XT3005Q3

GaAs MMIC Low Noise Amplifier
0.4GHz～0.6GHz

Rev 1.0

Features

- Frequency：0.4GHz～0.6GHz
- Gain：35.5dB
- Noise Figure：0.6dB
- Supply Voltage：+5V@75mA
- Size：3mm×3mm×1.2mm

Typical Applications

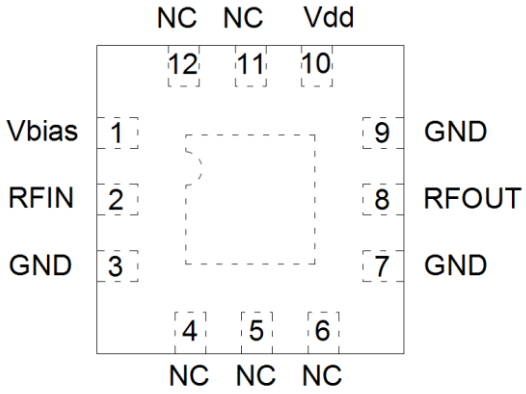
- Radar and ECM
- RF/ Microwave radio
- Military and Space
- Test and Measurement
- Fiber Optics

General Description

XT3005Q3 is a GaAs MMIC low noise amplifier in QFN surface mount package, which operates between 0.4GHz～0.6GHz. The amplifier can provide 35.5dB gain, 18dBm Output P_{-1}dB and 0.6dB noise figure from a 75mA supply current.

XT3005Q3 is assembled in a 3mm x 3mm QFN plastic package.

Functional Diagram



Electrical Performance (T_A=25℃,V_D=+5V,I_D=75mA,Z_0=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range		0.4～0.6		GHz
Gain	—	35.5	—	dB
Gain Flatness	—	0.8	—	dB
Reverse Isolation	—	55	—	dB
Input/Output VSWR	—	1.6	—	:1
Noise Figure	—	0.6	—	dB
Output Power for 1 dB Compression (OP_{-1}dB)	—	18	—	dBm
Output Third Order Intercept (OIP_3)	—	28	—	dBm
Supply Current(I_D)	—	75	—	mA

Absolute Maximum Ratings

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

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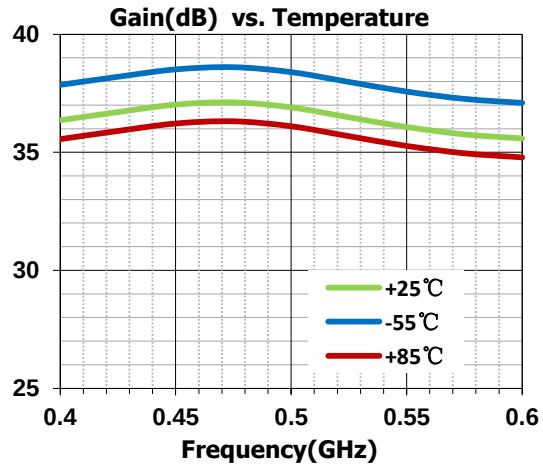
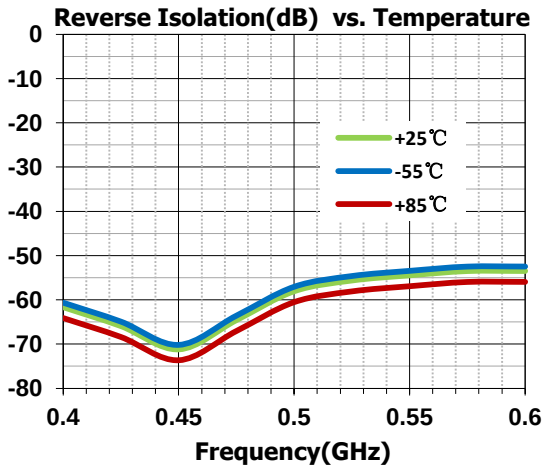
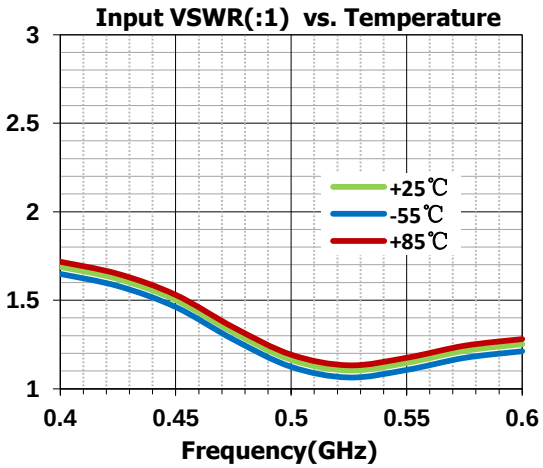
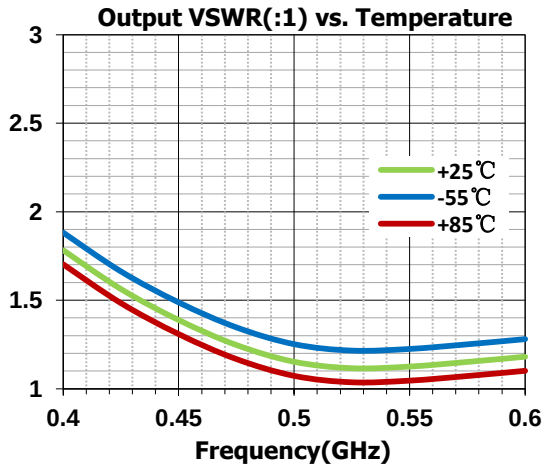
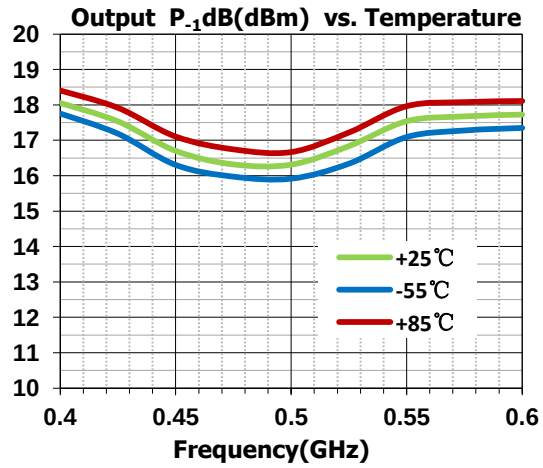
Typical Performance Curve

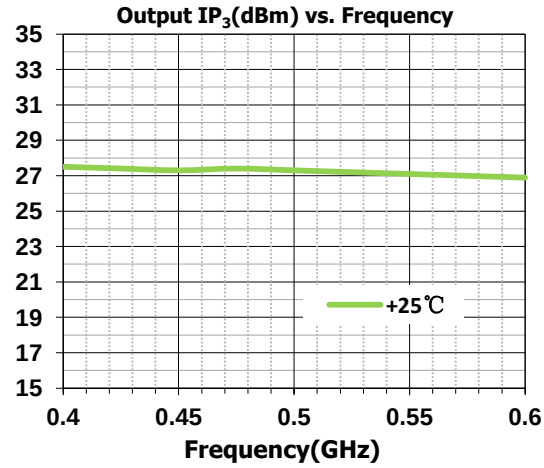


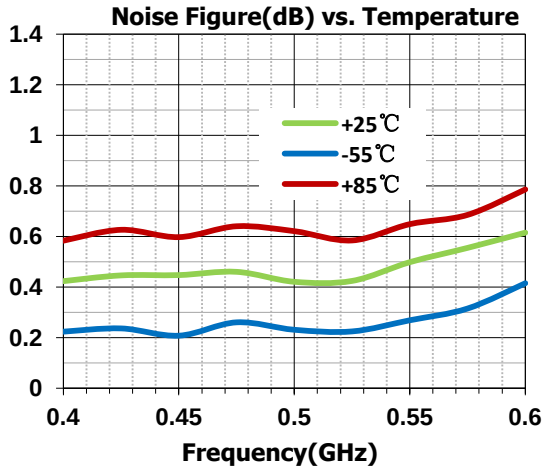




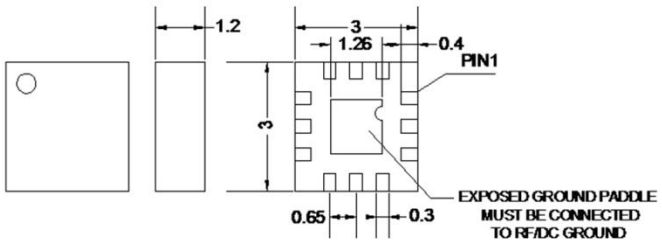




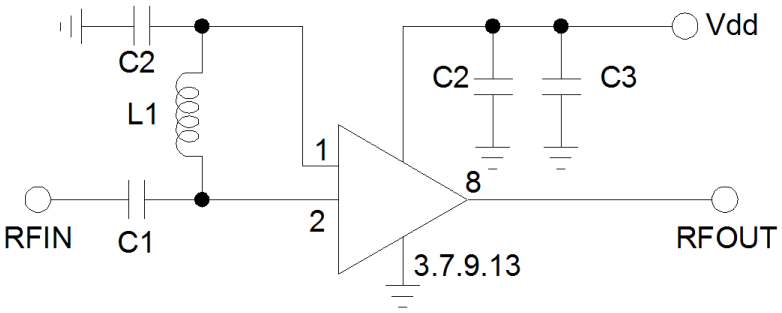




Outline Drawing
(all dimensions in mm)



Assembly Diagram



Components List

Reference Des.	Value	Part Number	Manuf.	Size
C1	47pF	GRM1555C1H470JZ01D	MURATA	0402
C2	100pF	GRM1555C1H101JA01D	MURATA	0402
C3	10nF	GRM155R71H103KA88D	MURATA	0402
L1	68nH	0402CS-68NXGE	COILCRAFT	0402

Attention:

1. The moisture resistant grade of products is 2A, the storage environment ≤30° C/60% 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.