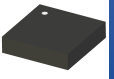


## 2.7 – 3.7 GHz Low Noise Amplifier



ALND-WB-0009

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5.0 x 5.0 x 1.2 mm  
RoHS Compliant

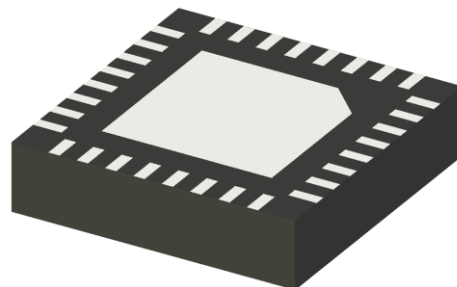
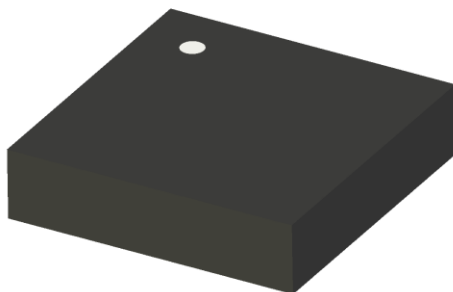
### Features

- Frequency Range: 2.7 - 3.7 GHz
- Low Noise Figure < 1.4 dB
- 24 dB High Gain
- 18 dBm Medium Power Output
- Input Return Loss > 4 dB
- Output Return Loss >15 dB
- No external matching required.
- DC Decoupled input and output
- 0.15-um InGaAs pHEMTs Technology
- QFN Plastic package: 5.0 x 5.0 x 1.2 mm

### Applications

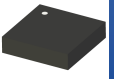
- Military Radar
- Multi-Band VSAT
- Cellular Infrastructure Base Station
- Repeaters / Boosters / DAS

### Product Image





## 2.7 – 3.7 GHz Low Noise Amplifier



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5.0 x 5.0 x 1.2 mm  
RoHS Compliant

### Electrical Specifications

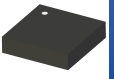
Parameters Description	Typical			Unit
Frequency Range	2.7 – 3.1	3.1 – 3.5	2.7 - 3.7	GHz
Gain	23.5	23.75	24.0	dB
Gain Flatness	+0.25	± 0.4	± 0.6	dB
Noise Figure	1.4	1.6	1.6	dB
Input Return Loss	5	11	5	dB
Output Return Loss	15	12	9	dB
Output Power (P1 dB)	18	19	18	dBm
Saturated output power (Psat)	-	21	-	dBm
Output Third Order Intercept (IP3)	-	30	-	dBm
Supply Current	-	110	-	mA

@ TA 25C, Vd1 = 3V, Vd2 = 4V Zo =50 Ω

### NOTES:

1. Electrical specifications are measured in a test fixture

## 2.7 – 3.7 GHz Low Noise Amplifier



**ALND-WB-0009**

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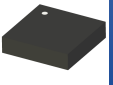


**5.0 x 5.0 x 1.2 mm**  
**RoHS Compliant**

### Ordering Information

Part Number	Description
ALND-WB-0009	2.7 – 3.7 GHz Low Noise Amplifier Packing: Bulk

# 2.7 – 3.7 GHz Low Noise Amplifier



ALND-WB-0009

Request Samples

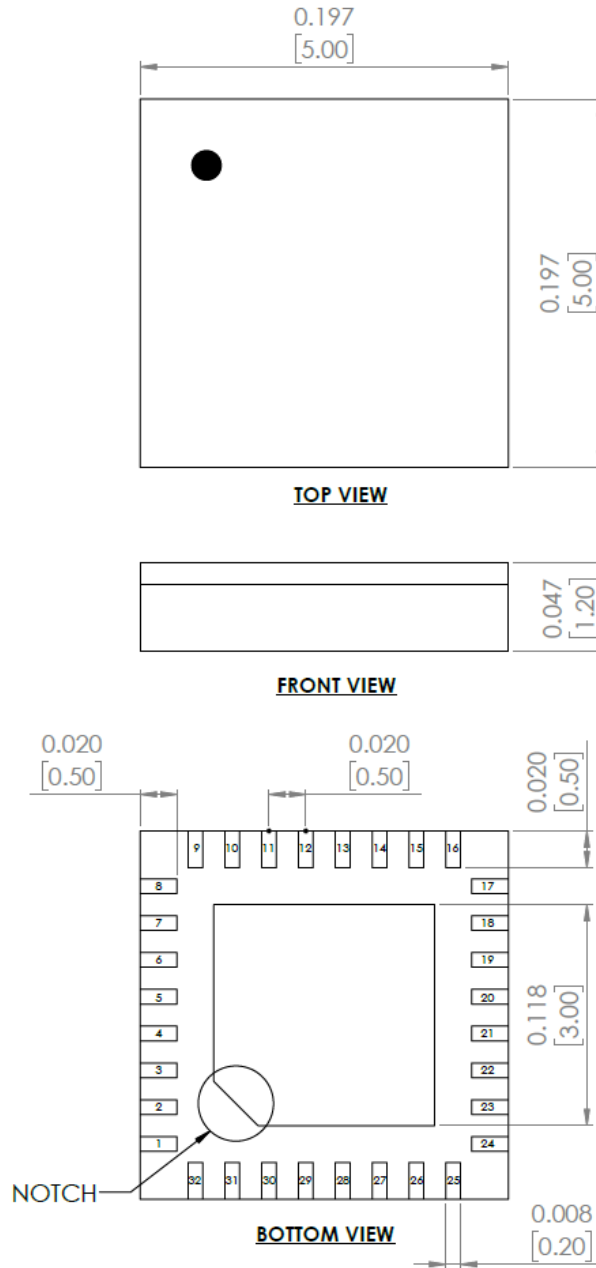


Check Inventory



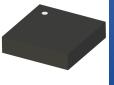
5.0 x 5.0 x 1.2 mm  
RoHS Compliant

## Product Dimensions



Unit: inches[mm]

# 2.7 – 3.7 GHz Low Noise Amplifier



**ALND-WB-0009**

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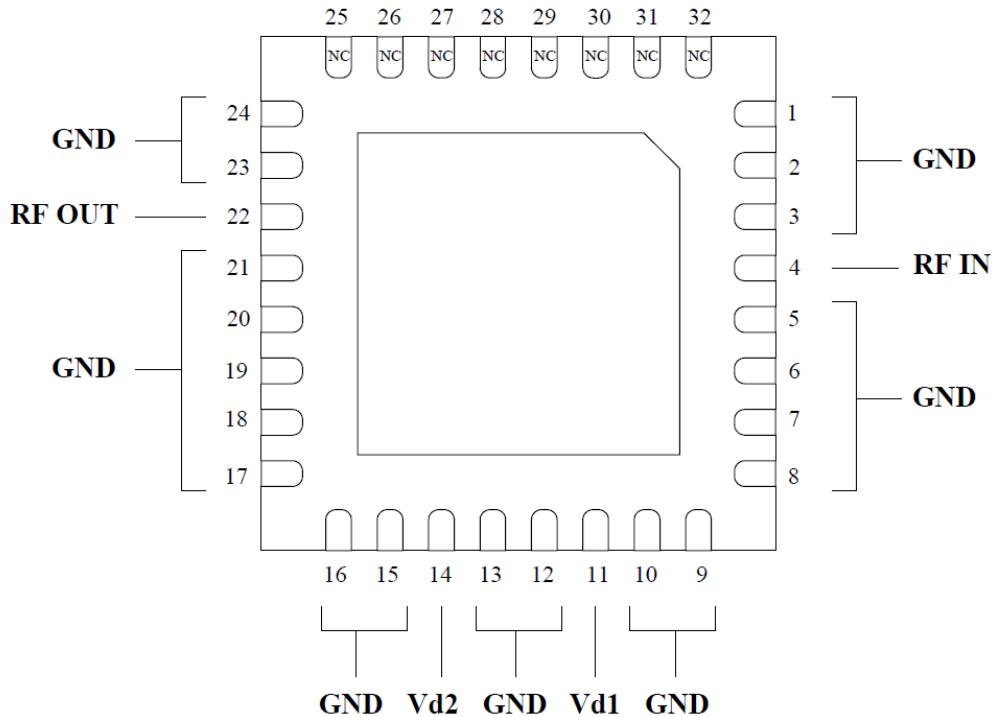


Check Inventory



**5.0 x 5.0 x 1.2 mm**  
**RoHS Compliant**

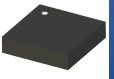
## Pin Configuration



## Pin Designations

Symbol	Pin No.	Description
GND	1,2,3,5,6,7,8,9,10,12,13,15,16,17,18,19,20,21,23,24	Grounded
RF IN	4	RF Input
RF OUT	22	RF Output
Vd1	11	1 <sup>st</sup> Stage drain voltage
Vd2	14	2 <sup>nd</sup> Stage drain voltage
NC	25,26,27,28,29,30,31,32	No Connection

# 2.7 – 3.7 GHz Low Noise Amplifier



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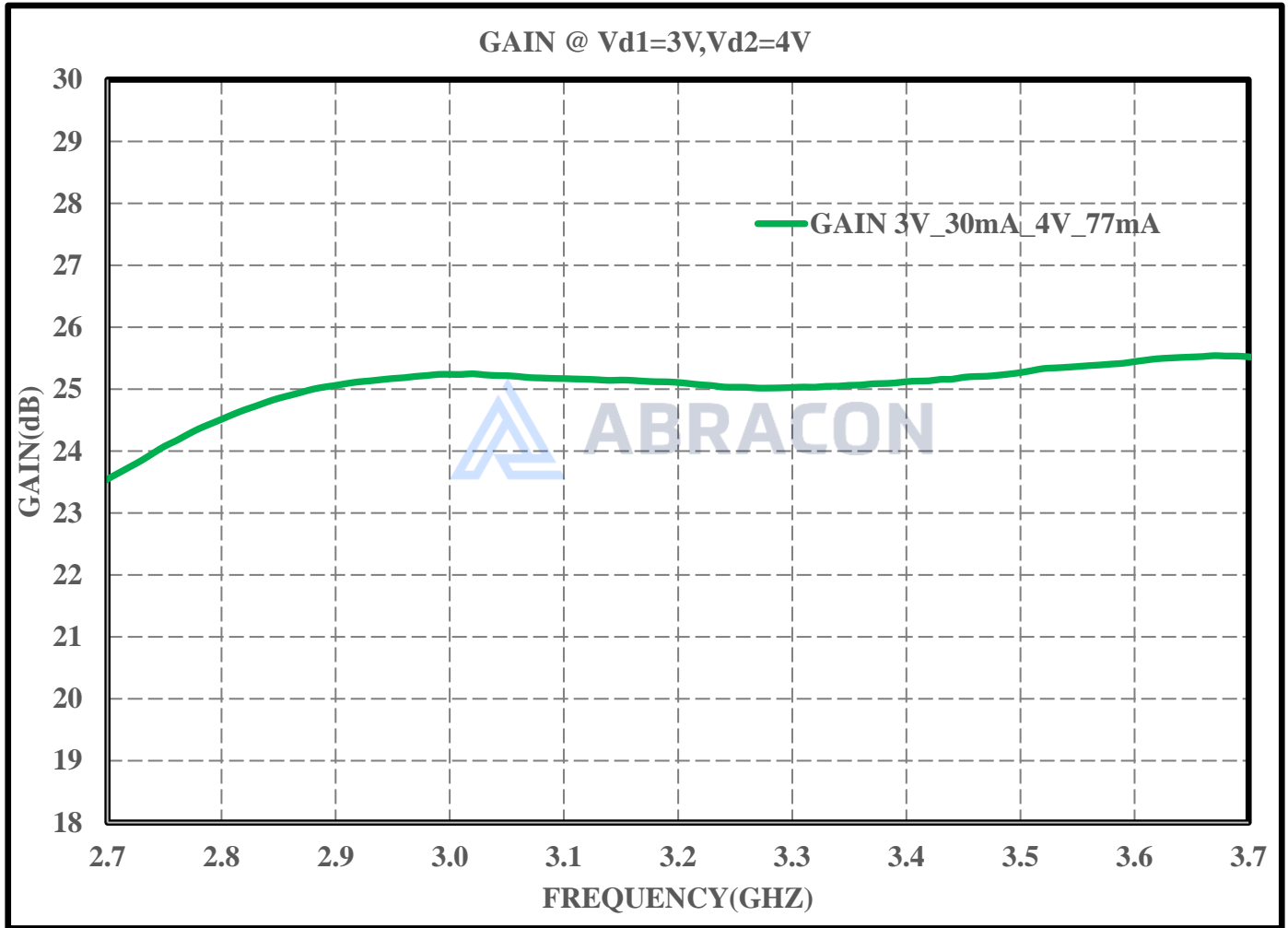


Check Inventory



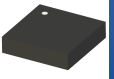
5.0 x 5.0 x 1.2 mm  
RoHS Compliant

## Test Fixture Data



Vd1 = 3V, Vd2 = 4V, Total Current = 110mA, Ta = 25°C

# 2.7 – 3.7 GHz Low Noise Amplifier



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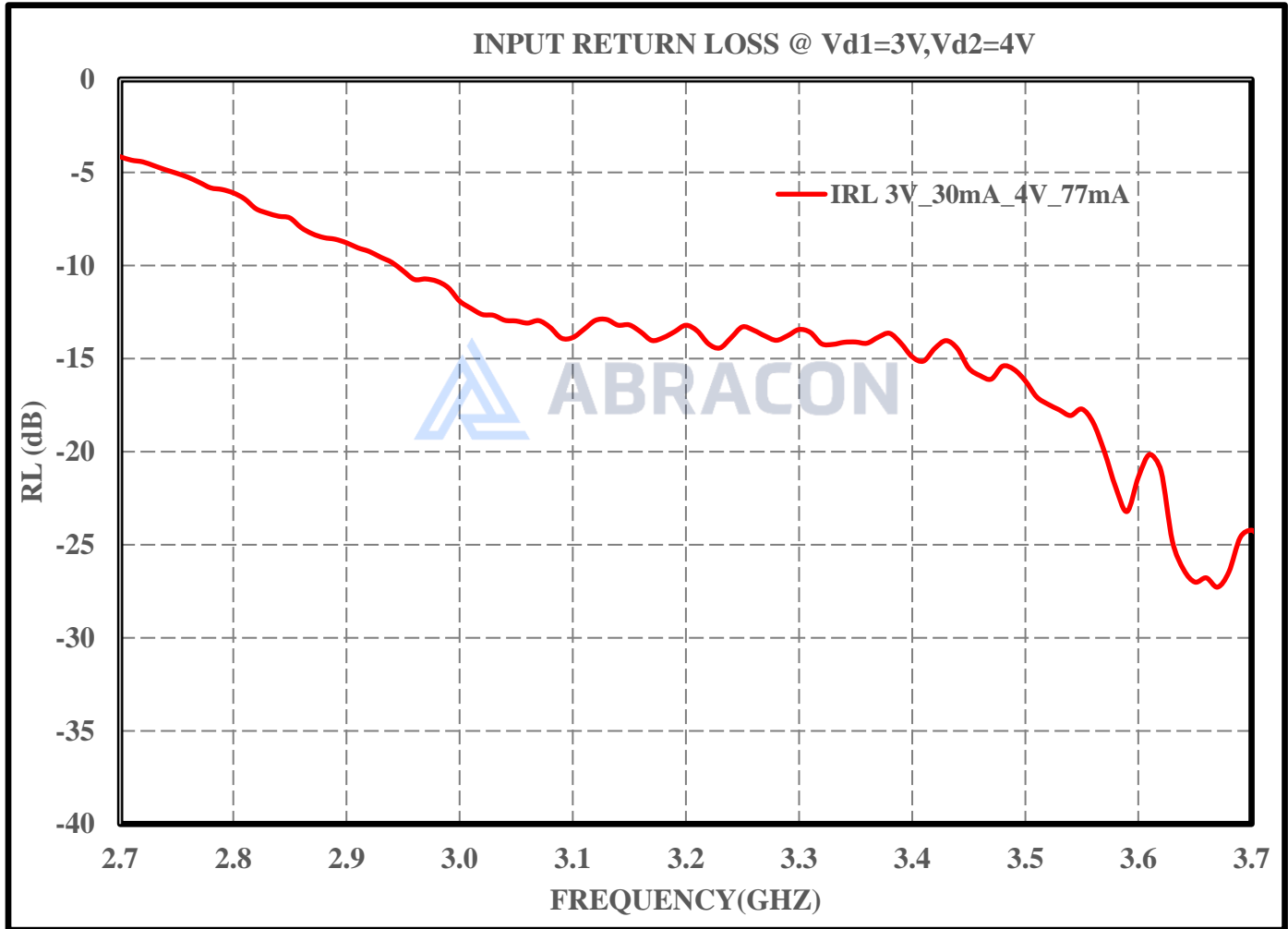
Request Samples



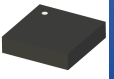
Check Inventory



5.0 x 5.0 x 1.2 mm  
RoHS Compliant



# 2.7 – 3.7 GHz Low Noise Amplifier



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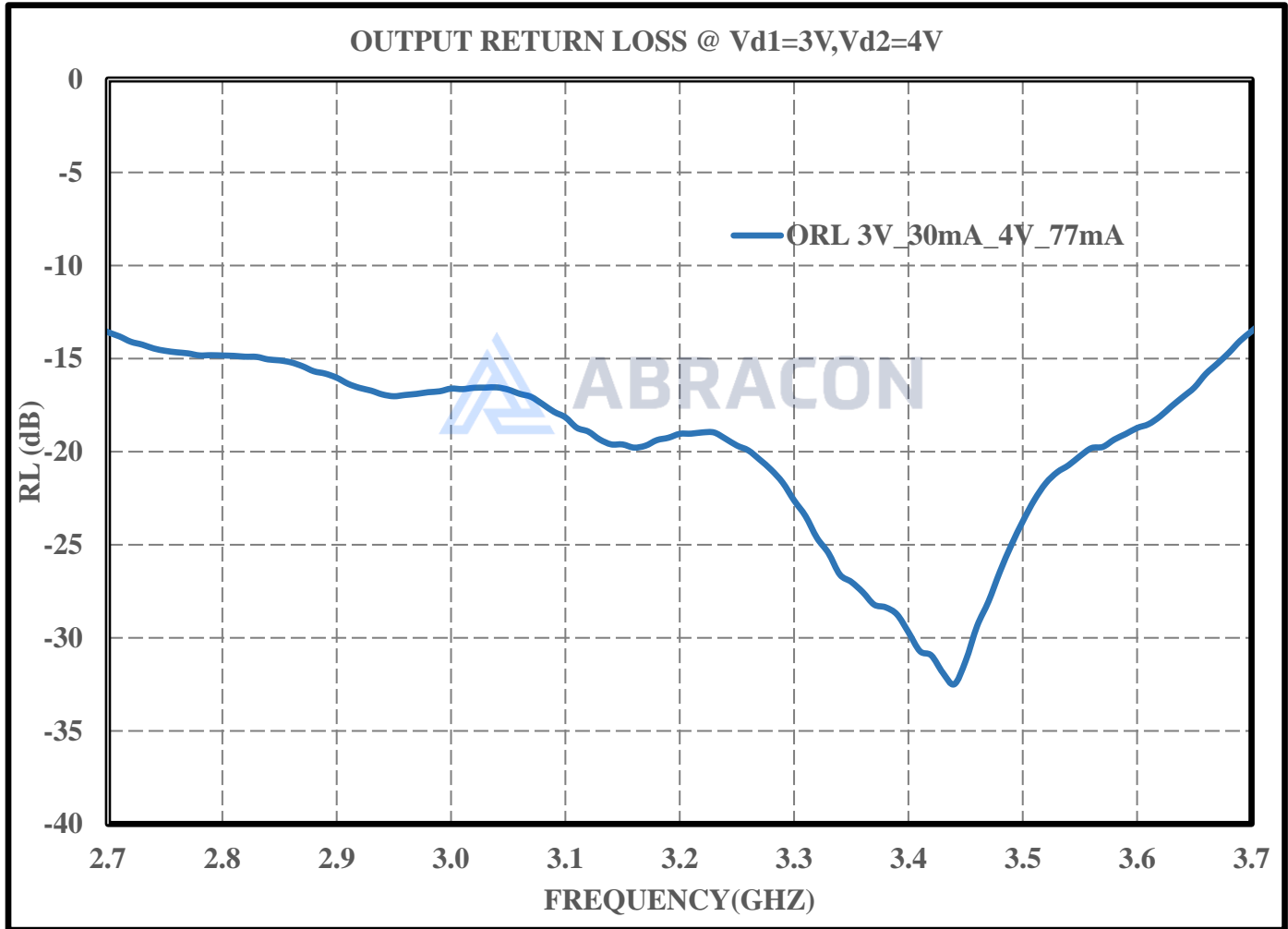
Request Samples



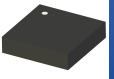
Check Inventory



5.0 x 5.0 x 1.2 mm  
RoHS Compliant



# 2.7 – 3.7 GHz Low Noise Amplifier



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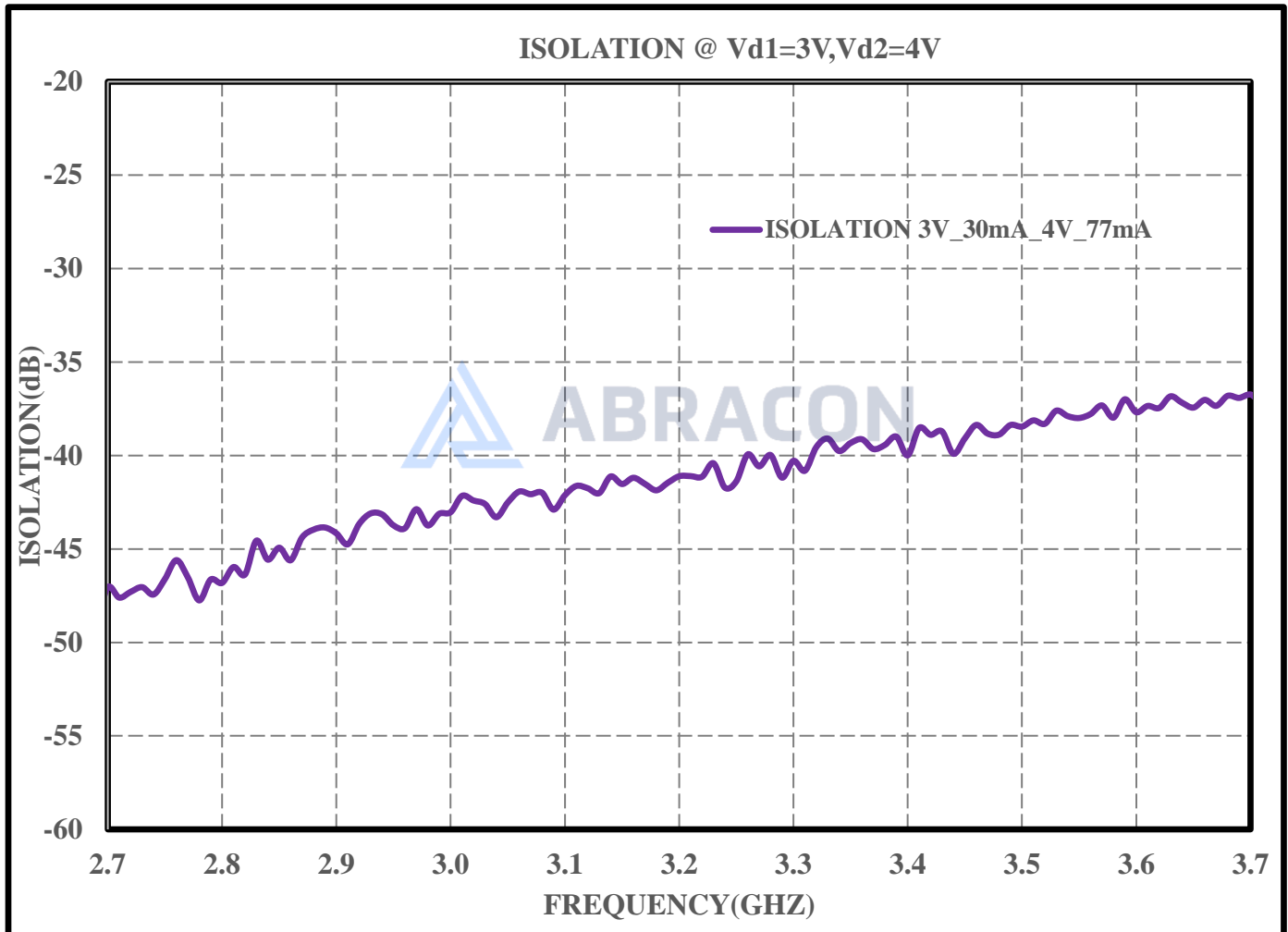
Request Samples



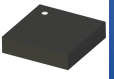
Check Inventory



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RoHS Compliant



# 2.7 – 3.7 GHz Low Noise Amplifier



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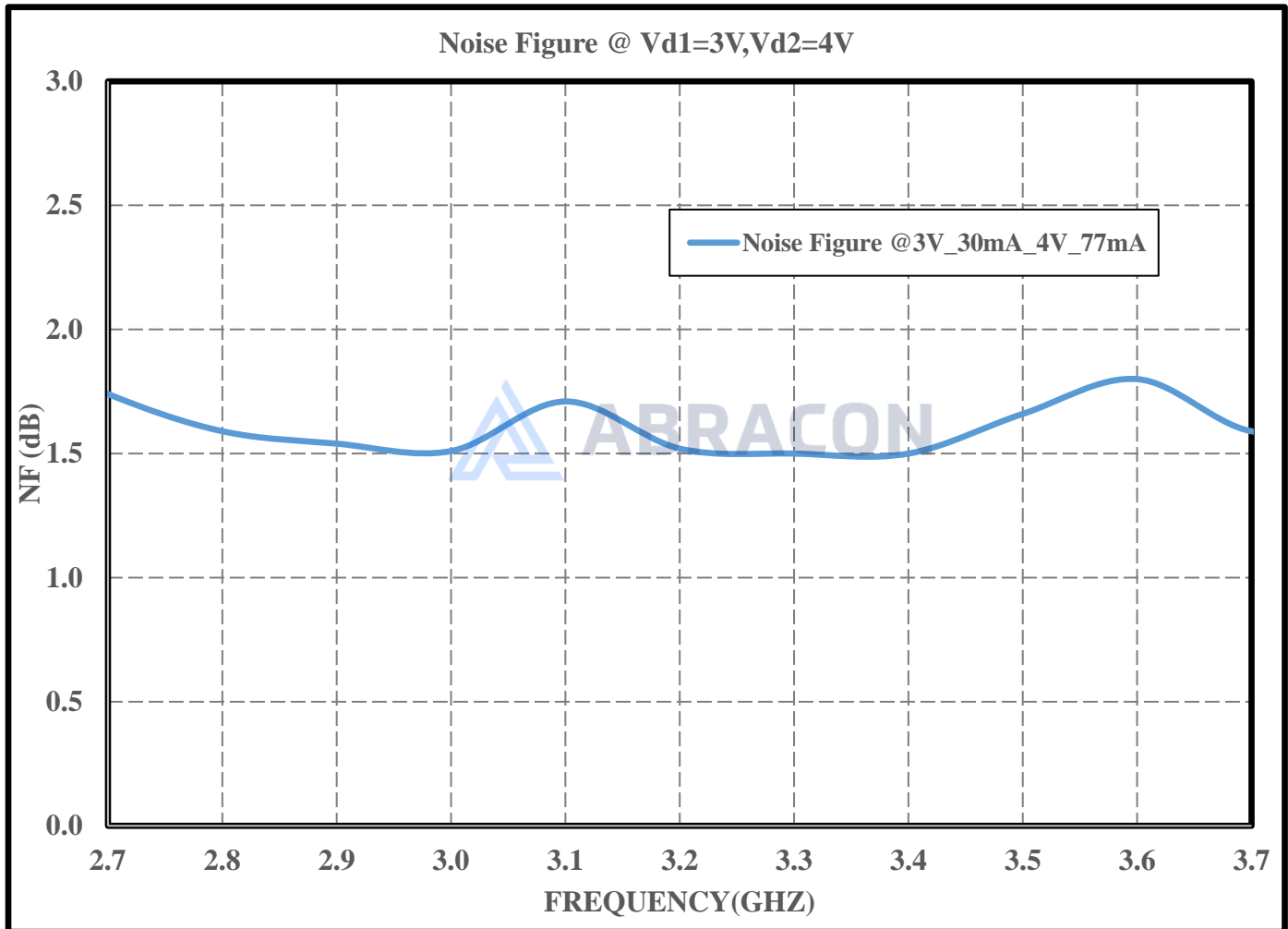
Request Samples



Check Inventory



5.0 x 5.0 x 1.2 mm  
RoHS Compliant



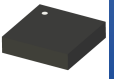
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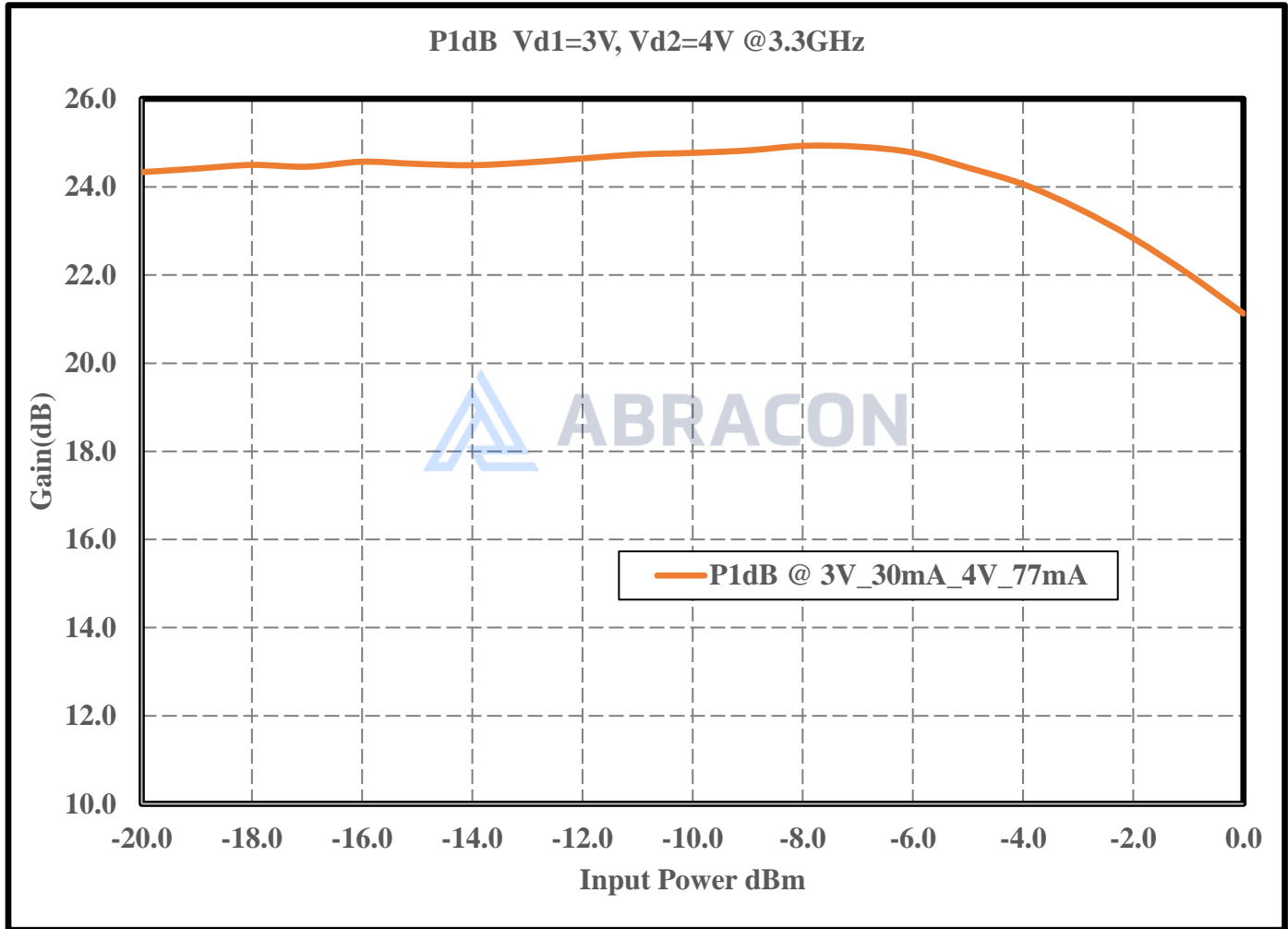
Request Samples



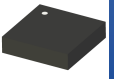
Check Inventory



5.0 x 5.0 x 1.2 mm  
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# 2.7 – 3.7 GHz Low Noise Amplifier



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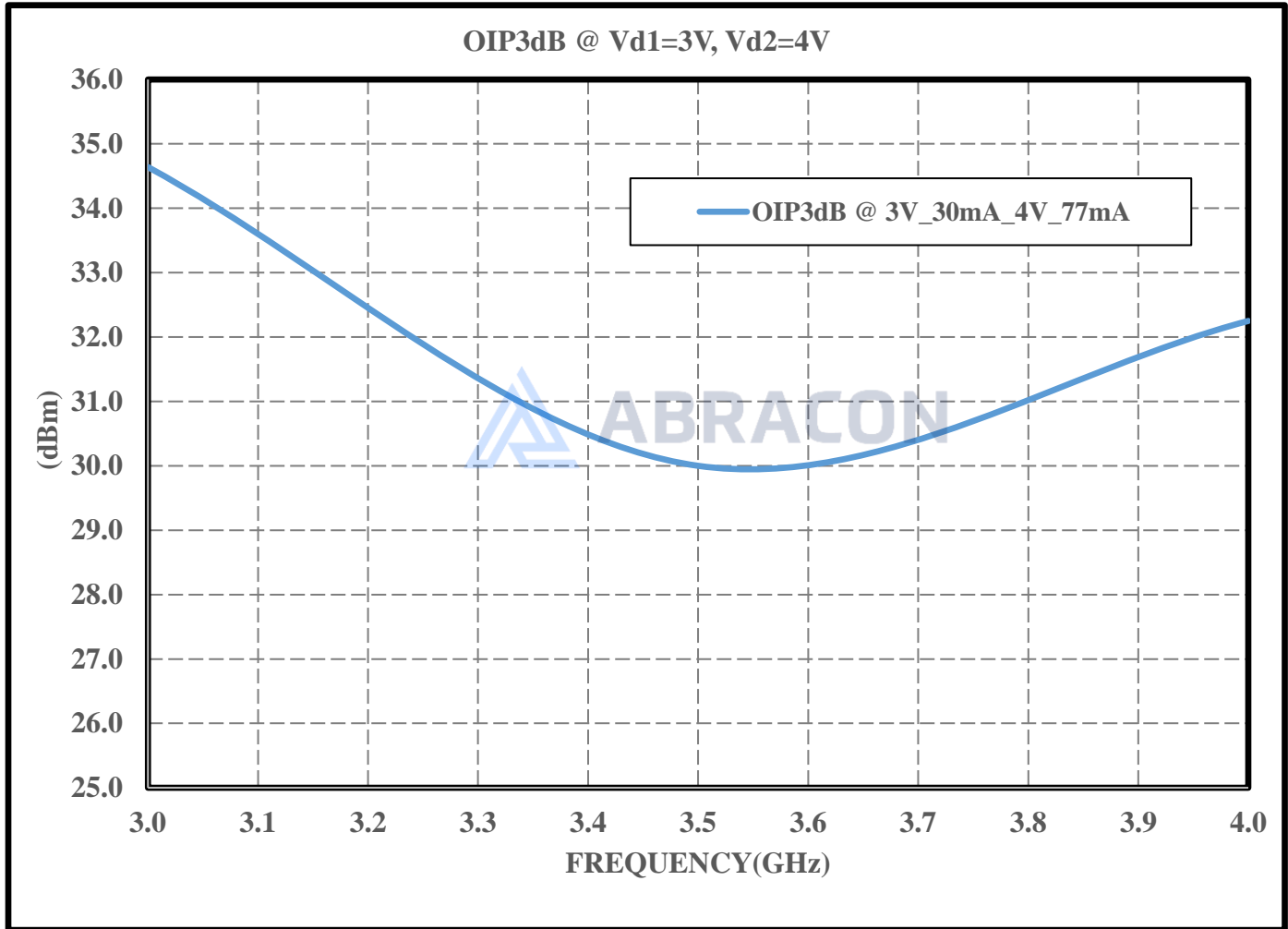
Request Samples



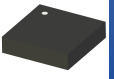
Check Inventory



5.0 x 5.0 x 1.2 mm  
RoHS Compliant



# 2.7 – 3.7 GHz Low Noise Amplifier



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Request Samples

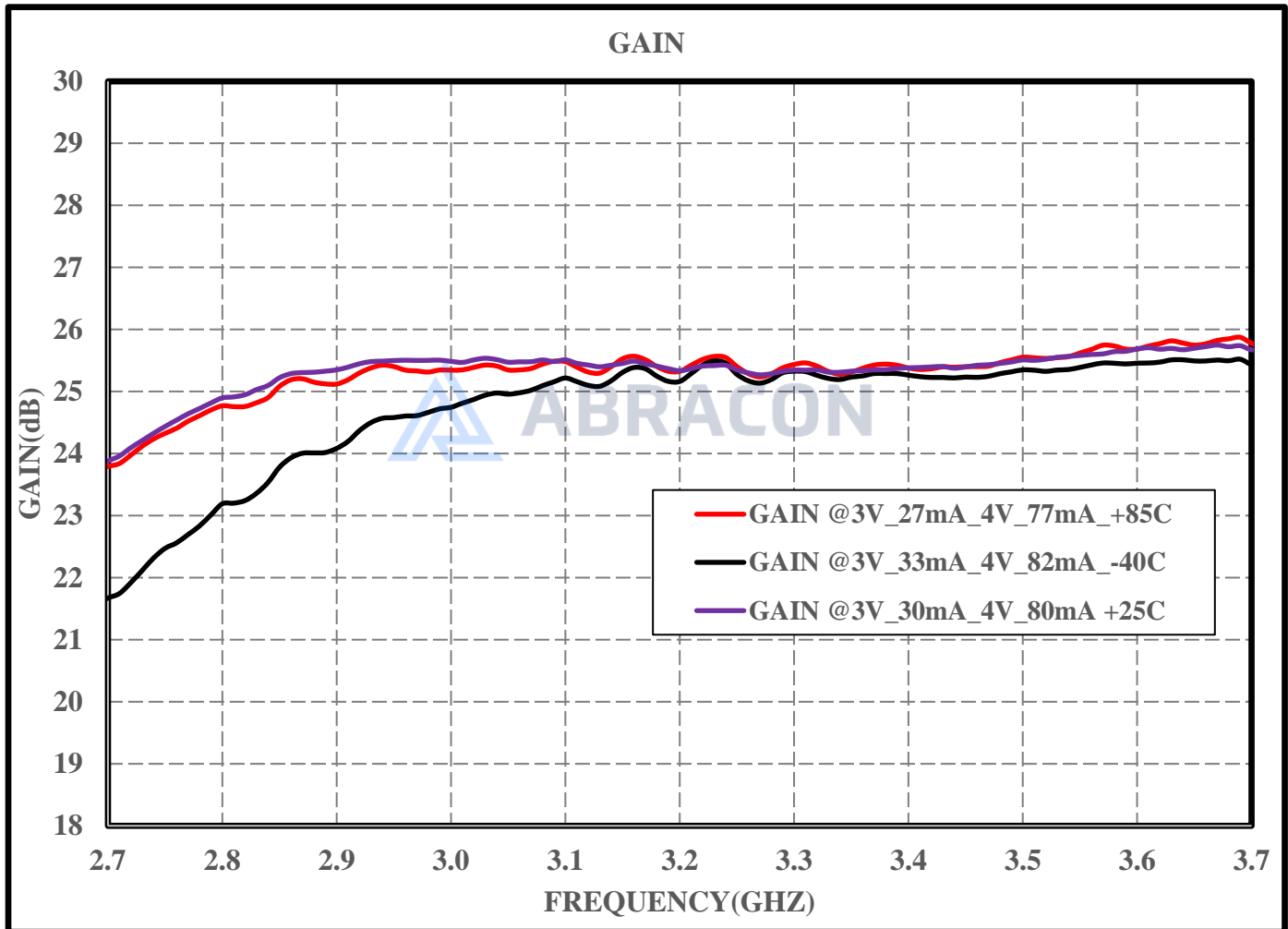


Check Inventory

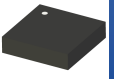


5.0 x 5.0 x 1.2 mm  
RoHS Compliant

## Test Fixture Data Over the temperature



# 2.7 – 3.7 GHz Low Noise Amplifier



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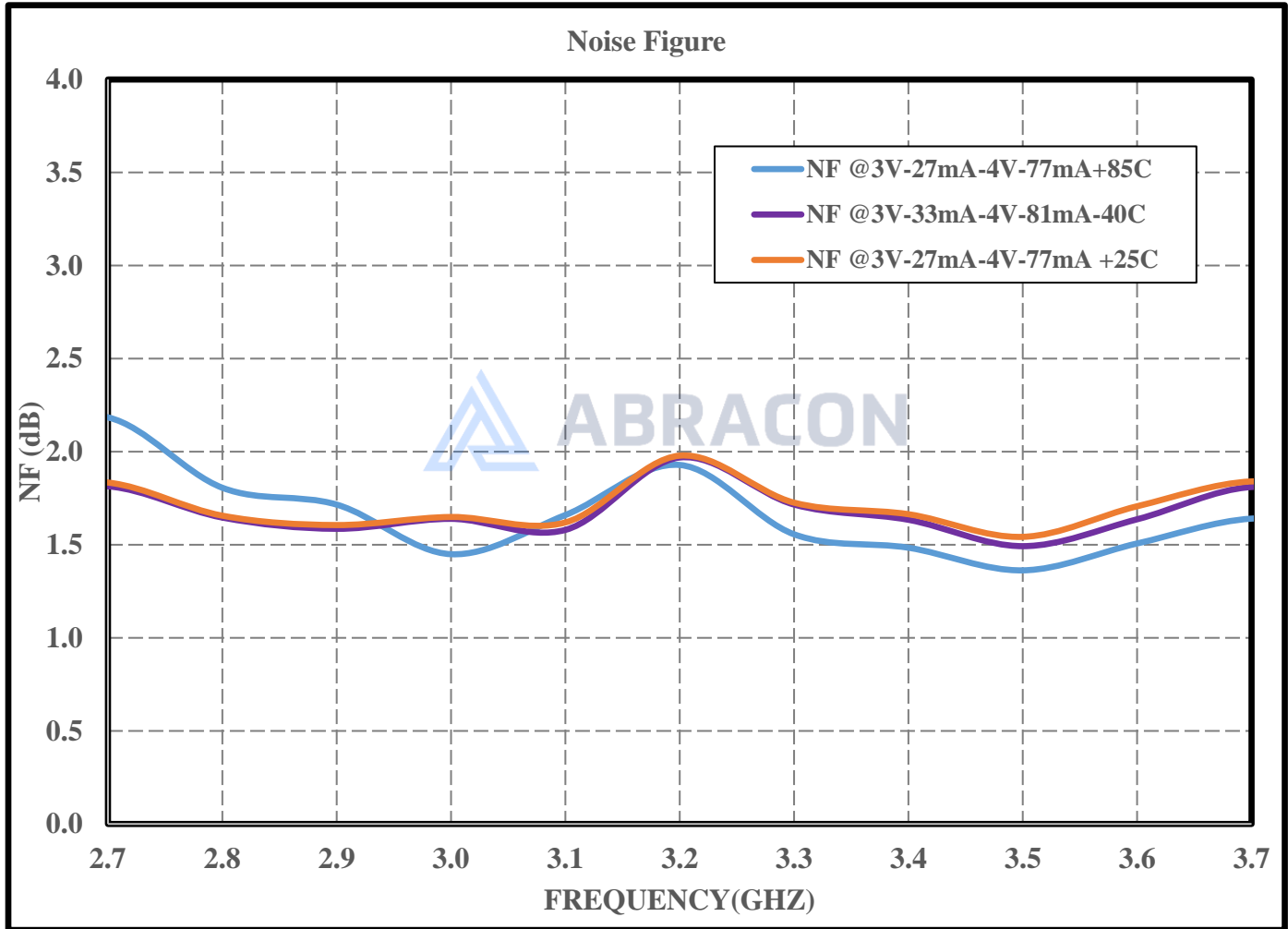
Request Samples



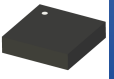
Check Inventory



5.0 x 5.0 x 1.2 mm  
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# 2.7 – 3.7 GHz Low Noise Amplifier



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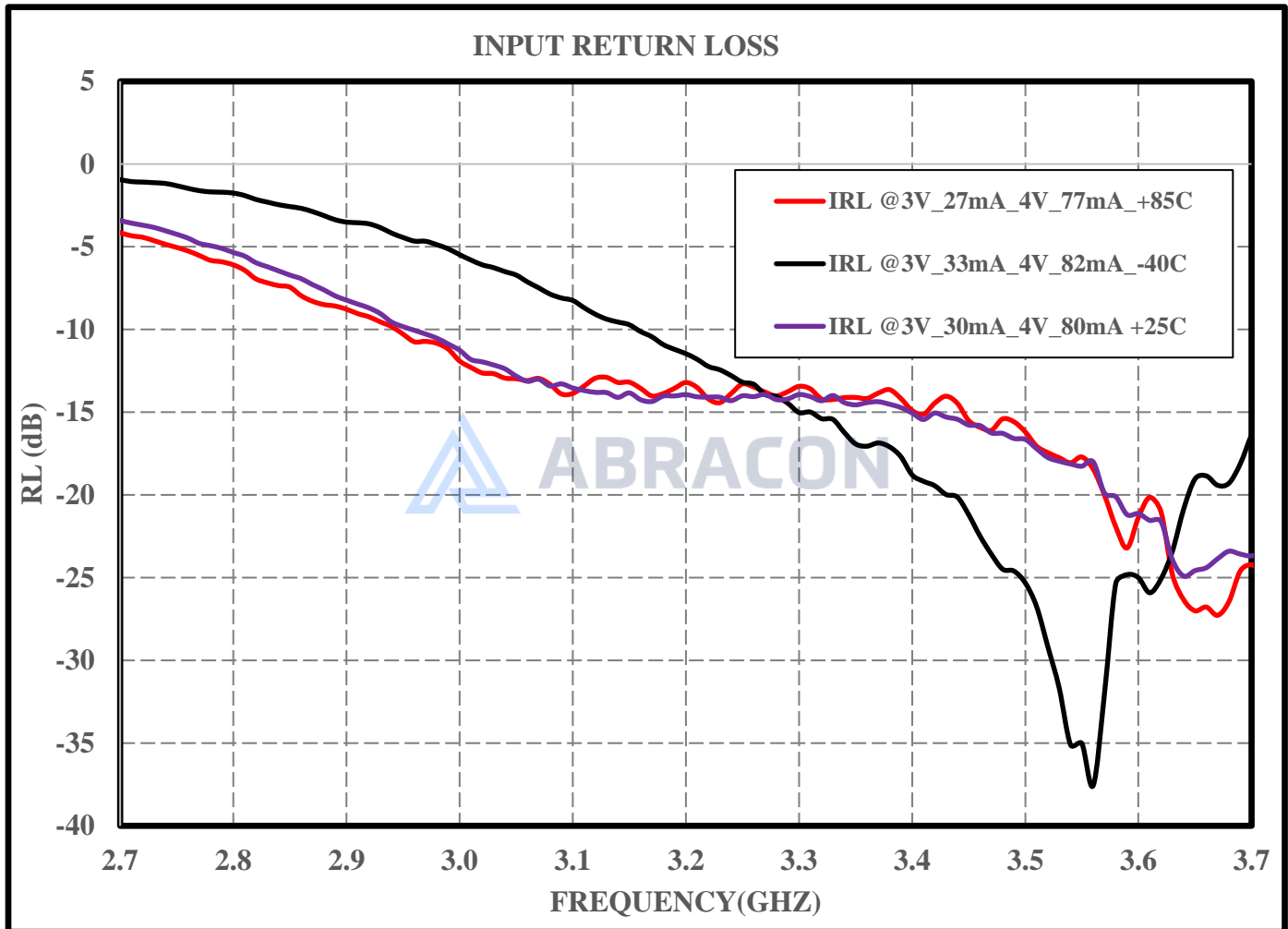
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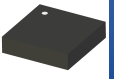
Check Inventory



5.0 x 5.0 x 1.2 mm  
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# 2.7 – 3.7 GHz Low Noise Amplifier



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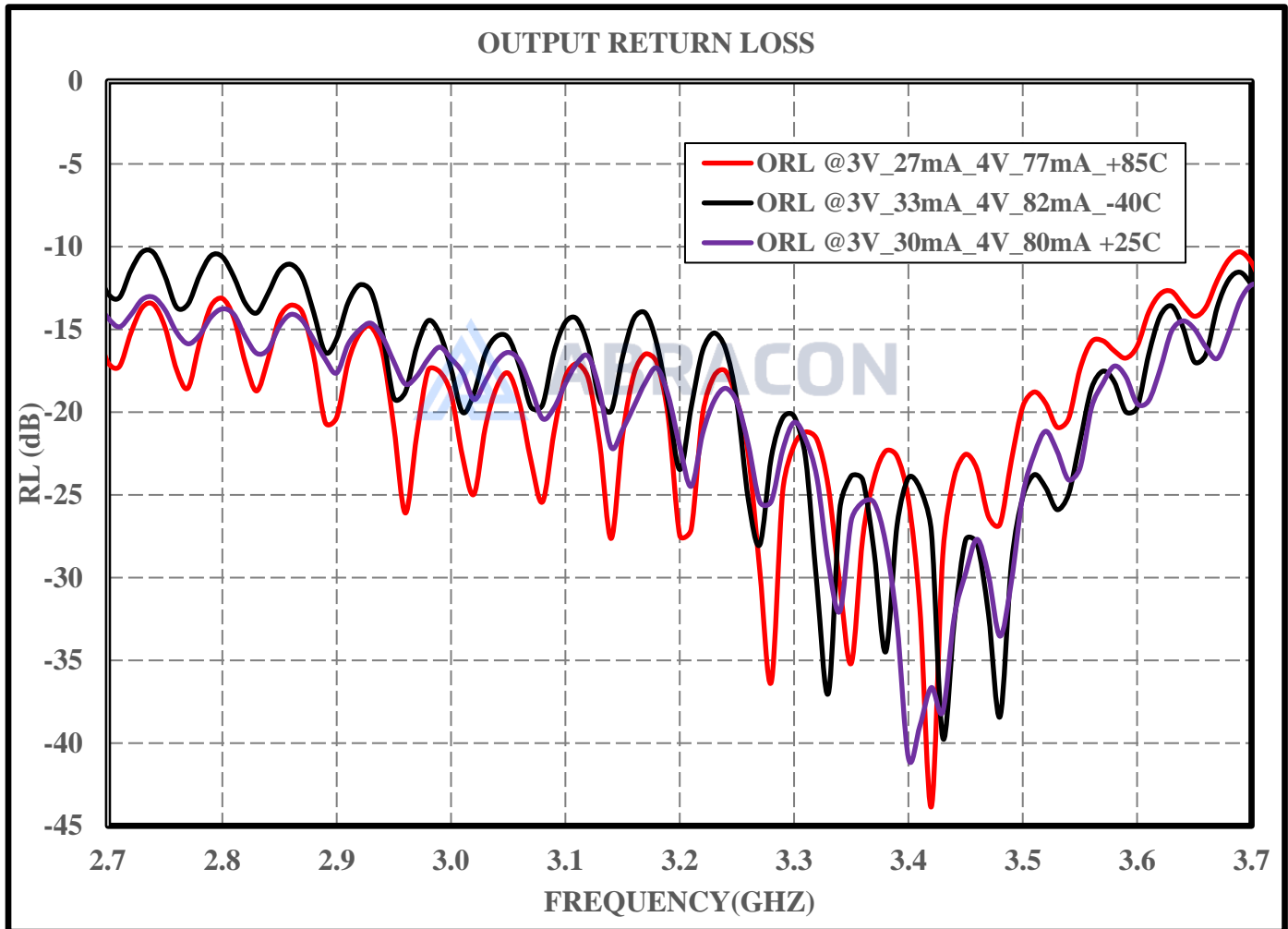
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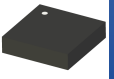
Check Inventory



5.0 x 5.0 x 1.2 mm  
RoHS Compliant



# 2.7 – 3.7 GHz Low Noise Amplifier



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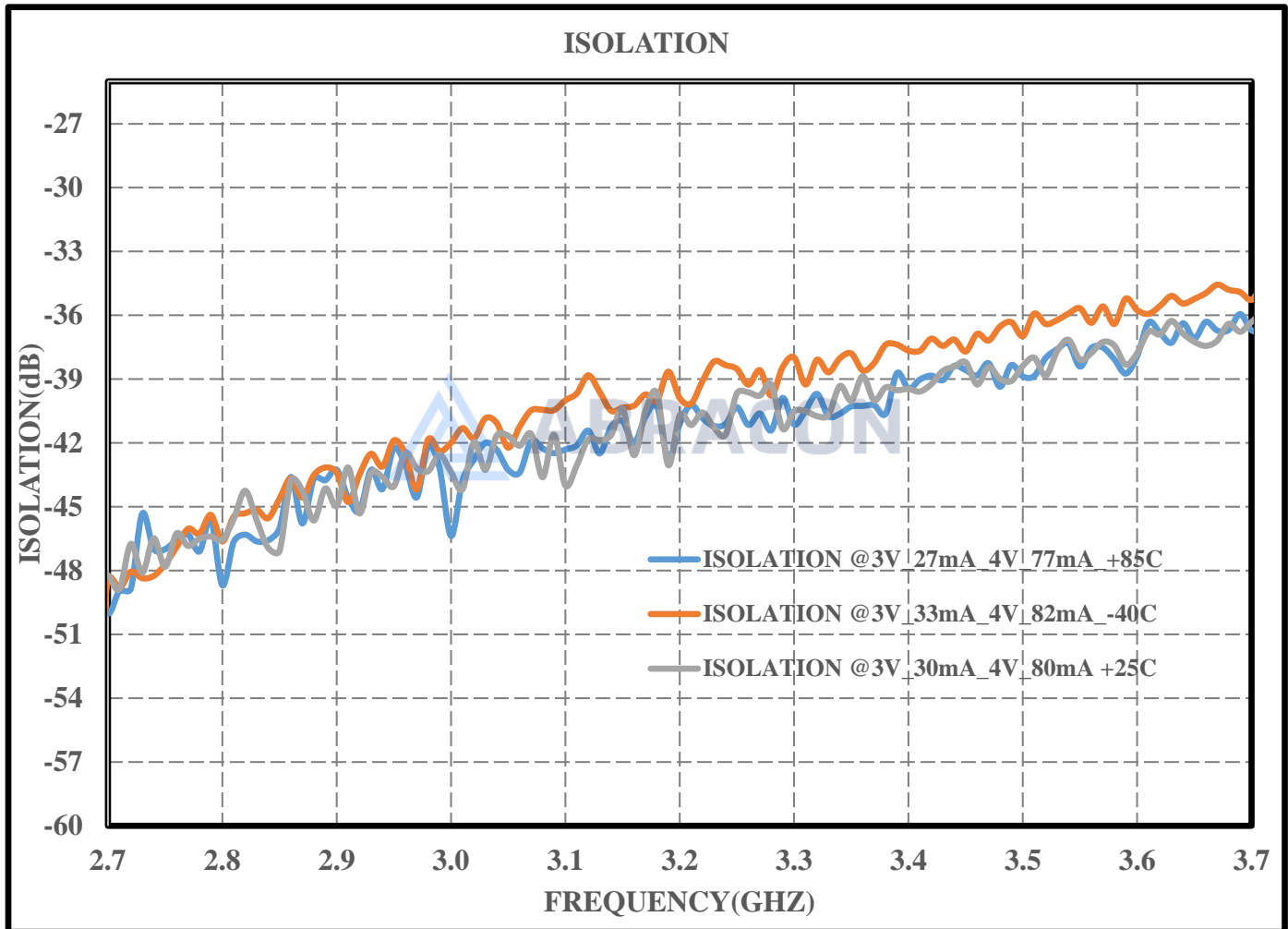
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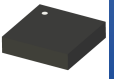
Check Inventory



5.0 x 5.0 x 1.2 mm  
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# 2.7 – 3.7 GHz Low Noise Amplifier



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Request Samples

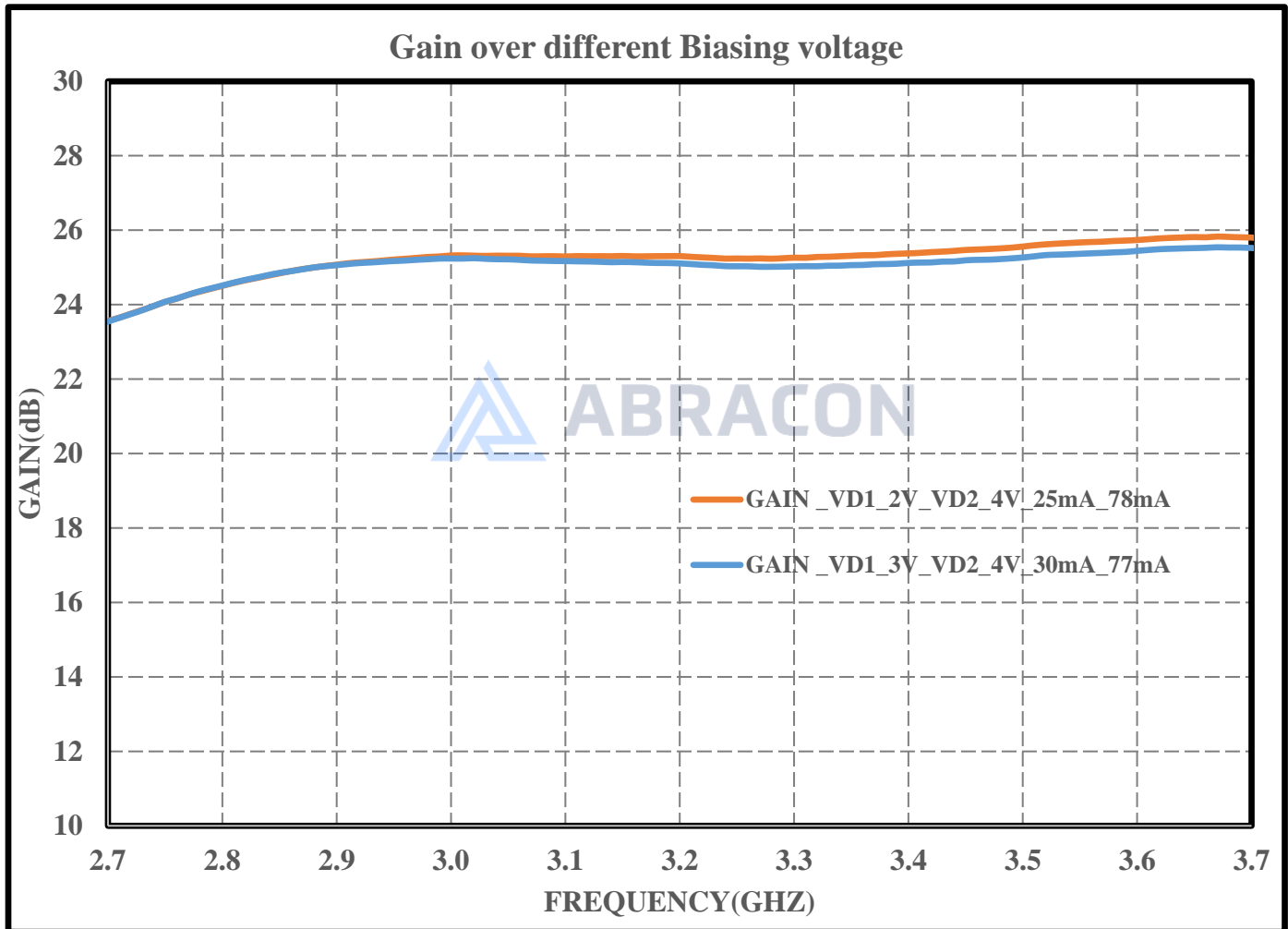


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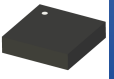


5.0 x 5.0 x 1.2 mm  
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## Test Fixture Data Over Different Biasing voltage



# 2.7 – 3.7 GHz Low Noise Amplifier



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Request Samples

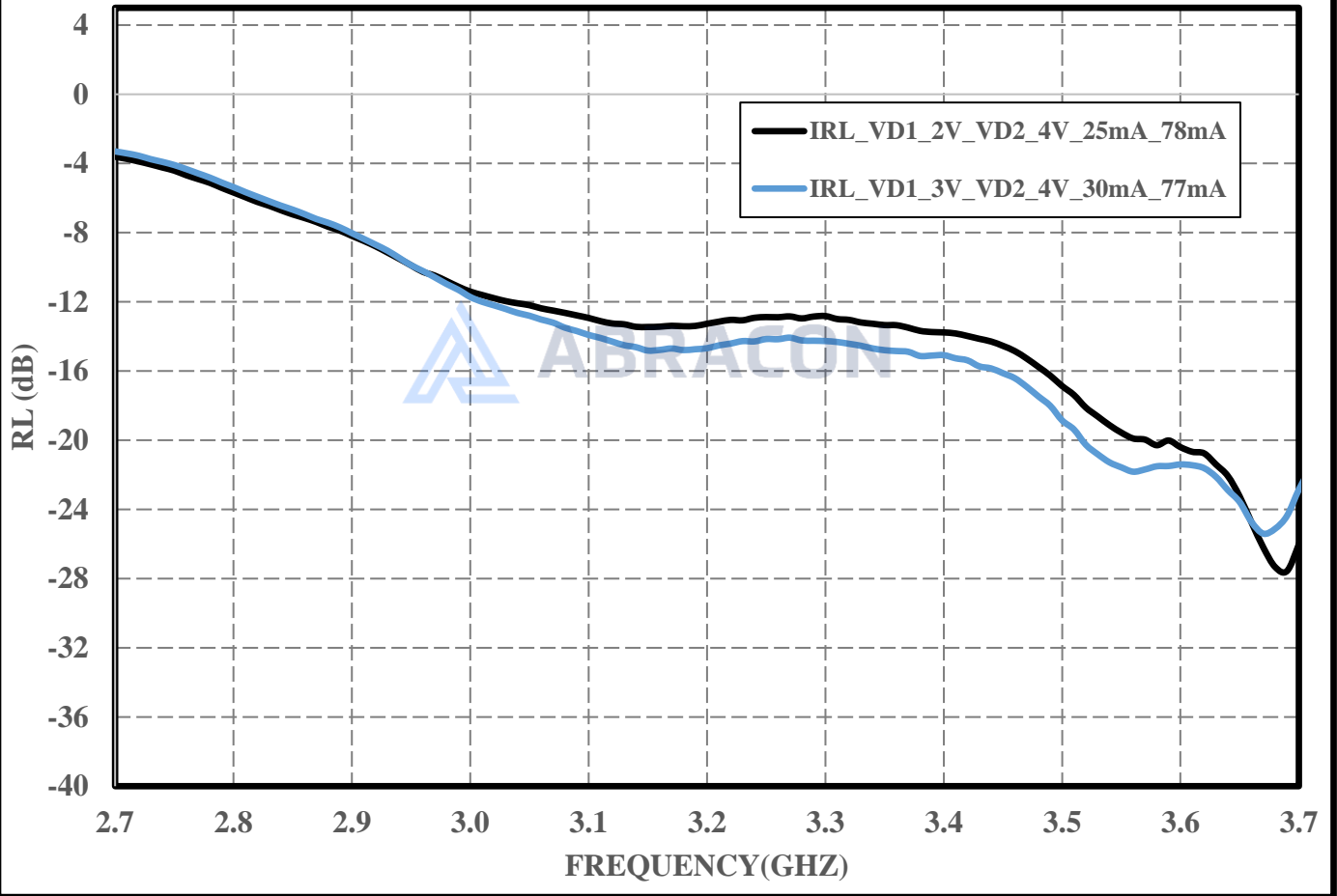


Check Inventory

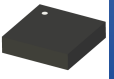


5.0 x 5.0 x 1.2 mm  
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### Input Return loss over different Biasing voltage



# 2.7 – 3.7 GHz Low Noise Amplifier



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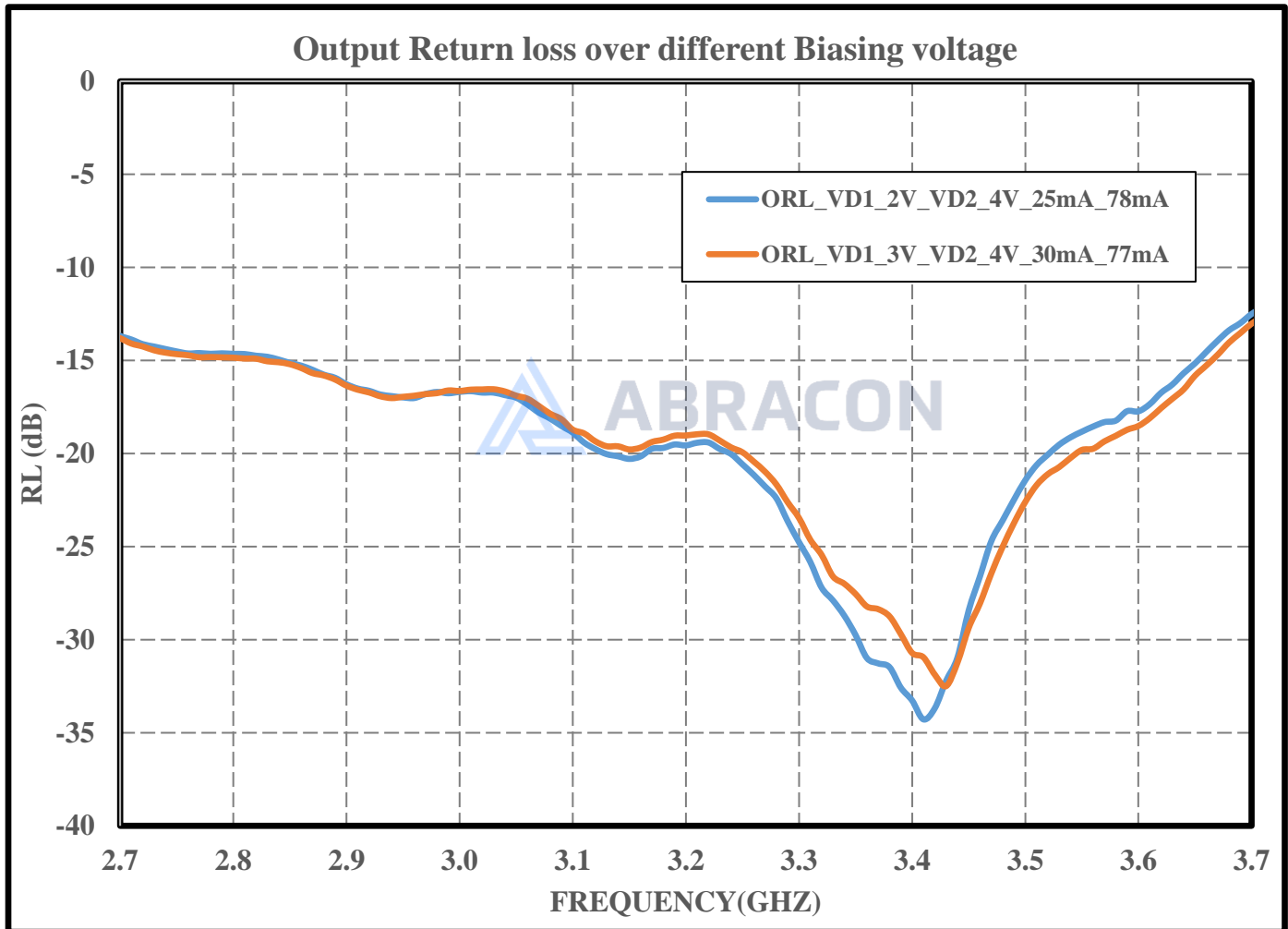
Request Samples



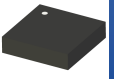
Check Inventory



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# 2.7 – 3.7 GHz Low Noise Amplifier



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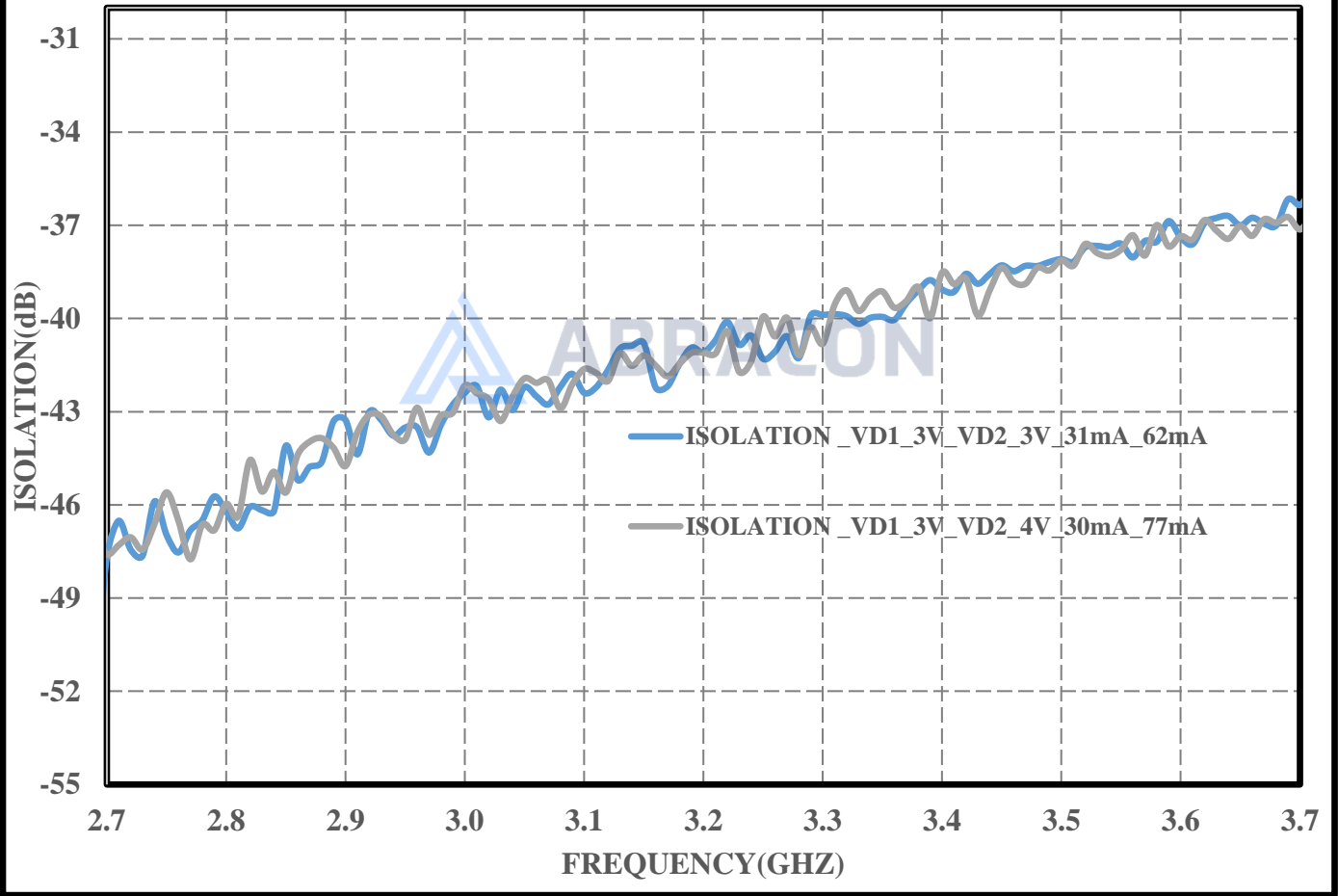


Check Inventory



5.0 x 5.0 x 1.2 mm  
RoHS Compliant

### Isolation over different Biasing voltage



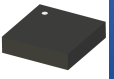
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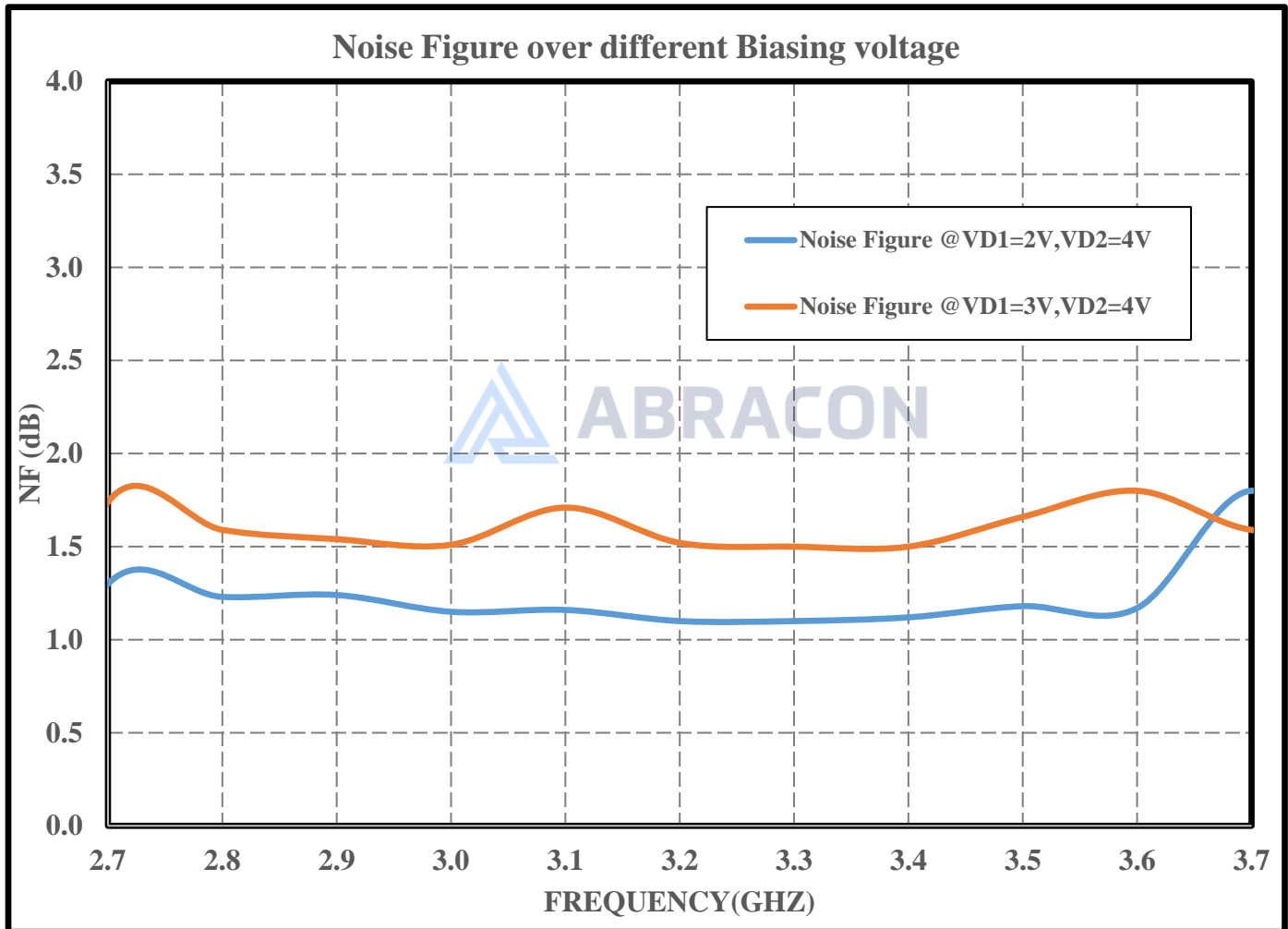
Request Samples



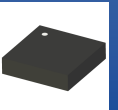
Check Inventory



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# 2.7 – 3.7 GHz Low Noise Amplifier



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Request Samples

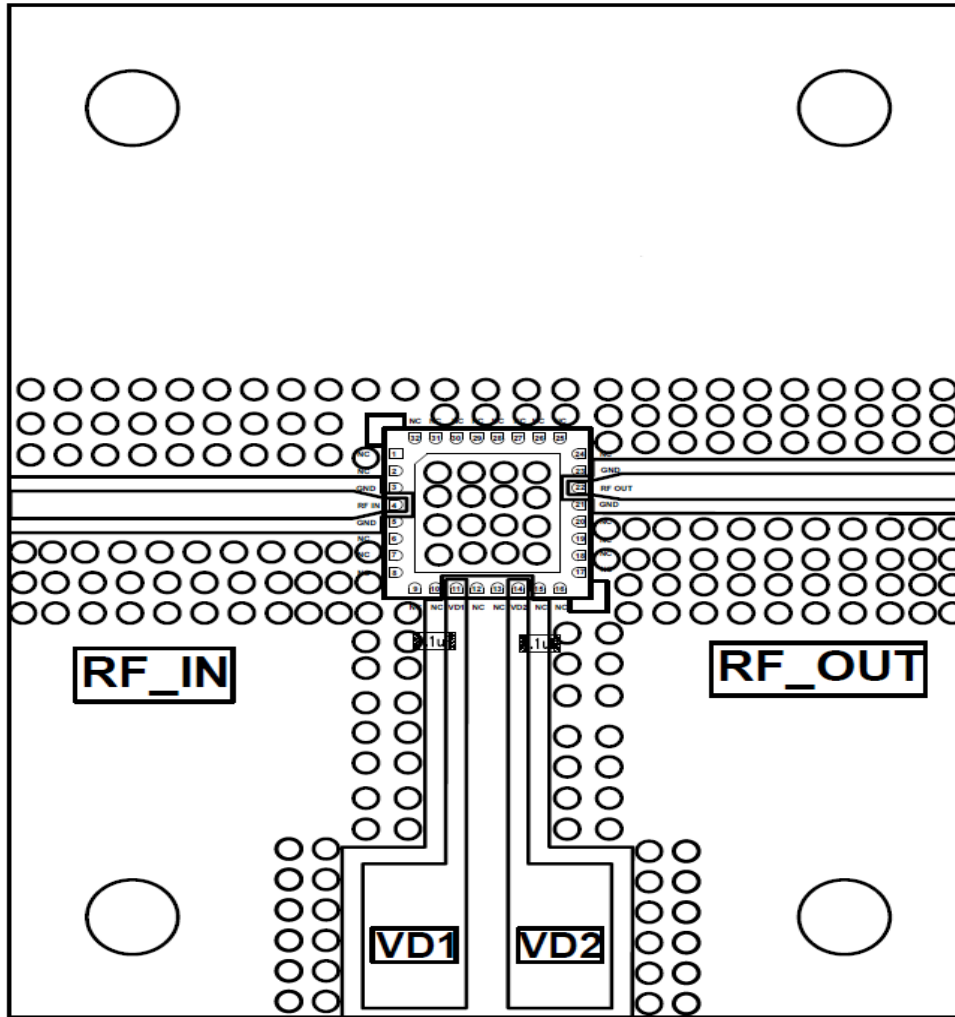


Check Inventory



5.0 x 5.0 x 1.2 mm  
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## Test Board Pattern



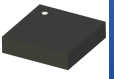
### List of components

Capacitor value	Reference
0.1 $\mu$ F	0603

### Note:

1. Input and output 50-ohm lines are on 10 mil RT duroid substrate
2. 0.1  $\mu$ F capacitors may be additionally used as a second level of bypass for reliable Operation.

## 2.7 – 3.7 GHz Low Noise Amplifier



ALND-WB-0009

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5.0 x 5.0 x 1.2 mm  
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### Packaging

#### Packing Tubes

10pcs per tube, 50 tubes per box

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