

Features

- Frequency: 14GHz~18GHz
- Gain: 19dB
- Output P_{-1dB}: 31dBm
- Supply Voltage: +5~+6V
- PAE: 35%
- Package Size: 4mm×4mm×1.2mm

Typical Applications

- Microwave radio including point to point communication
- Telecommunication
- SatCom
- Military and Aerospace

General Description

SAC3914Q4 is a GaAs MMIC driver amplifier which operates between 14GHz~18GHz. The amplifier provides 19dB of gain ,31dBm OutputP_{-1dB} while requiring 500mA from a +5V~+6V supply voltage.

SAC3914Q4 is housed in a air cavity 4x4mm QFN package.

Electrical Performance (T_A=25°C, V_D= +6V, I_D=500mA,Z₀=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	14~18			GHz
Small Signal Gain	—	19	—	dB
Gain Flatness	—	±2	—	dB
Reverse Isolation	—	-40	—	dB
Input Return Loss	—	-10	—	dB
PAE	—	35	—	%
Output P _{-1dB}	—	31	—	dBm
Supply Voltage(V _D)	5	—	6	V
Supply Current(I _D)	—	500	700	mA

Absolute Maximum Ratings

Maximum Input Power	+18dBm	Operating Temperature	-55°C~+85°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C
Maximum V _D	+6.3V	Maximum V _G	-1.2V

SAC3914Q4

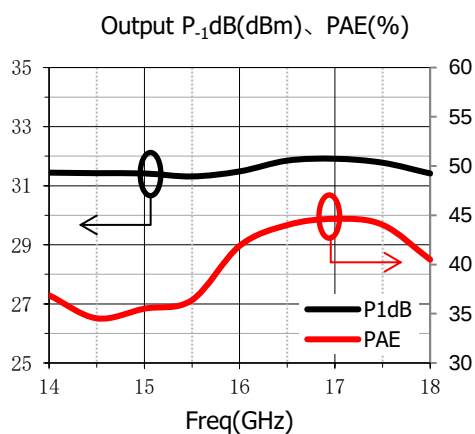
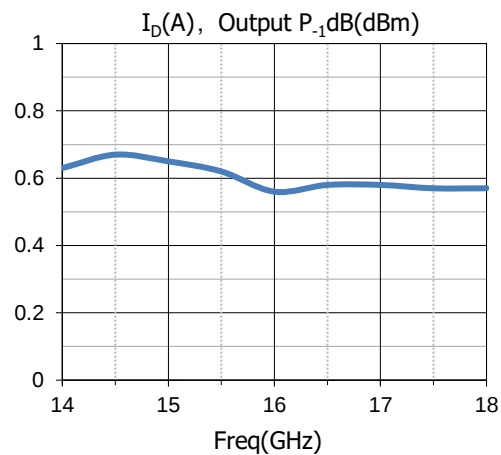
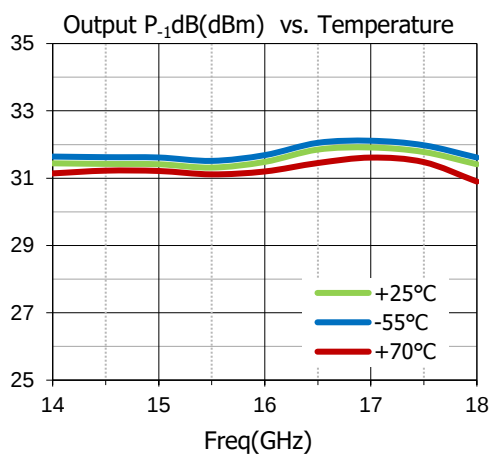
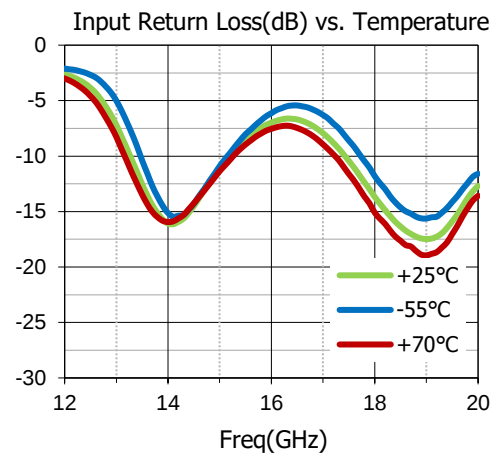
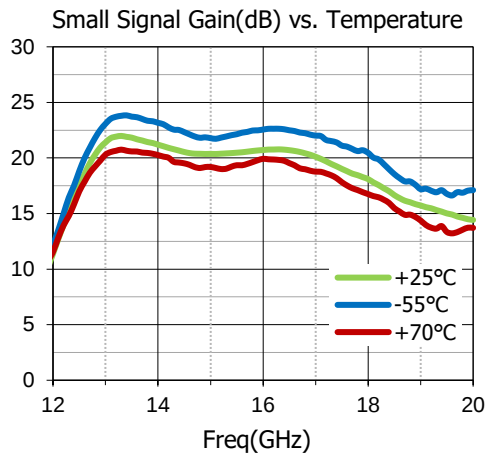


GaAs MMIC Driver Amplifier
14GHz~18GHz

Rev 3.2

Typical Performance Curve

Bias condition: $V_D=+6V, I_D=500mA$



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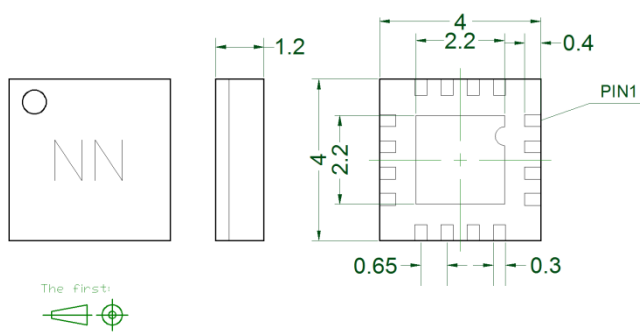
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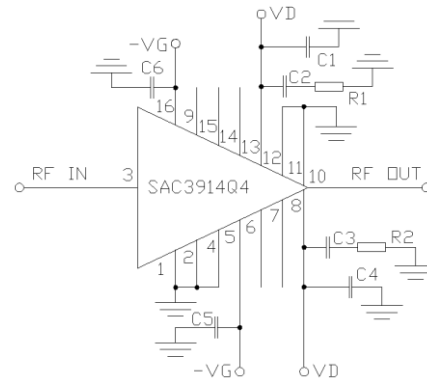
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Outline Drawing (All dimensions in mm)



Application Circuit



Pin Definitions

No.	Function	No.	Function
1	Connect to Ground	10	RF OUT
2	Connect to Ground	11	Connect to Ground
3	RF IN	12	Connect to Ground
4	Connect to Ground	13	Drain2
5	Gate1	14	NC
6	NC	15	NC
7	NC	16	Gate2
8	Drain1		
9	Connect to Ground		

Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1、C4、C6、C5	22uF	-	-	0805
C2、C3	0.01uF	-	-	0402
R1、R2	2.2R	-	-	0402

Attention:

1. 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. 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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