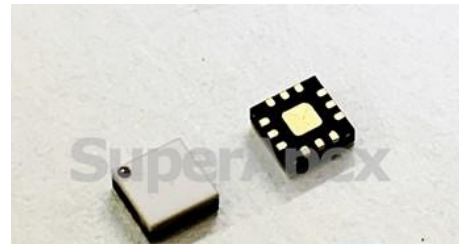
- Frequency: 0.4~6GHz
- Gain: 18dB
- Output P_{-1dB}: 17.5dBm
- Supply Voltage: +5V@58mA
- Package Size: 3mm×3mm×1.3mm

Typical Applications

- Telecommunication
- Test instrumentation

General Description

SAC3008BQ3 is a GaAs MMIC Low Noise Amplifier in QFN air cavity surface mount package, which operates between 0.4GHz~6GHz. The amplifier can provide 18dB gain, 17.5dBm OutputP_{-1dB}, 1.2dB noise figure from a 58mA supply current.



Electrical Performance (T_A=25°C, V_D= +5V, I_D=58mA, Z₀=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.4~6			GHz
Gain	16	18	—	dB
Gain Flatness	—	±1	±2	dB
Reverse Isolation	—	-25	—	dB
Input/Output VSWR	—	1.5	1.7	:1
Noise Figure	—	1.2	1.8	dB
Output Power for 1 dB Compression (OP _{-1dB})	16	17.5	—	dBm
Output Third Order Intercept (OIP ₃)	25	30	—	dBm
Supply Current(I _D)	—	58	—	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

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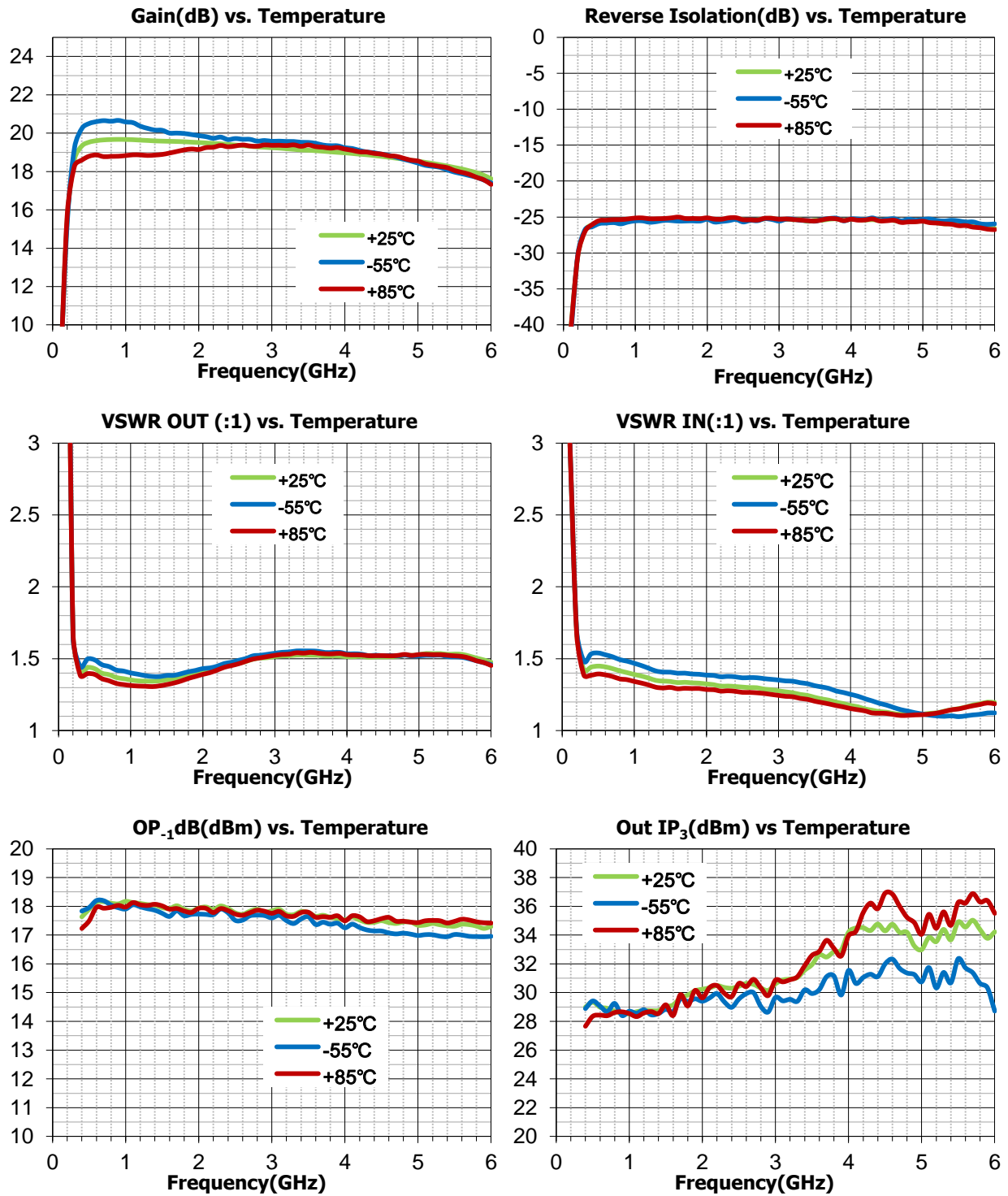
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Typical Performance Curve



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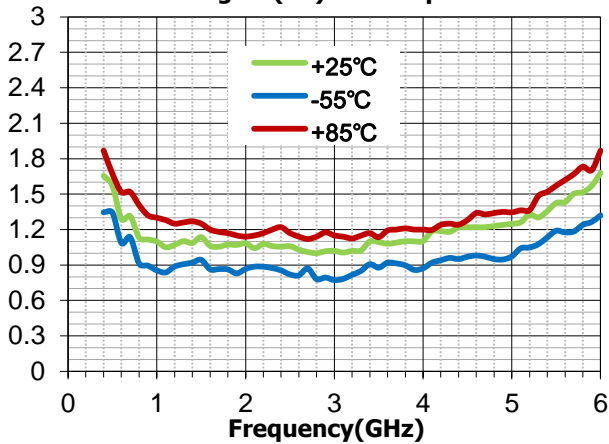
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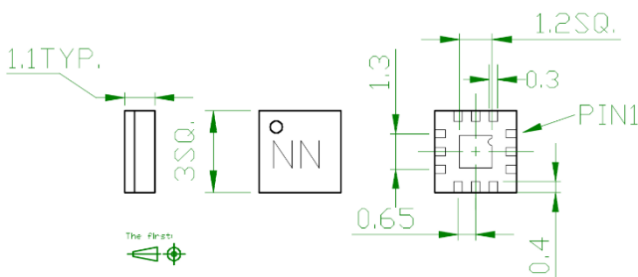
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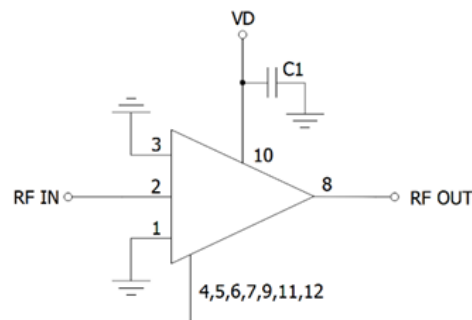
Noise Figure(dB) vs. Temperature



Outline Drawing
(All dimensions in mm)



Application Circuit



Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	10nF	GRM155R71H103KA88D	MURATA	0402

Attention:

1. GaAs MMIC devices are susceptible to damage from Electrostatic Discharge. Proper precautions should be observed during handling, assembly and test.
2. The moisture resistant grade of products is 2a, the storage environment $\leq 30^{\circ}\text{C}/60\% \text{RH}$, The surrounding workshop life is 4 weeks.
3. After un-packing, It is necessary to bake the parts for 6 hours in 125 ± 5 degree environment before soldering.

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