

# SAC3915Q3



GaAs pHEMT MMIC Driver Amplifier  
6GHz~18GHz

Rev 1.2

## Features

- Frequency: 6GHz~18GHz
- Gain: 18dB
- Output P<sub>1dB</sub>: 18dBm
- Supply Voltage: +4~+6V
- Package Size: 3mm×3mm×1.2mm

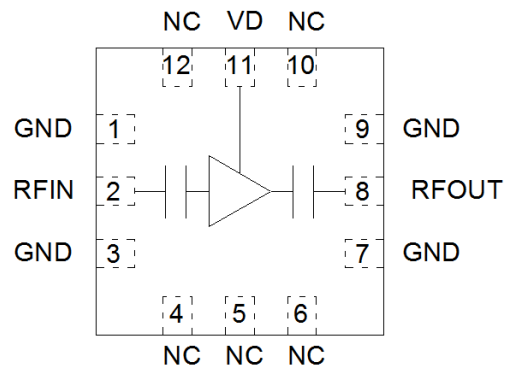
## Typical Applications

- Point-to-Point Radios
- SATCOM
- Test and Measurement
- Radar

## General Description

SAC3915Q3 is a wideband GaAs MMIC driver amplifier which operates between 6GHz~18GHz. The amplifier provides 18dB of gain, 18dBm OP<sub>1dB</sub> power from a +4~+6V supply voltage which make it an ideal driver amplifier for high efficiency applications.

## Functional Diagram



## Electrical Performance ( T<sub>A</sub>=25°C, V<sub>D</sub>=+5V, Z<sub>0</sub>=50Ω )

Parameter	Min.	Typ.	Max.	Units
Frequency Range	6~18			GHz
Small Signal Gain	—	18	—	dB
Small Signal Gain Flatness	—	±1	—	dB
Reverse Isolation	—	-40	—	dB
Input VSWR	—	1.6	—	:1
Output VSWR	—	1.5	—	:1
Output Power for 1 dB Compression (OP <sub>1dB</sub> )	—	18	—	dBm
Drain Voltage(V <sub>D</sub> )	4	—	6	V
Supply Current(I <sub>D</sub> )	—	80	—	mA

## Absolute Maximum Ratings

Maximum Input Power	+17dBm	Operating Temperature	-55°C~+85°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C
Maximum V <sub>D</sub>	+6.3V		

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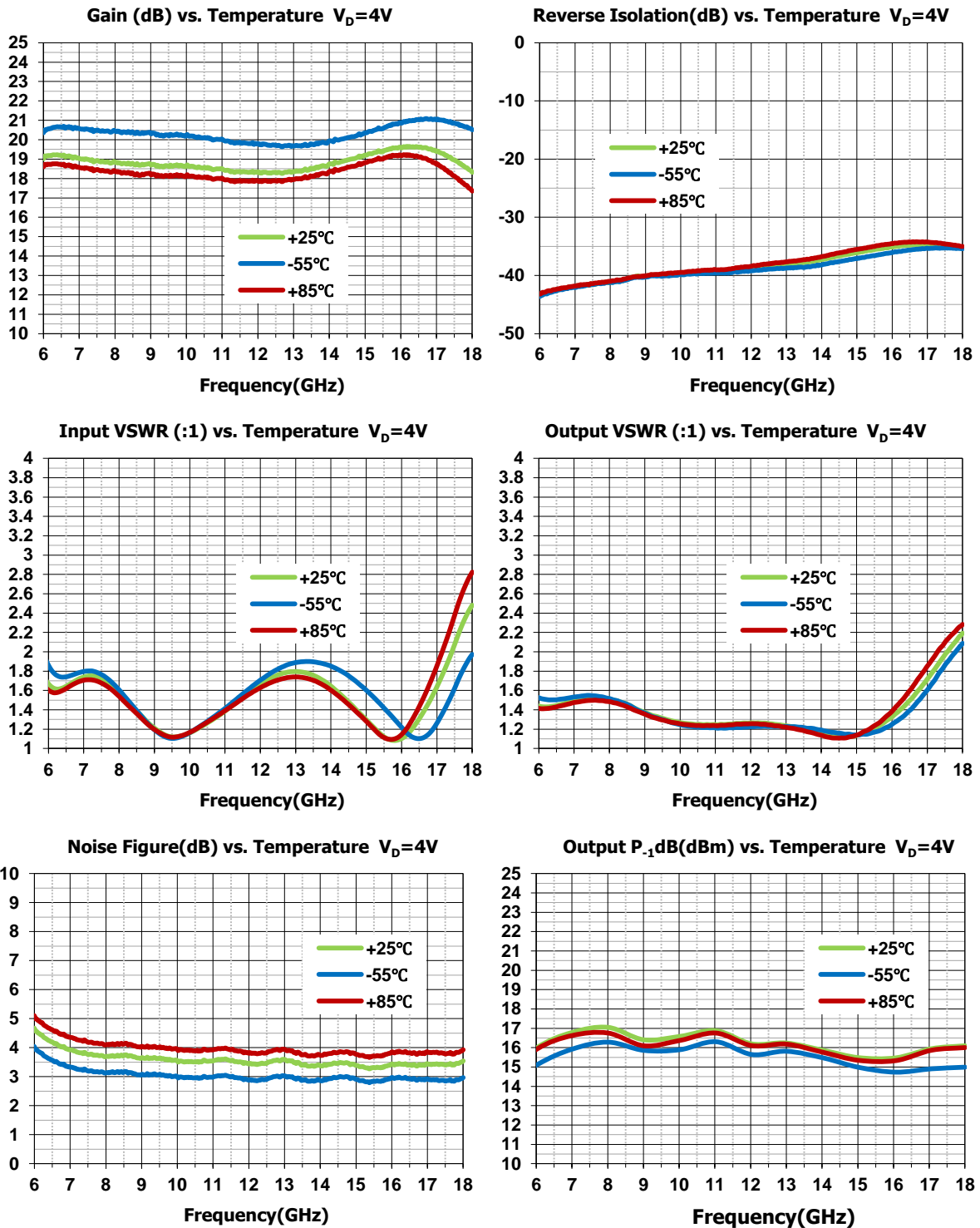


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## Typical Performance Curve

$V_D=+4V$



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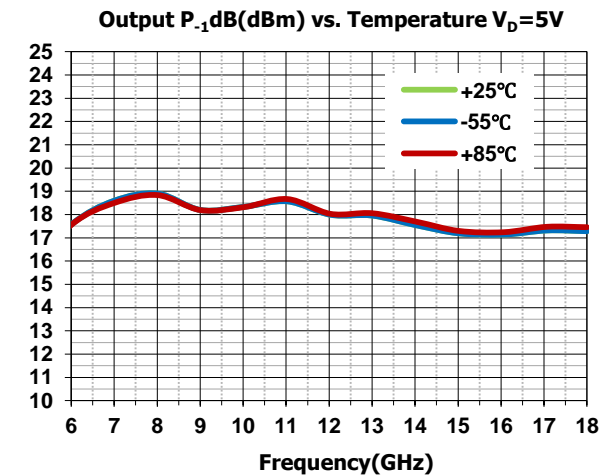
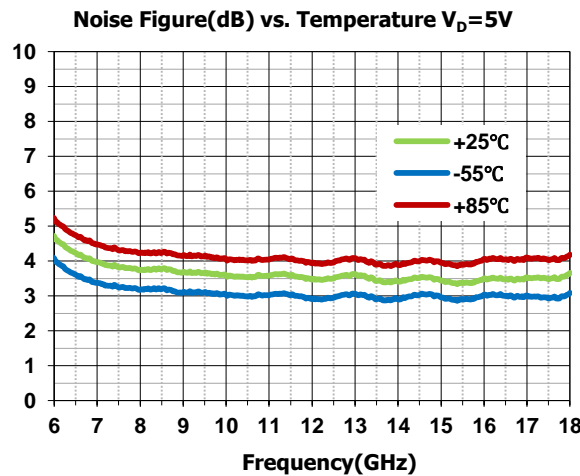
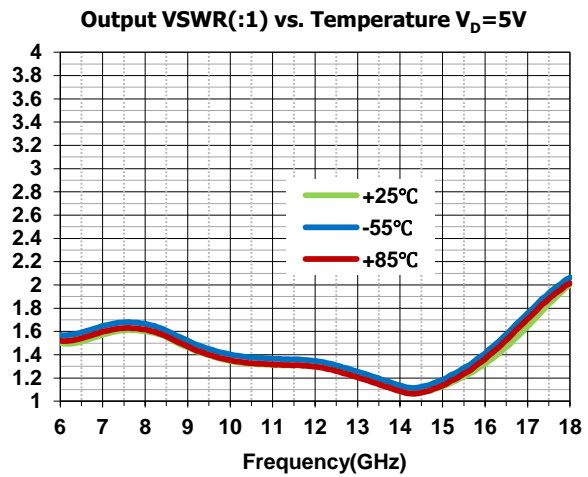
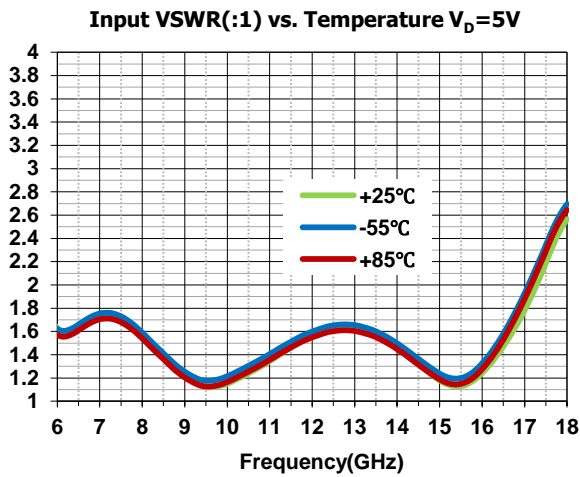
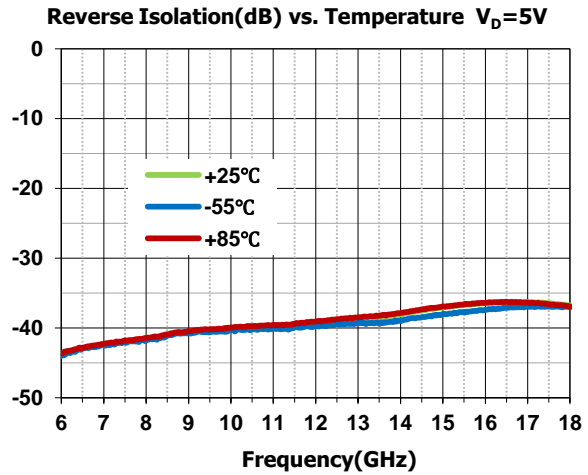
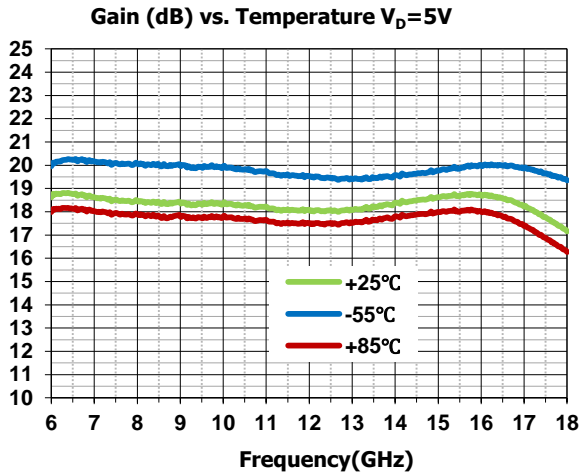
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$V_D=+5V$



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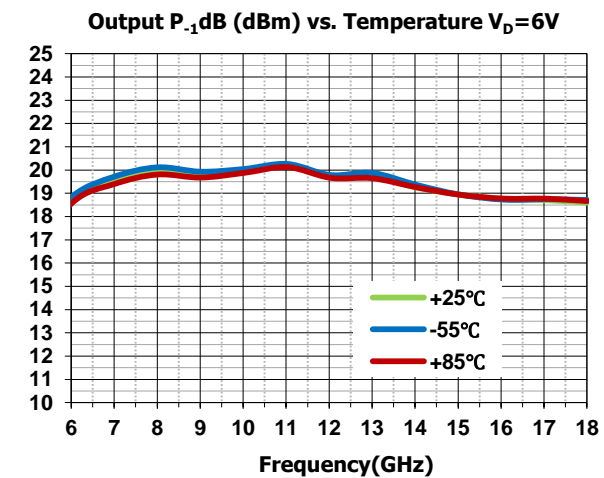
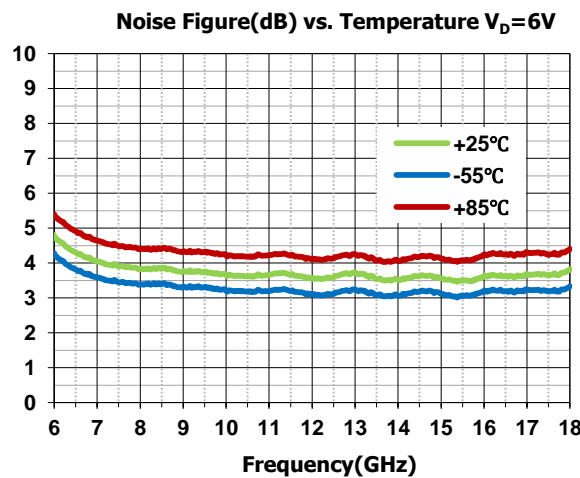
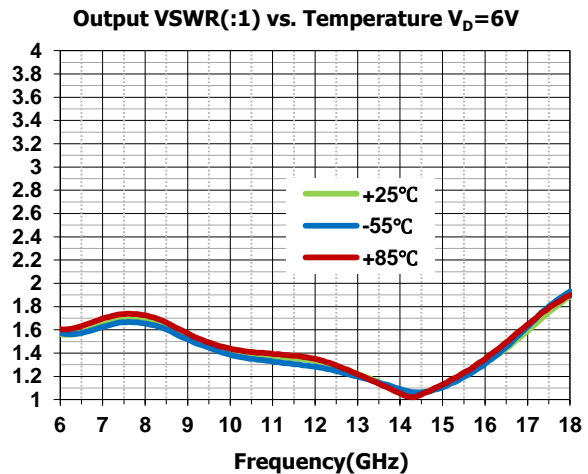
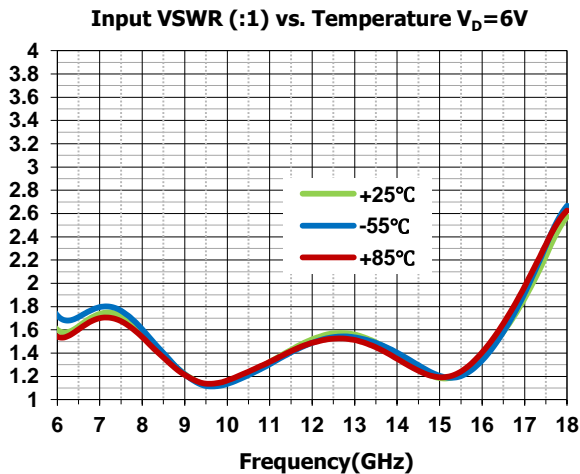
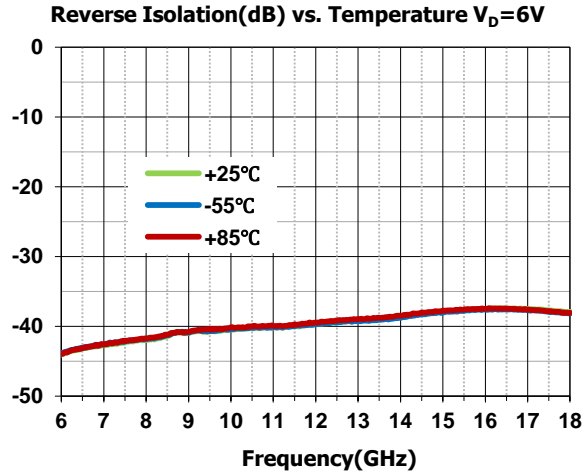
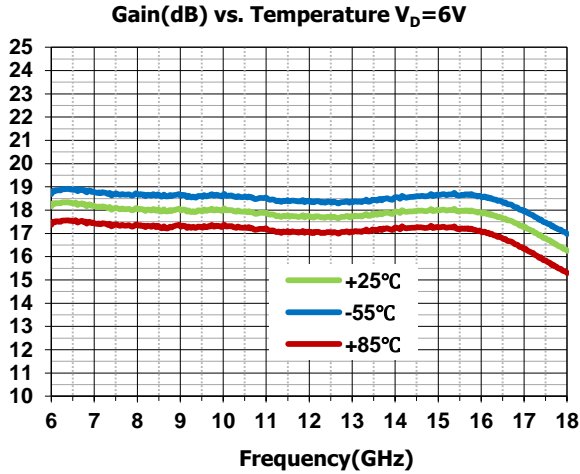
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$V_D=+6V$



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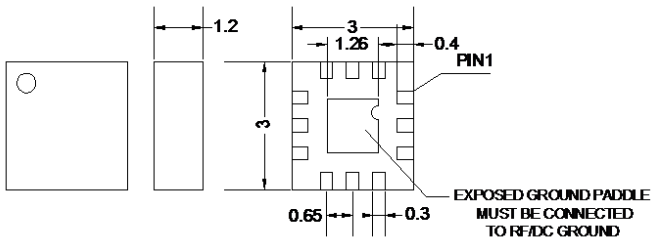
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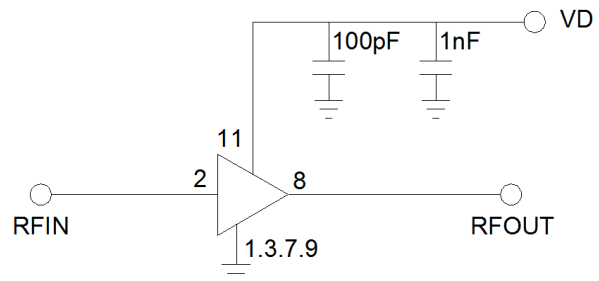
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## Outline Drawing (All dimensions in mm)



## Application Circuit



## ESD CAUTION



ESD(electrostatic discharge) sensitive device. Charged devices on circuit boards can discharge without detection. Damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

### 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  $125\pm 5$  degree environment before soldering.

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