SAC3054BQP3

GaAs MMIC Low Noise Amplifier
0.4～2.1GHz

Rev 1.0

Features

- Frequency: 0.4～2.1GHz
- Gain: 27dB
- Output P_{-1}dB: 14dBm
- Single Power Supply: +5V@50mA
- Package Size: 3mmx3mmx0.75mm

Typical Applications

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

General Description

SAC3054BQP3 is a GaAs MMIC Low Noise Amplifier die which operates between 0.4～2.1GHz. The amplifier can provide 27dB gain, 14dBm OutputP_{-1}dB, 1.2dB noise figure from a 50mA supply current.

Electrical Performance (T_A=25℃, V_D=+5V, I_D=50mA, Z_0=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 P_{-1}dB	13	14	—	dBm
Output IP_3	—	24	—	dBm
Supply Current(I_D)	—	50	—	mA

Absolute Maximum Ratings

Maximum Input Power	+14dBm	Operating Temperature	-40℃～+85℃
Maximum V_D	+5.5V	Storage Temperature	-40℃～+150℃

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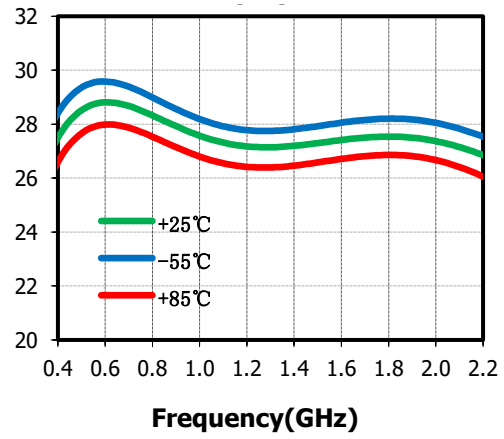
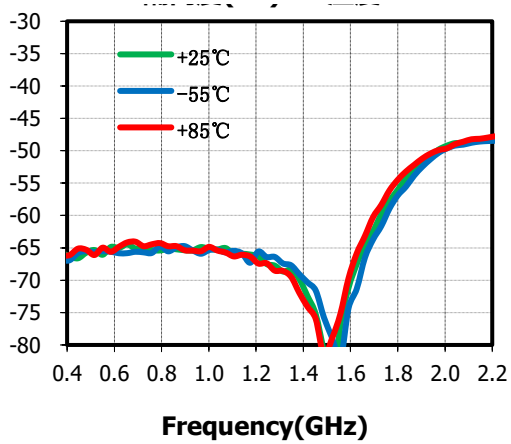
Typical Performance Curve

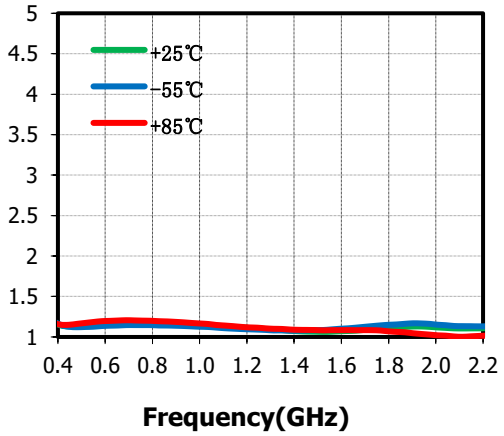
Gain(dB) vs. Temperature



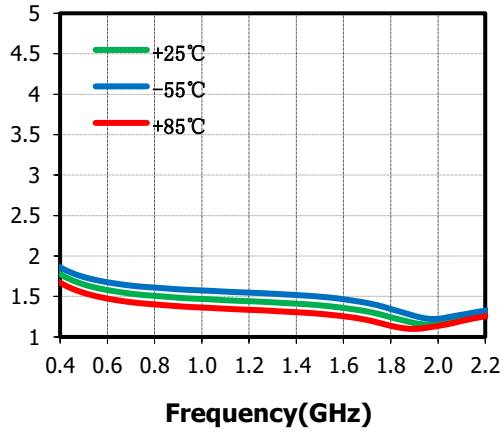
Reverse Isolation(dB) vs. Temperature



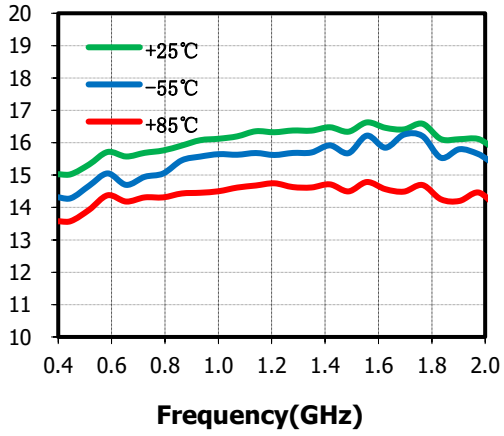
Input VSWR(:1)vs. Temperature



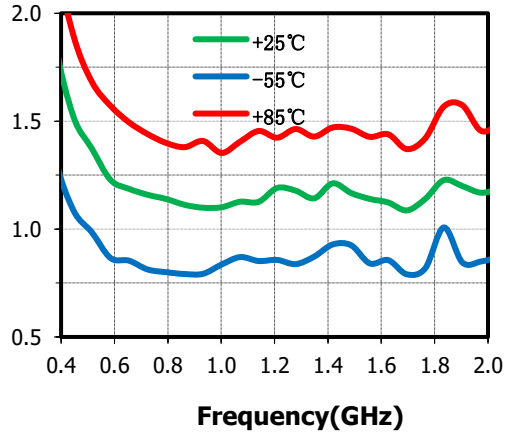
Output VSWR(:1)vs. Temperature



OP-1dB(dBm) vs. Temperature



Noise Figure(dB) vs. Temperature



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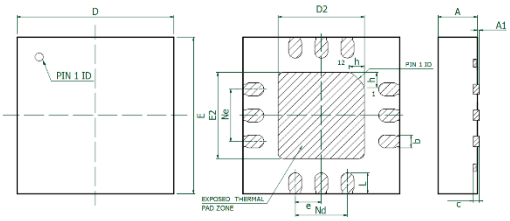
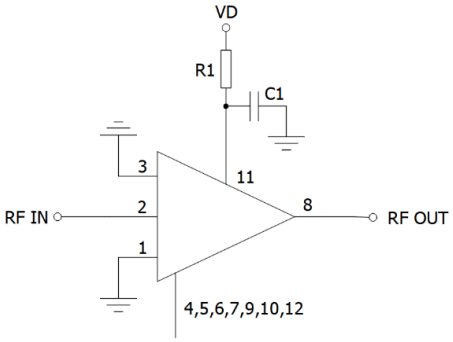
Outline Drawing
(All dimensions in mm)



DIM	MILLIMETER		
	MIN	NOM	MAX
A	0.65	0.75	0.85
A1	–	0.02	0.05
b	0.20	0.25	0.30
c	0.18	0.20	0.25
D	2.90	3.00	3.10
D2	1.55	1.65	1.75
e	0.50BSC		
Ne	1.00BSC		
Nd	1.00BSC		
E	2.90	3.00	3.10
E2	1.55	1.65	1.75
L	0.35	0.40	0.45
h	0.25	0.30	0.35

Assembly Diagram



Component list

Reference Des.	Value	Part Number	Manuf.	Size
R1	15			0603
C1	10nF	GRM155R71H103KA88D	MURATA	0402

Attention:

1. The moisture resistant grade of products is 2A, the storage environment ≤30° C/60% RH，The surrounding workshop Life is 4 weeks.
2. After un-packing, It is necessary to bake the parts for 6 hours in 125+/-5 degree environment before soldering.

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