

Features

- Frequency: 30~300MHz
- Gain: 31dB
- Noise Figure: 0.6dB
- Supply Voltage: +5V@80mA
- Package Size: 3mm×3mm×1.2mm

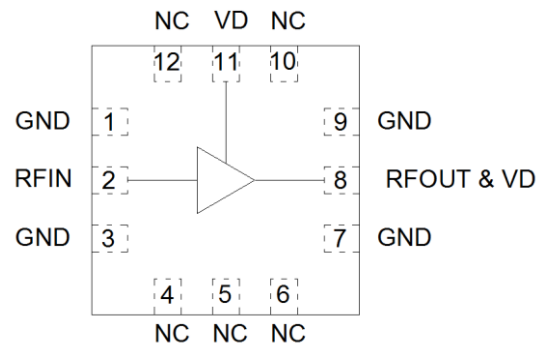
Typical Applications

- Radar and ECM
- RF/ Microwave radio
- Test and Measurement
- Fiber Optics

General Description

XT3002Q3 is a GaAs MMIC Low Noise Amplifier die which operates between 30 to 300MHz. The amplifier can provide 31 dB gain, 20 dBm Output P_{1dB} , 0.6 noise figure from a 80mA supply current.

Functional Diagram



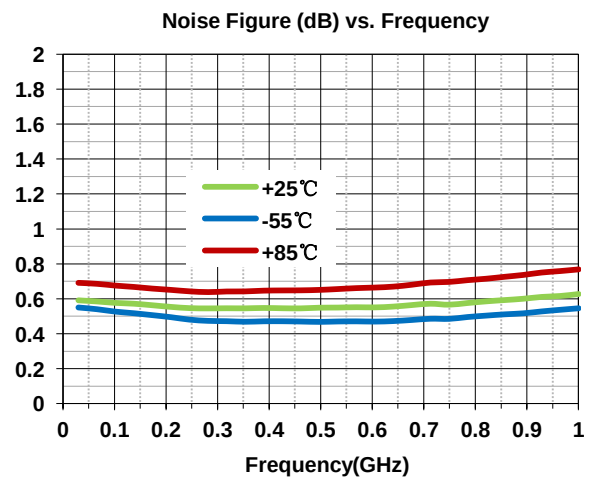
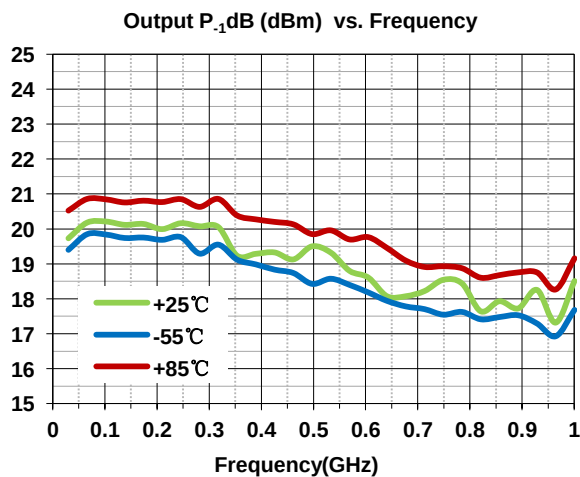
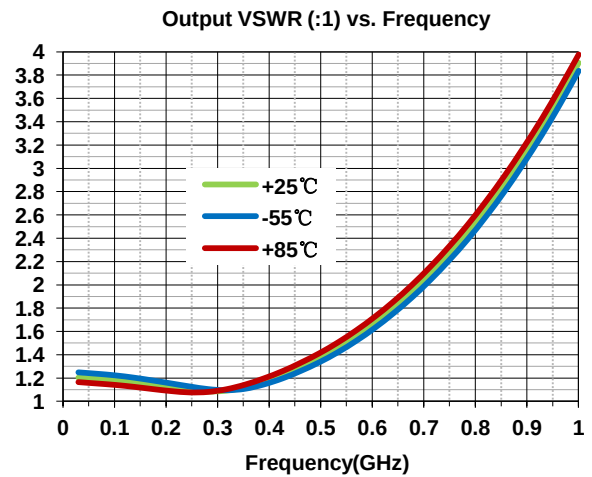
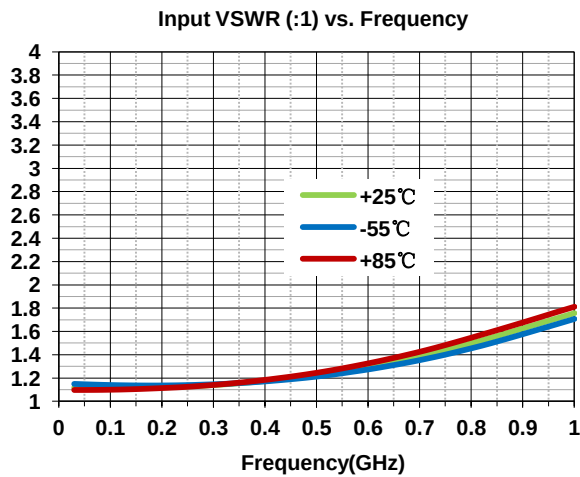
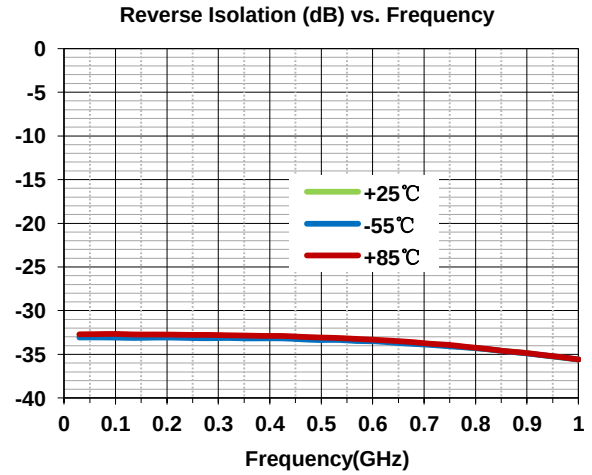
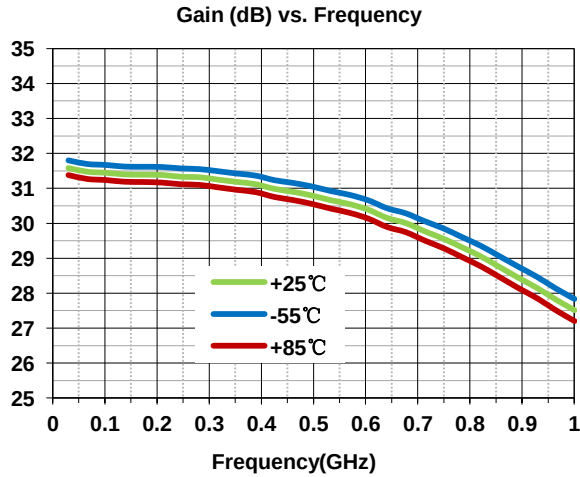
Electrical Performance ($T_A=25^{\circ}\text{C}$, $V_D=+5\text{V}$, $I_D=80\text{mA}$, $Z_0=50\Omega$)

Parameter	Min	Typ.	Max	Units
Frequency Range	30~300			MHz
Gain	—	31	—	dB
Gain Flatness	—	± 0.5	—	dB
Reserve Isolation	—	-30	—	dB
Input/Output VSWR	—	1.2	—	:1
Noise Figure	—	0.6	—	dB
Output Power for 1 dB Compression (OP_{1dB})	—	20	—	dBm
Supply Current(I_D)	—	80	—	mA

Absolute Maximum Ratings

Maximum Input Power	+18dBm	Operating Temperature	-55°C ~ +85°C
Channel Temperature	+150°C	Storage Temperature	-65°C ~ +150°C

Typical Performance Curve



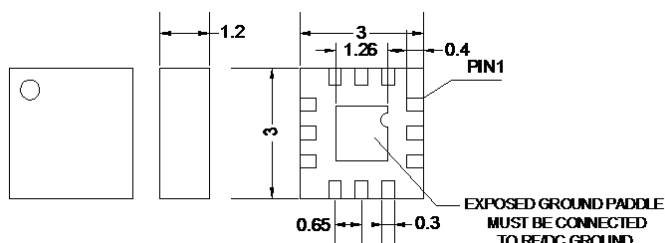
XT3002Q3



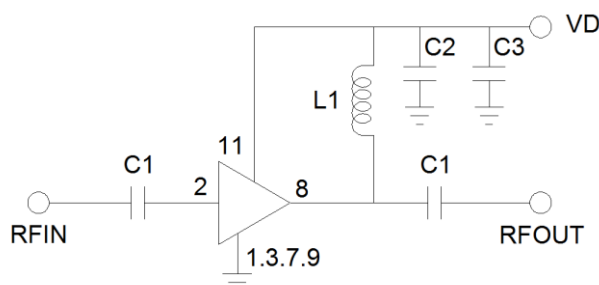
GaAs MMIC Low Noise Amplifier
30~300MHz

Rev 1.2

Outline Drawing (all dimensions in mm)



Assembly Diagram



Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	2200pF	GRM188R61H222KA01	MURATA	0603
C2	2200pF	GRM188R61H222KA01	MURATA	0603
C3	10nF	GRM1857U1A103JA44	RADVISTA	0603
L1	820nH	0603LS821XJLC	COILCRAFT	0603

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.