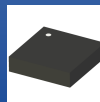


X Band Low Noise Amplifier



ALND-WB-0012

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5.0 x 5.0 x 1.2 mm
RoHS Compliant

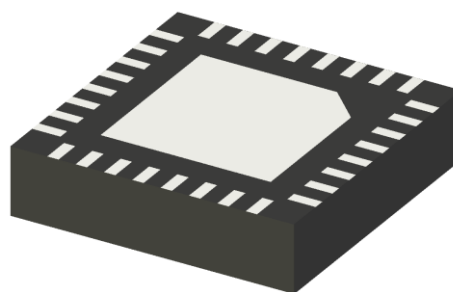
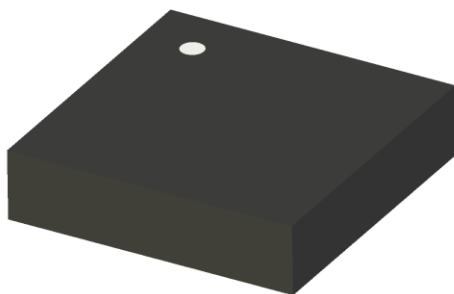
Features

- Frequency Range: 8.5 – 10.5 GHz
- Small Signal Gain: 26.5 dB
- Noise Figure: 1.6dB (Typ)
- Input Return Loss: 10 dB (Typ)
- Output Return Loss: 8 dB (Typ)
- Output P1dB ~ 9 dBm (Typ)
- Self-bias 2V operation
- No external matching required
- DC Decoupled Input and Output
- 0.15-um InGaAs pHEMTs Technology
- 5mm SQ. QFN Package

Applications

- Electronic Warfare (EW)
- X Band Radar
- Phased Arrays
- Space
- Satellite Communications (Satcom)
- Test Equipment and Sensors

Product Image



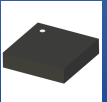
5.0 x 5.0 x 1.2 mm
RoHS Compliant

Parameter	Absolute Maximum	Units
Drain Bias Voltage (Vd)	5.0	Volts
Drain Current (Id)	120	mA
RF Input Power	23	dBm
Operating Temperature	-55 to +85	°C
Storage Temperature	-65 to +150	°C

- 

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X Band Low Noise Amplifier



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5.0 x 5.0 x 1.2 mm
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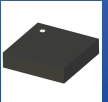
Electrical Specifications

@Ta = 25°C, Zo = 50Ω; Vd = +2V, Total Current = 80mA

NOTES:

1. Electrical specifications as measured in test fixture.
2. OIP3 is measured at -25dBm power per tone
3. Case temperature of 70 °C, Pdiss = 0.3W

X Band Low Noise Amplifier



ALND-WB-0012

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5.0 x 5.0 x 1.2 mm
RoHS Compliant

Ordering Information

Part Number	Description
ALND-WB-0012	X Band Low Noise Amplifier Packing: Bulk



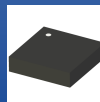
5101 Hidden Creek Ln Spicewood TX 78669

Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

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X Band Low Noise Amplifier



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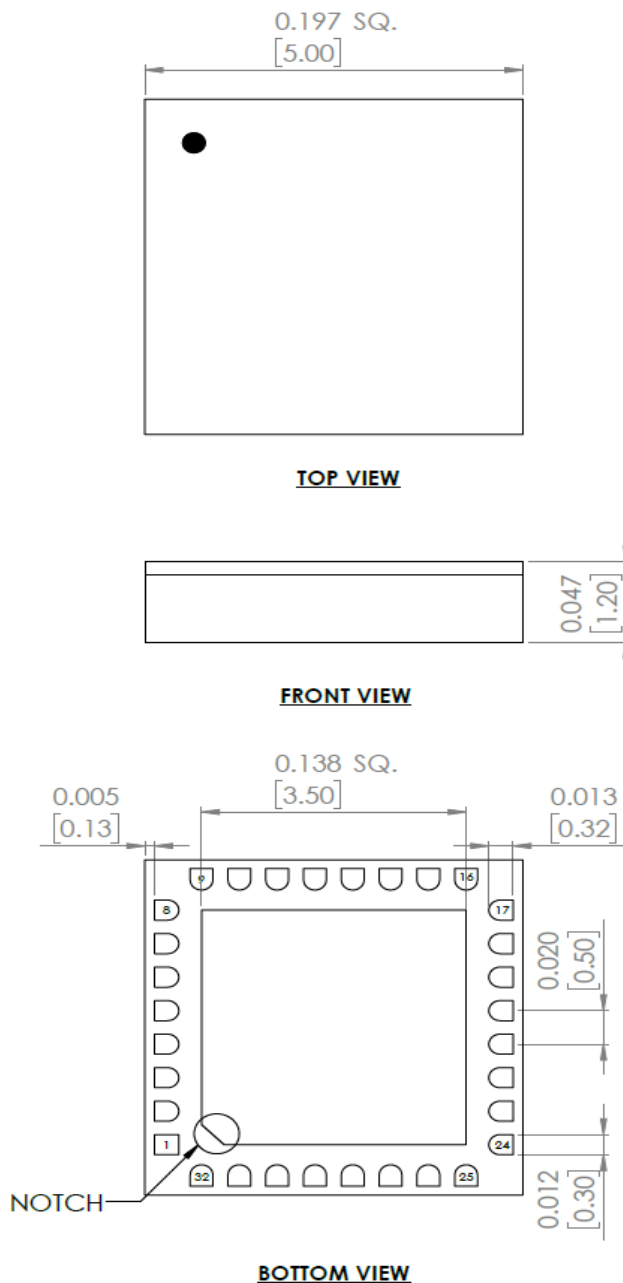


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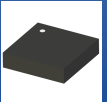
5.0 x 5.0 x 1.2 mm
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Product Dimensions



Unit: inches[mm]

X Band Low Noise Amplifier



ALND-WB-0012

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5.0 x 5.0 x 1.2 mm
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Notes:

1. Body: Ceramic Grade.
2. Lead Finish: Full Gold Plate [Gold (1-2um) on Nickel (2.5-7.6um) Plating].
3. All Dimension mentioned are in mm (millimeters).

Biasing and Operation:

ALND-WB-0012 is self-biased, requires a single positive drain supply for its operation.

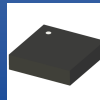
Turn ON Procedure:

1. Apply Drain Voltage of +2V and observe total drain current as 80 mA (Typ).
2. Turn ON RF Power.

Turn OFF Procedure:

1. Turn OFF RF Power
2. Turn OFF Drain Voltage.

X Band Low Noise Amplifier



ALND-WB-0012

Request Samples

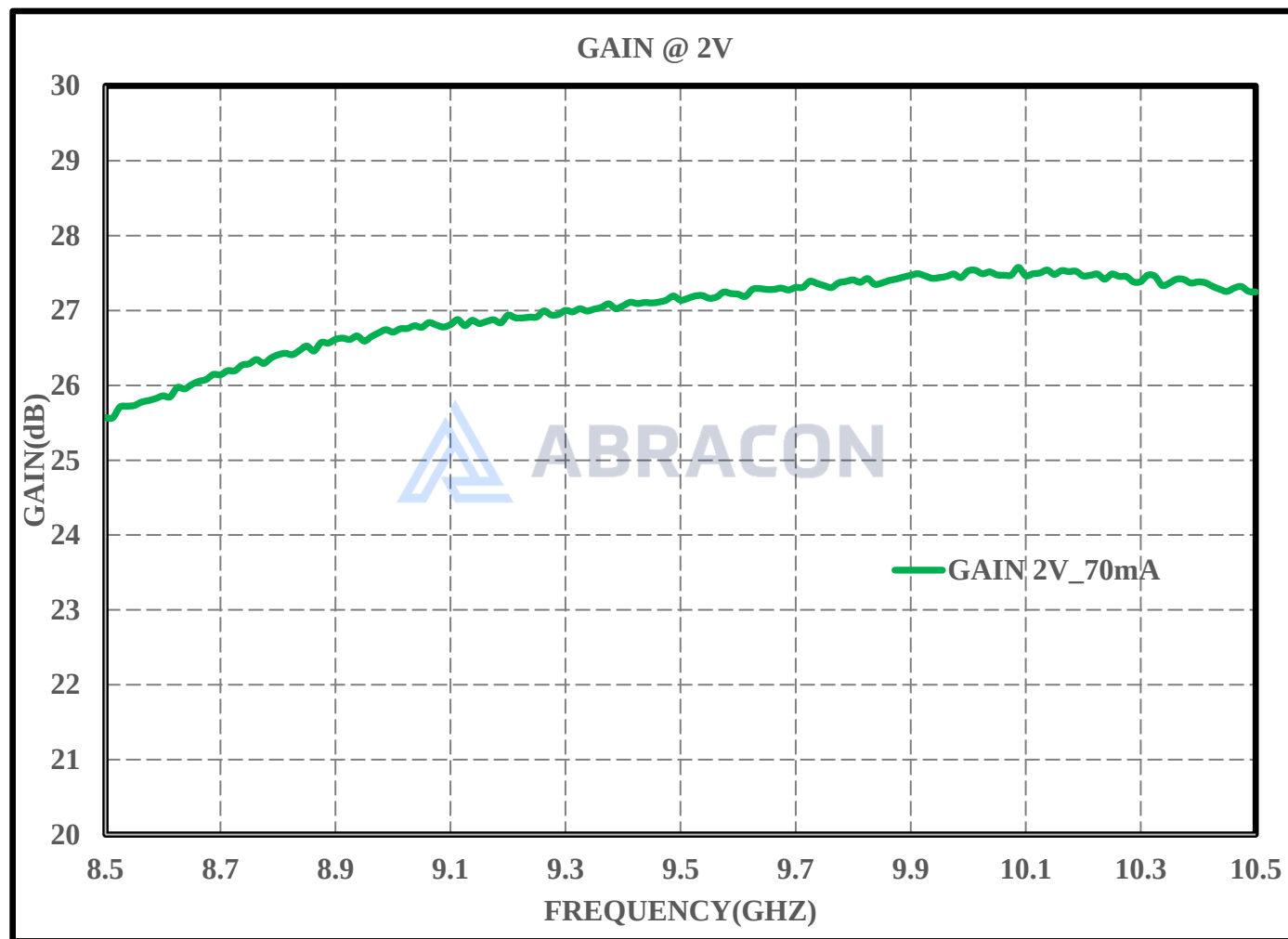


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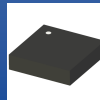
5.0 x 5.0 x 1.2 mm
RoHS Compliant

Test Fixture Data



Vd1 = Vd2 = Vd3 = Vd = +2V Total Current (Idq) = 70mA, Ta=25°C, Zo = 50Ω

X Band Low Noise Amplifier



ALND-WB-0012

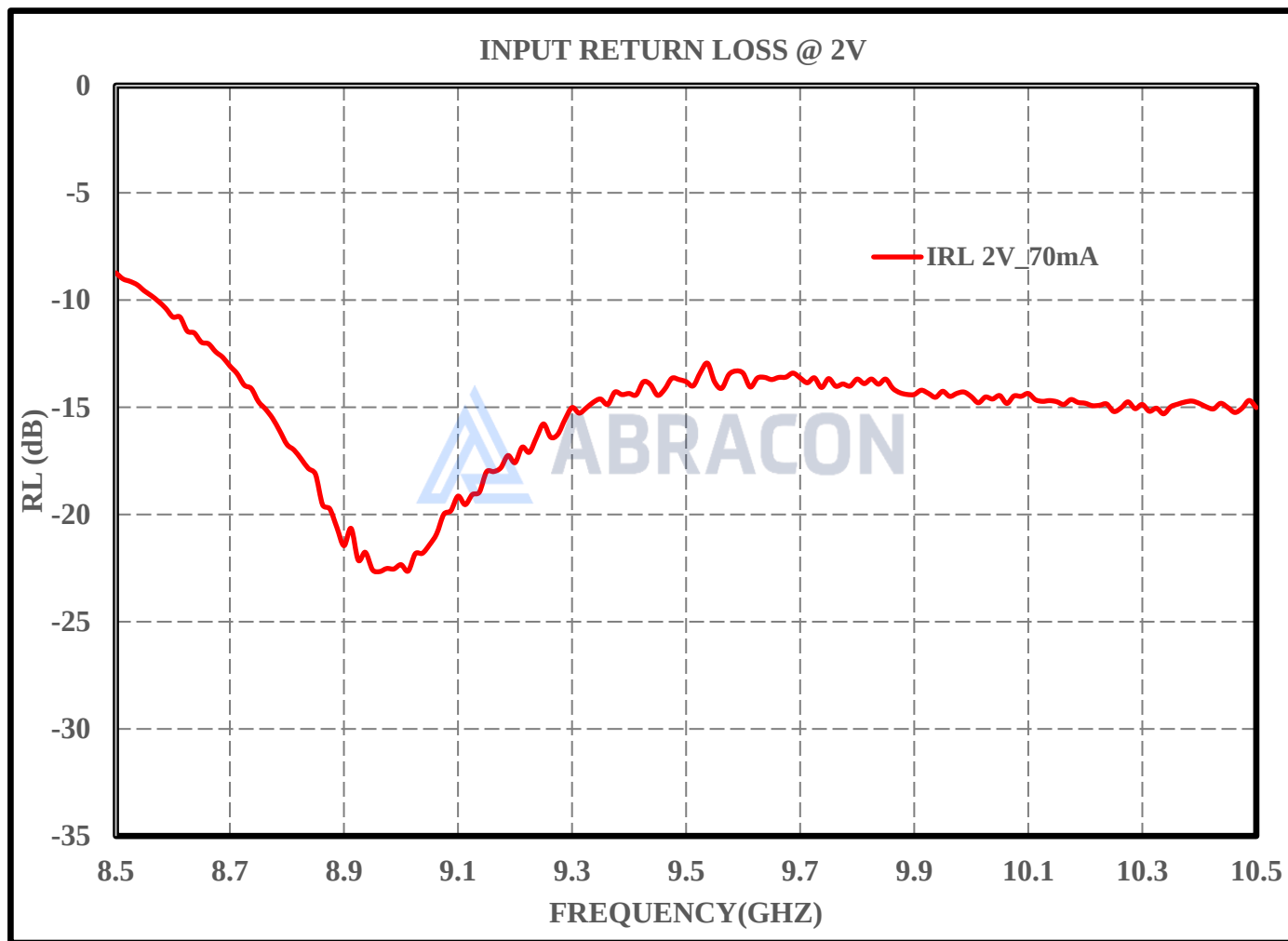
Request Samples



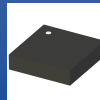
Check Inventory



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RoHS Compliant



X Band Low Noise Amplifier



ALND-WB-0012

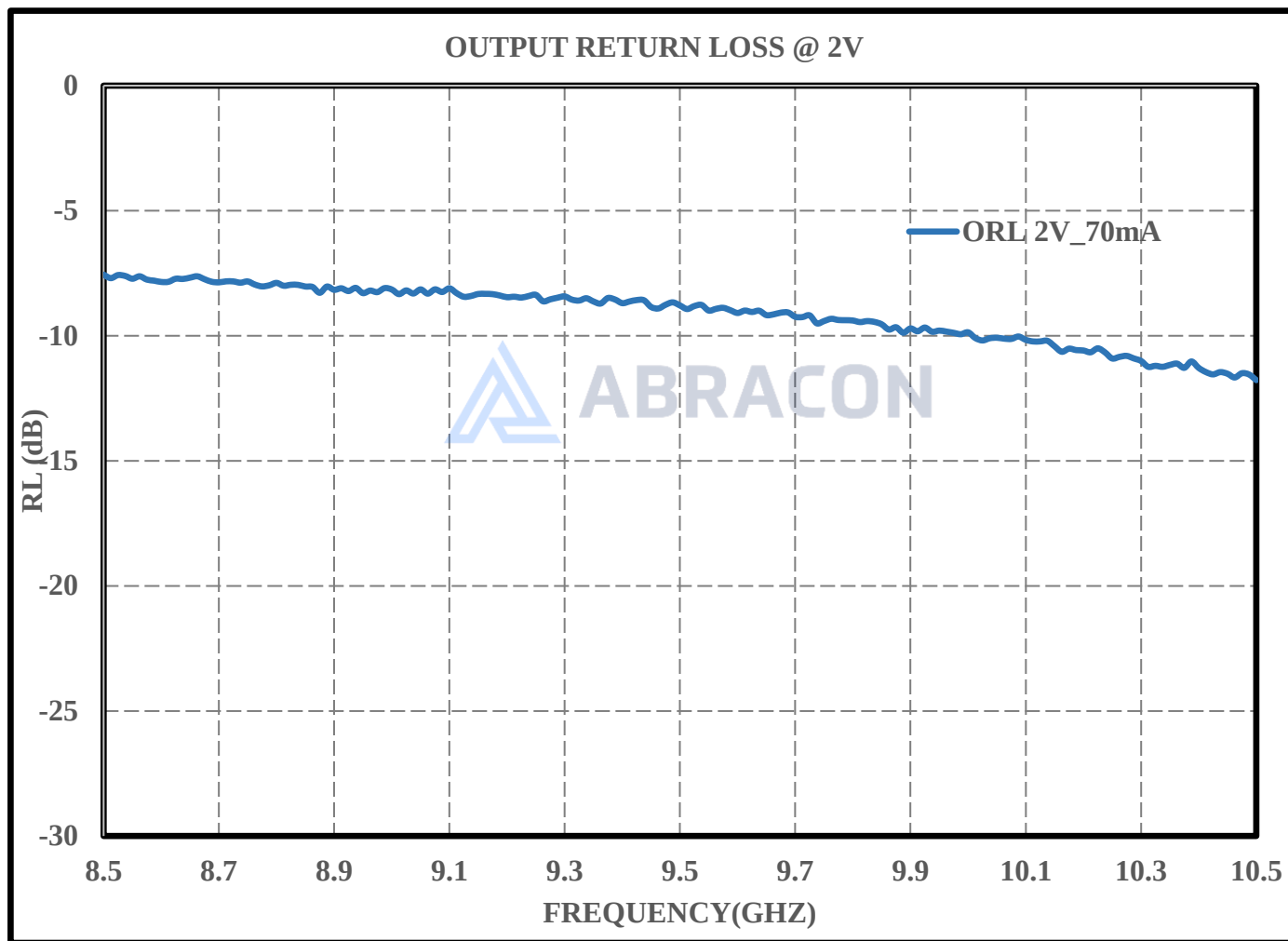
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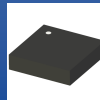
Check Inventory



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RoHS Compliant



X Band Low Noise Amplifier



ALND-WB-0012

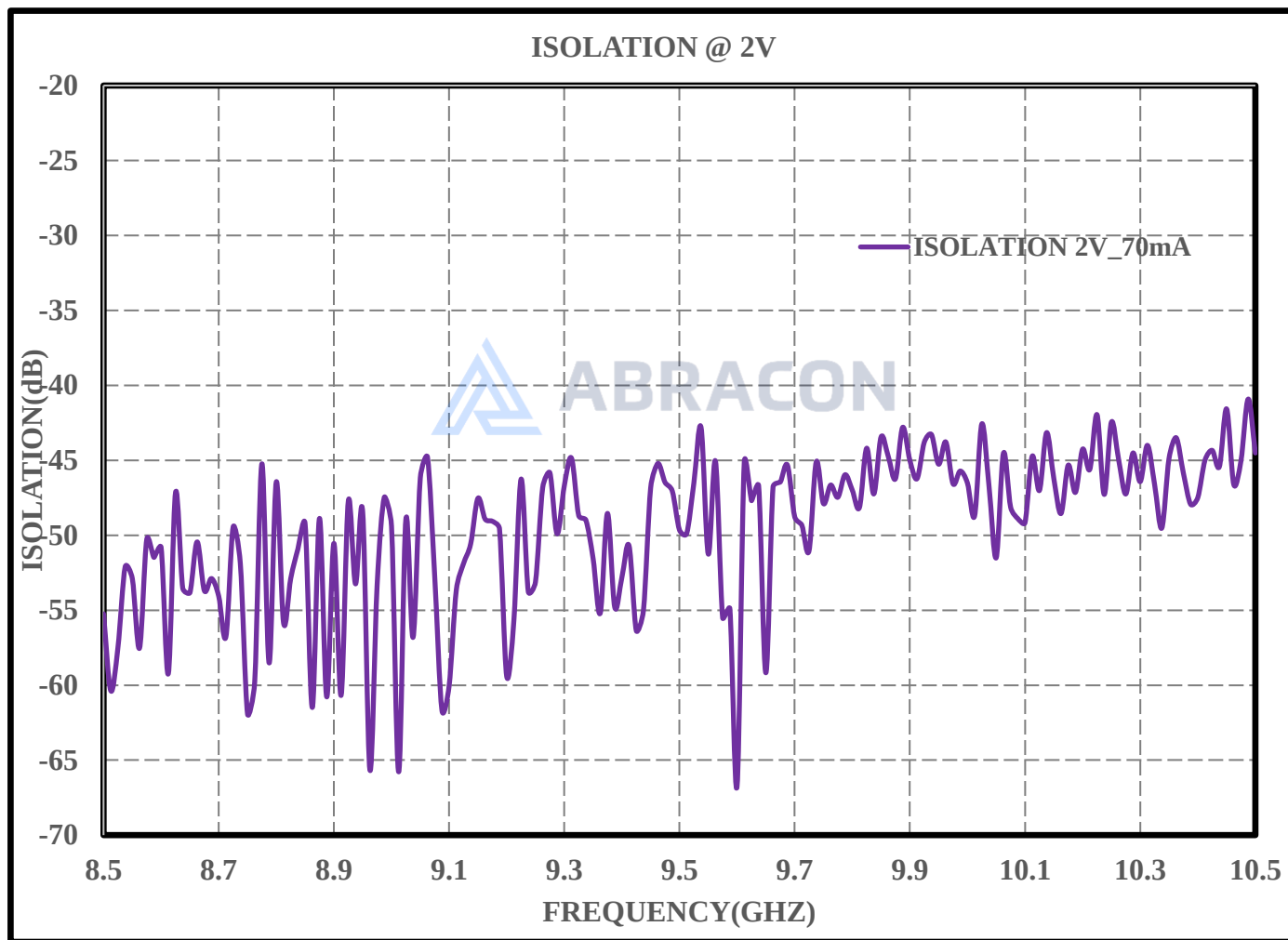
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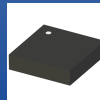
Check Inventory



5.0 x 5.0 x 1.2 mm
RoHS Compliant



X Band Low Noise Amplifier



ALND-WB-0012

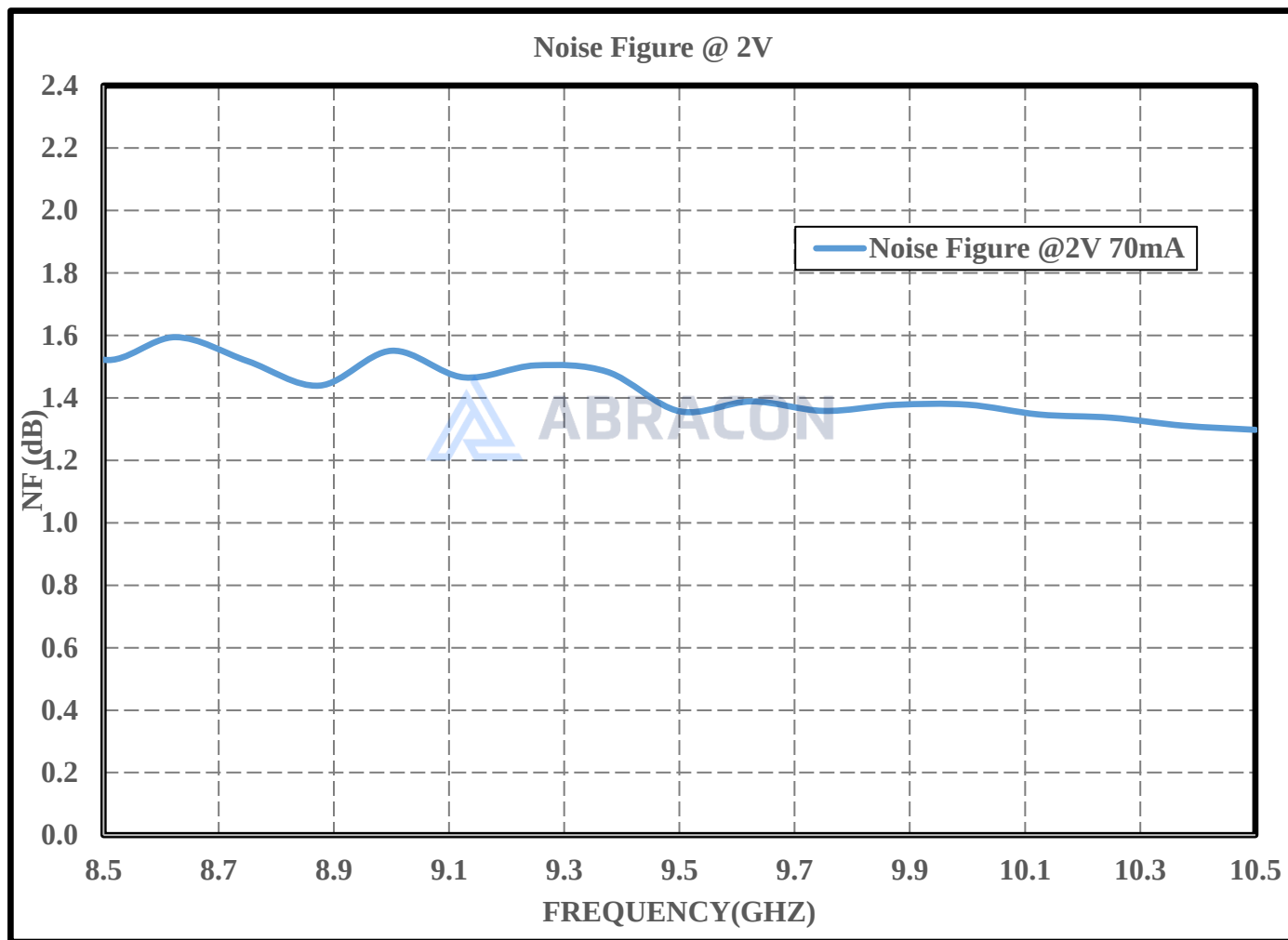
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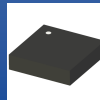
Check Inventory



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X Band Low Noise Amplifier



ALND-WB-0012

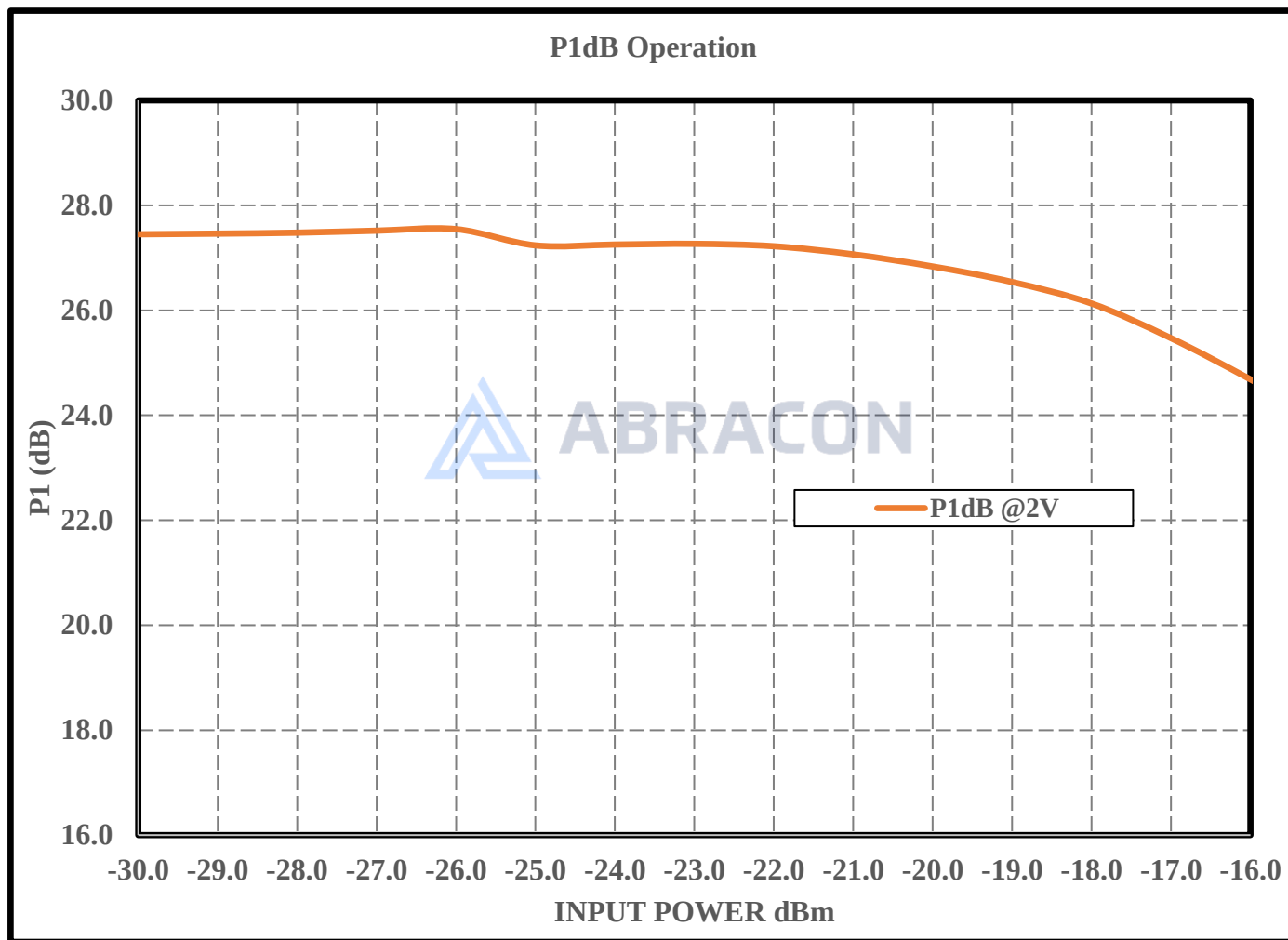
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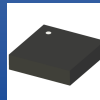
Check Inventory



5.0 x 5.0 x 1.2 mm
RoHS Compliant



X Band Low Noise Amplifier



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Request Samples

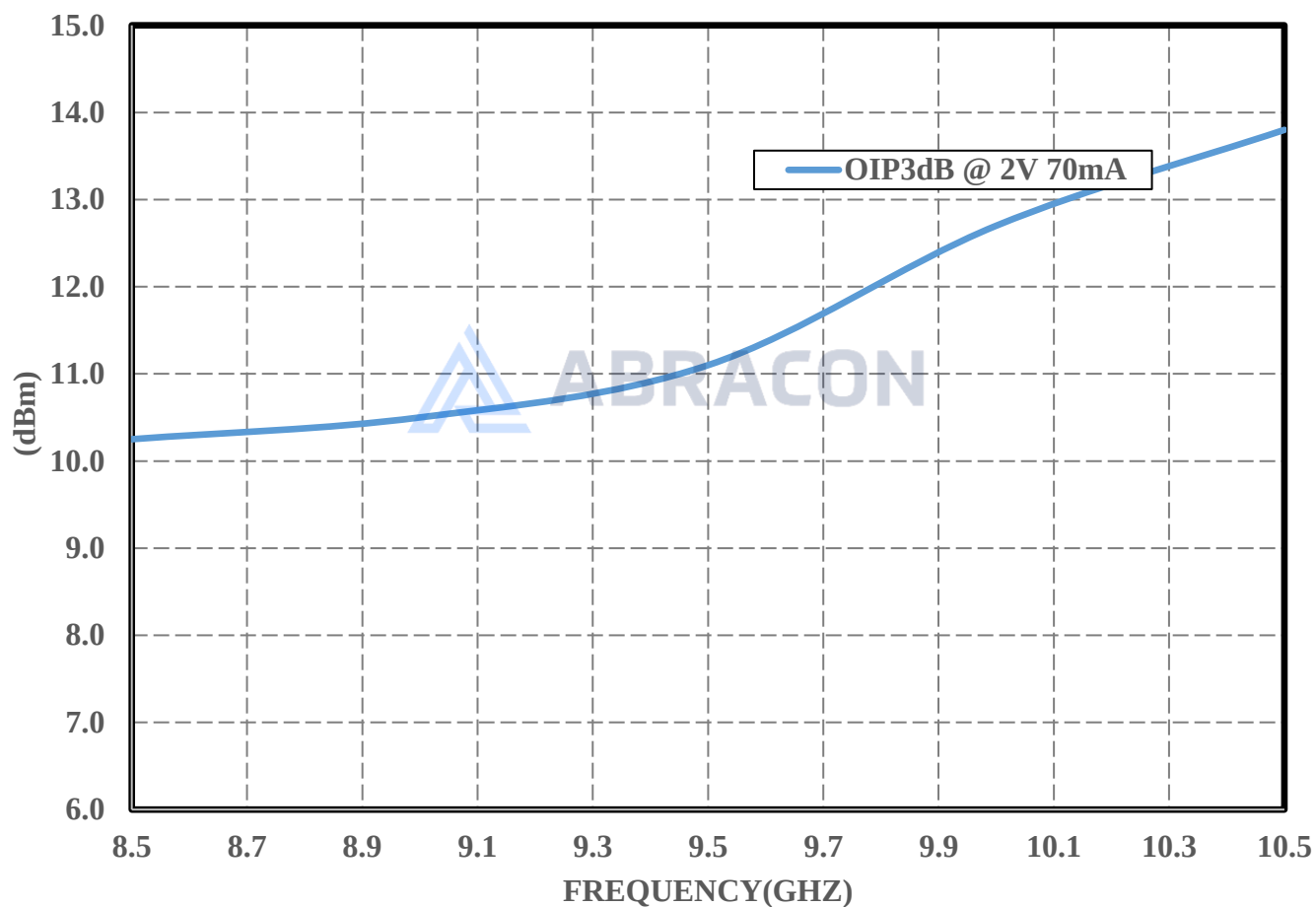


Check Inventory

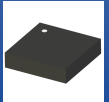


5.0 x 5.0 x 1.2 mm
RoHS Compliant

OIP3dB @ 2V Operation



X Band Low Noise Amplifier



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Request Samples

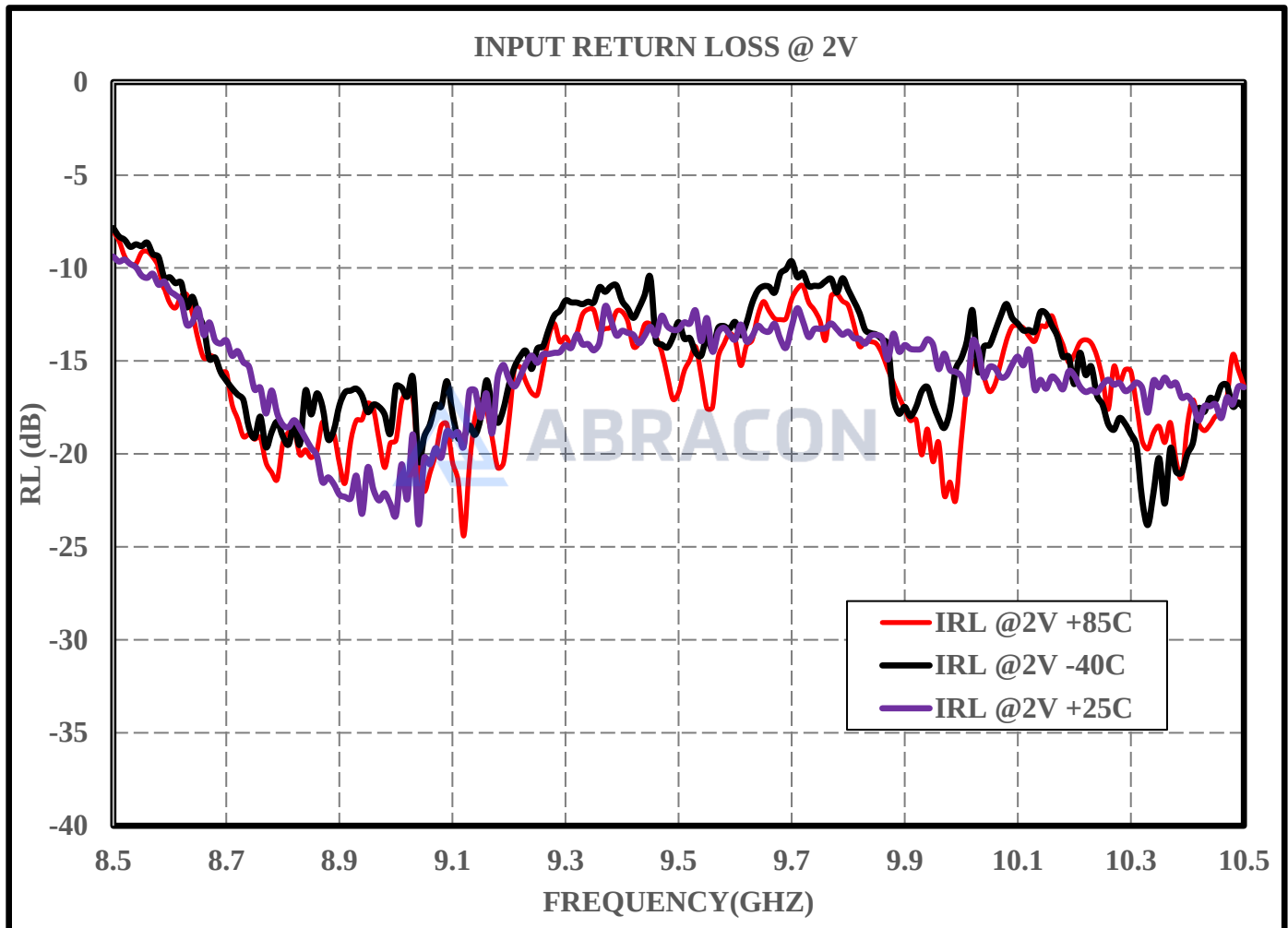


Check Inventory



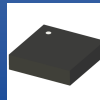
5.0 x 5.0 x 1.2 mm
RoHS Compliant

Test Fixture Data Over the temperature



Vd1 = Vd2 = Vd3 = Vd = +2V, Total Current (Idq) = 70mA, Zo = 50Ω

X Band Low Noise Amplifier



ALND-WB-0012

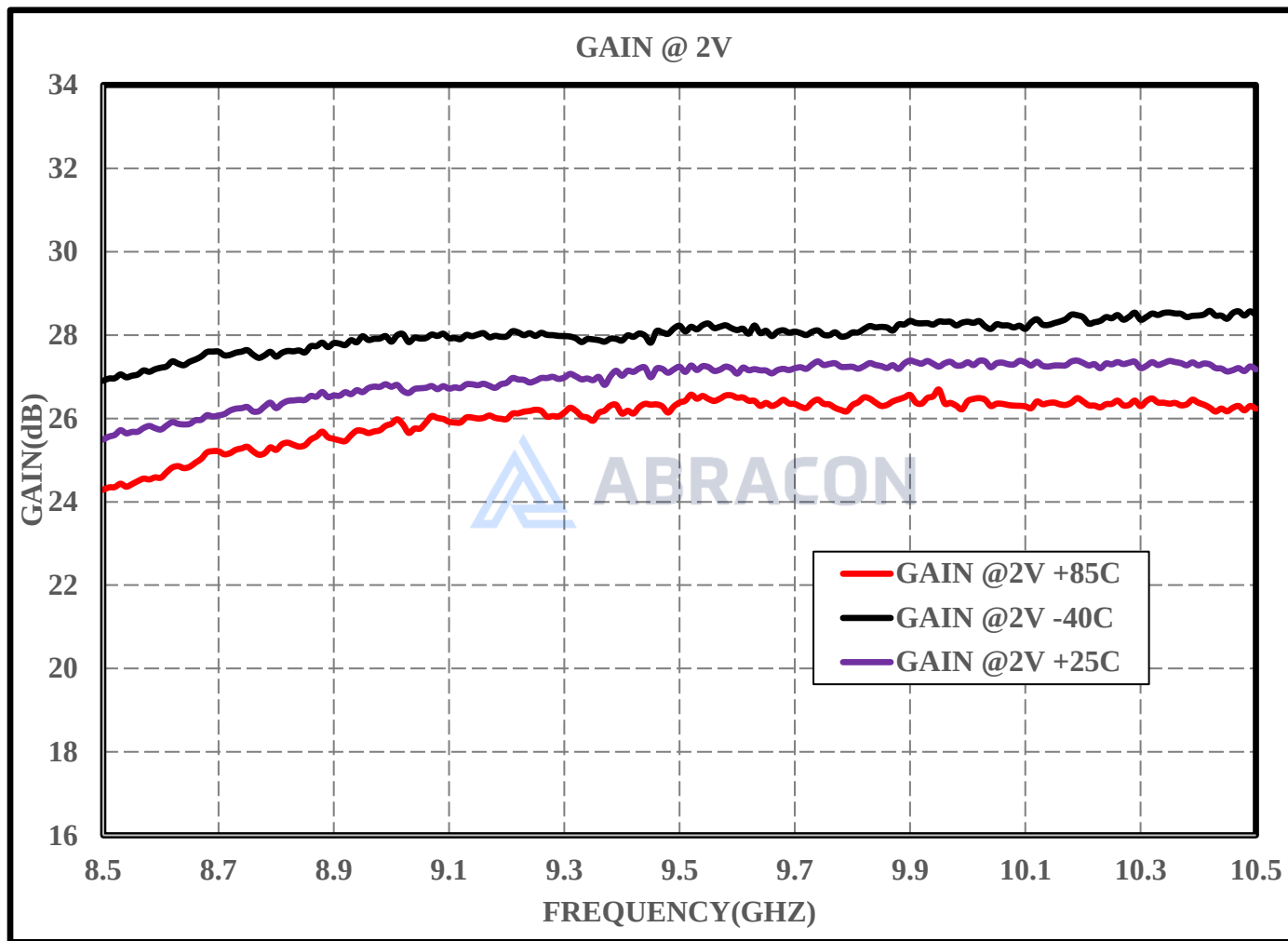
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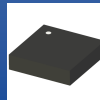
Check Inventory



5.0 x 5.0 x 1.2 mm
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X Band Low Noise Amplifier



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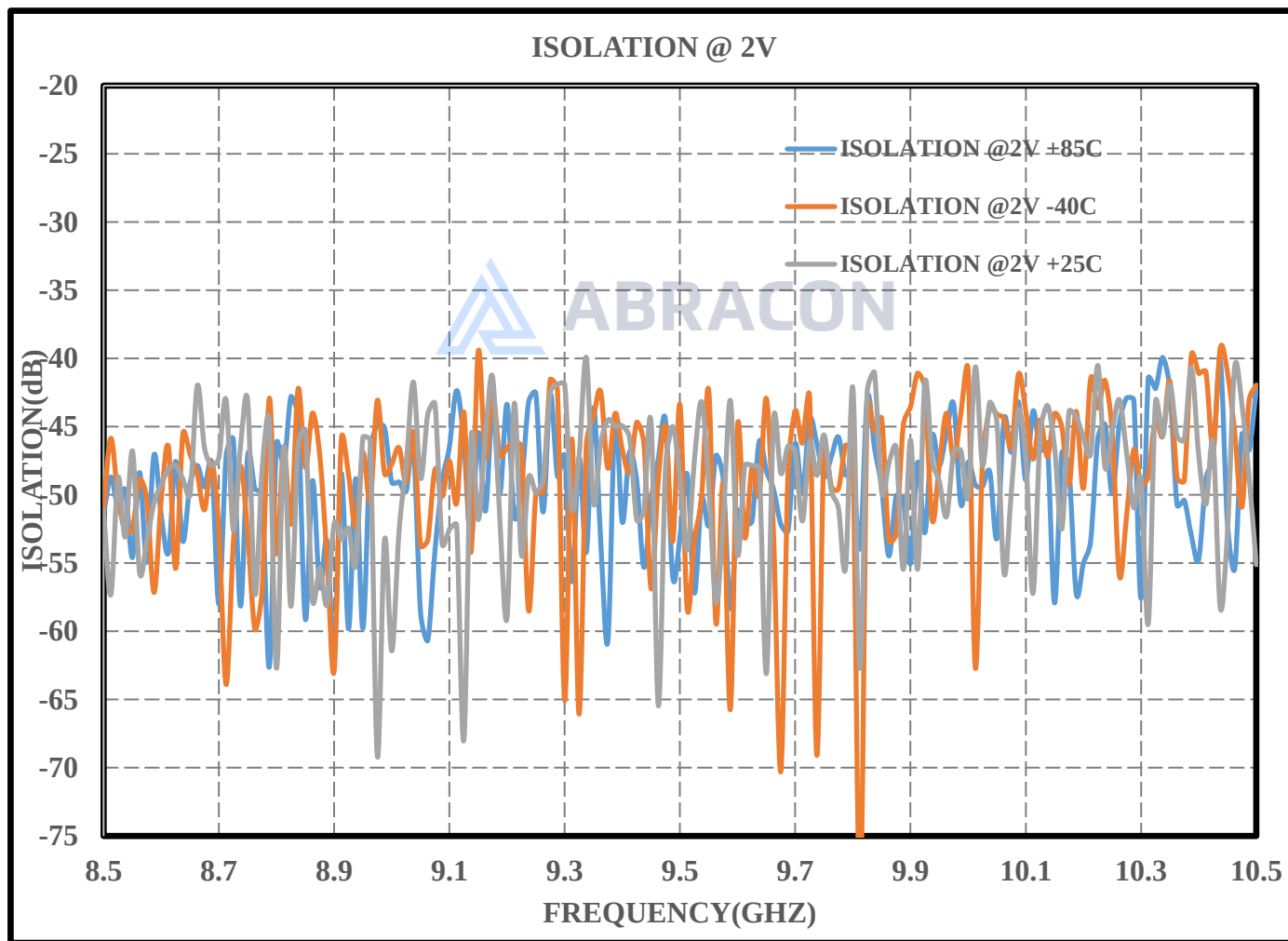
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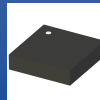
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X Band Low Noise Amplifier



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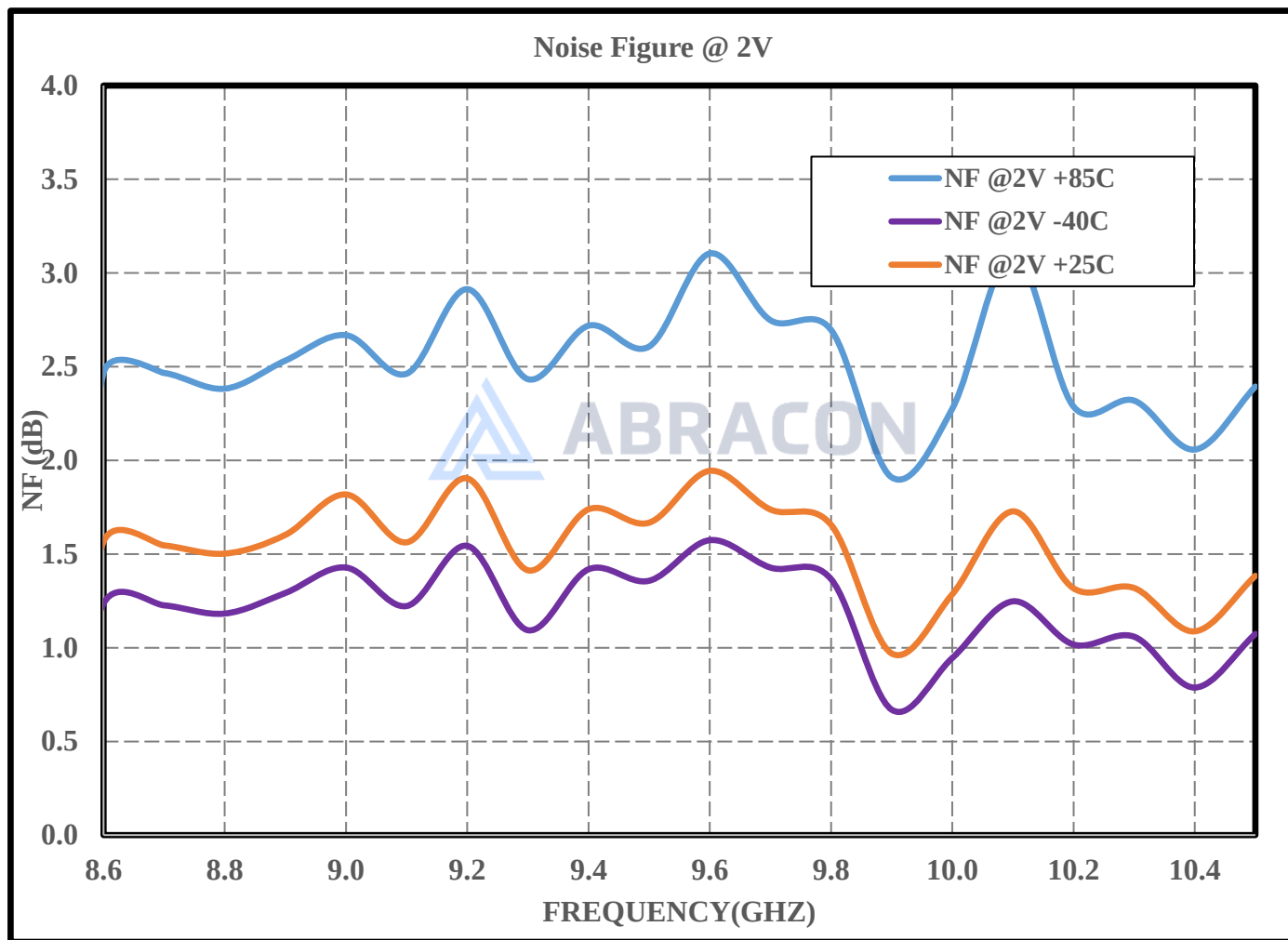
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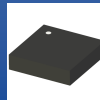
Check Inventory



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X Band Low Noise Amplifier



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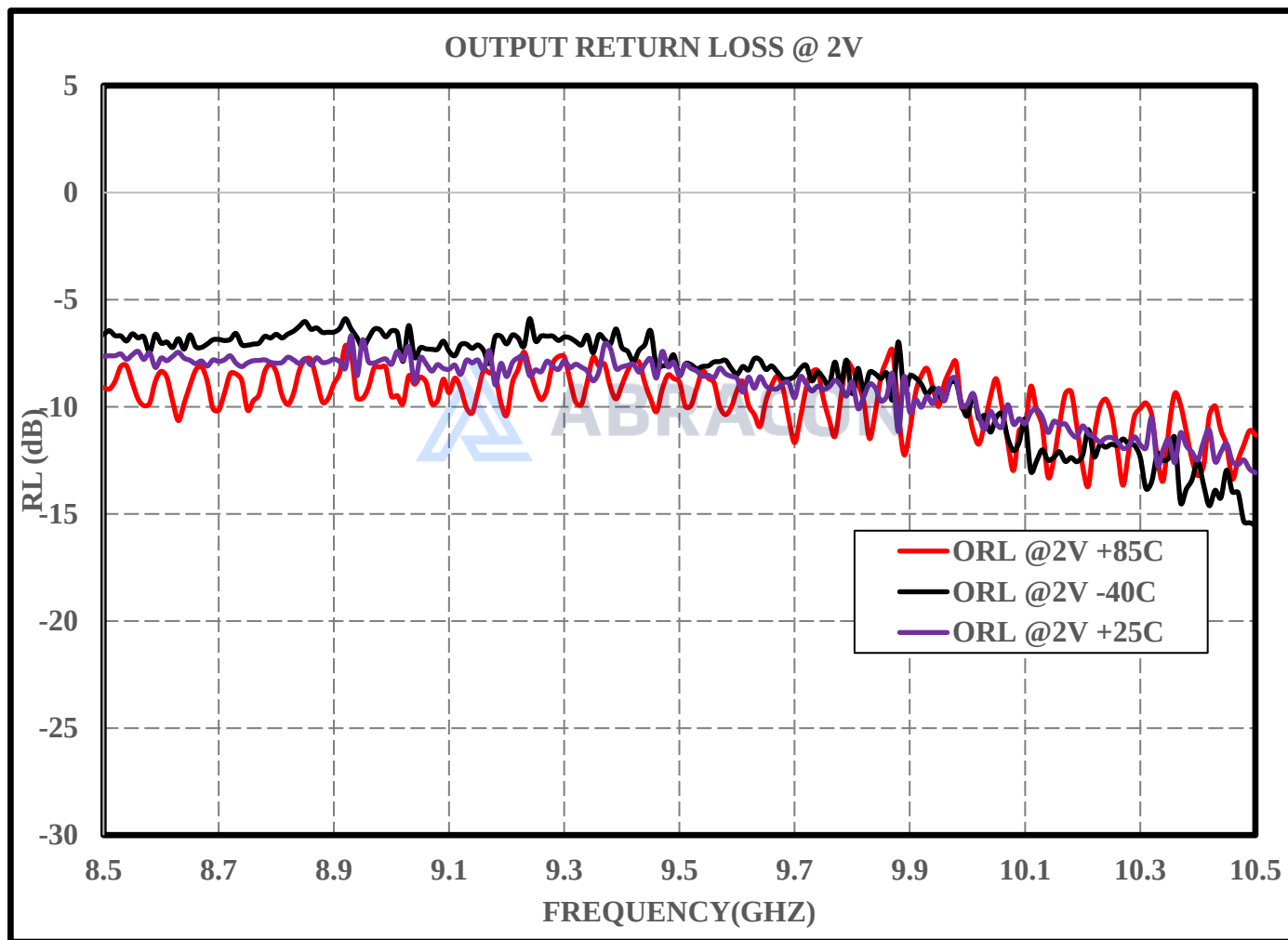
Request Samples



Check Inventory



5.0 x 5.0 x 1.2 mm
RoHS Compliant



X Band Low Noise Amplifier

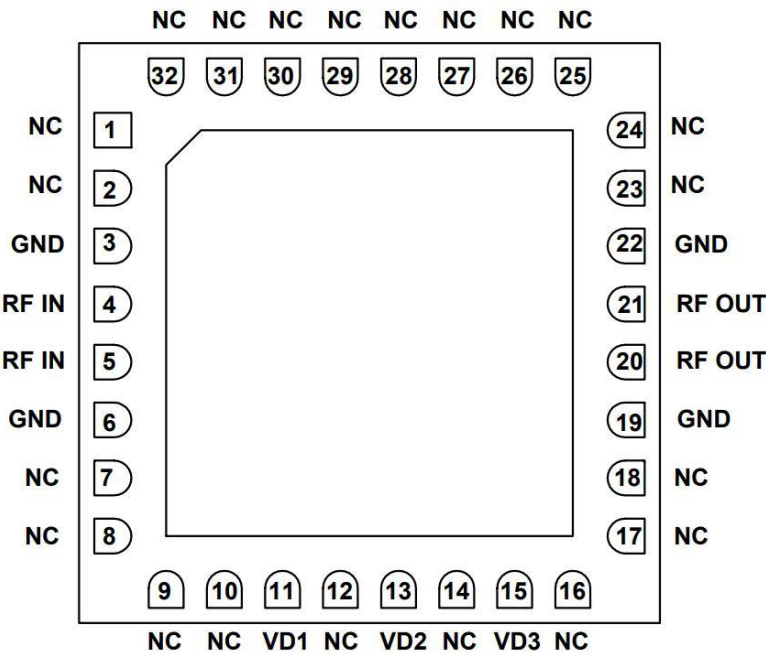


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Request Samples  Check Inventory 

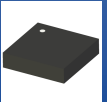
5.0 x 5.0 x 1.2 mm
RoHS Compliant

Pin Configuration



Pin Description	
Pin No. 4 & 5	RF In (RF Input)
Pin No. 20 & 21	RF Out (RF Output)
Pin No. 11,13 & 15	VD1, VD2 & VD3 (Drain Voltages for 1 st , 2 nd and 3 rd stages)
Pin No. 3,6,19 & 22	GND (Ground)
Pin No. 1,2,7,8,9,10,14,16,17,18,23,24,25,26,27,28,29,30,31,32	NC (No Connection)

X Band Low Noise Amplifier



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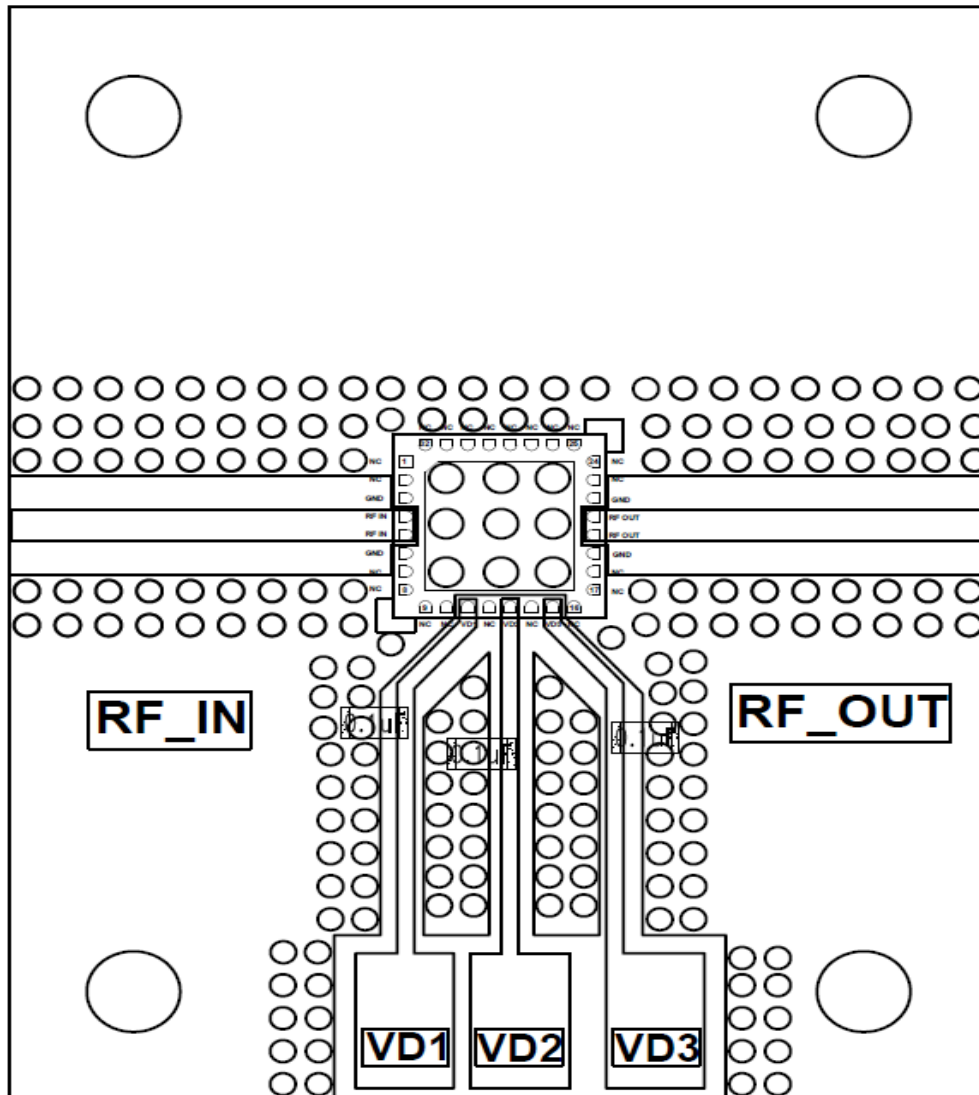


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5.0 x 5.0 x 1.2 mm
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Test Board Pattern



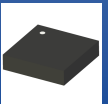
Off Chip Components Details:

Component	Part Number / Description
0.1uF MLC (C1)	0.1uF $\pm$ 10% 16V 0402X7R or Equivalent

NOTES:

1. Input and output are 50-ohm lines (preferably on 10 mil RT Duroid substrate).
2. Drain Bypass Capacitors C1 need to be placed close to the chip.

X Band Low Noise Amplifier



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Packaging

Packing Tubes

10pcs per tube, 50 tubes per box

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