

Features

- Frequency Range: DC~4GHz
- Isolation: >48dB@4GHz
- Insertion Loss: 1.5dB@4GHz
- Non-reflective
- Nanosecond switch
- Package Size: 3mm×3mm×1.2mm

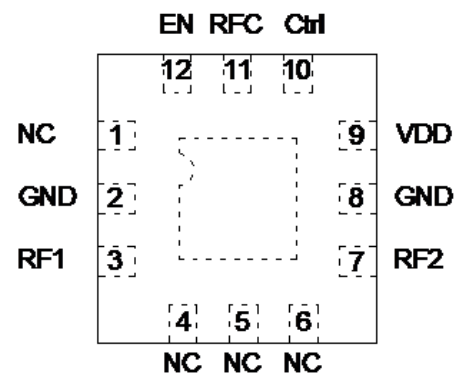
Typical Applications

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

General Description

The XT3204SQ3 is a broadband non-reflective GaAs pHEMT SPDT MMIC chip. Covering DC ~ 4GHz, the switch offers high isolation and low insertion loss. The switch features over 48dB isolation and less than 1.5dB insertion loss. The switch operates using complementary positive control voltage logic lines of 0/+5V.

Functional Diagram



Electrical Performance

($T_A = +25^{\circ}\text{C}$, Control Voltage = 0/+5V, $Z_0 = 50\Omega$)

Parameter	Freq.	Min.	Typ.	Max.	Units
Insertion Loss	DC~4GHz	—	-0.9	-1.2	dB
Isolation	DC~4GHz	48	70	—	dB
RFC VSWR	DC~4GHz	—	1.2	1.3	:1
RF1,RF2 VSWR(ON)	DC~4GHz	—	1.2	1.4	:1
Input $P_{1\text{dB}}$	DC~4GHz	—	30	—	dBm
Input IP_3	DC~4GHz	—	45	—	dBm
Switching Speed	DC~4GHz	—	70	—	ns

Absolute Maximum Ratings

Maximum Input Power	+30dBm	Operating Temperature	-55°C ~ +85°C
Channel Temperature	+150°C	Storage Temperature	-65°C ~ +150°C
V_D Range	0~5.5V	ESD Sensitivity	Class 1A

XT3204Q3



GaAs MMIC SPDT Switch
DC~4GHz

Rev 1.1

Control Voltage

State	Bias Condition
Low	0~0.2V
High	4~5.5V

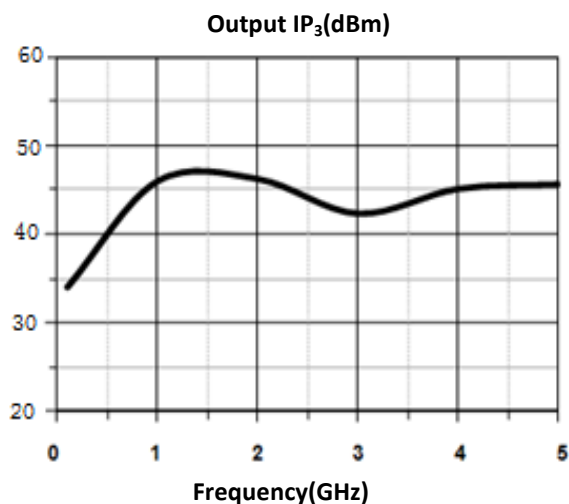
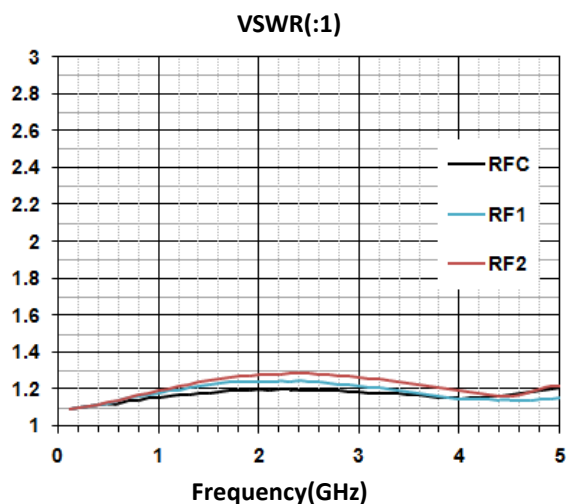
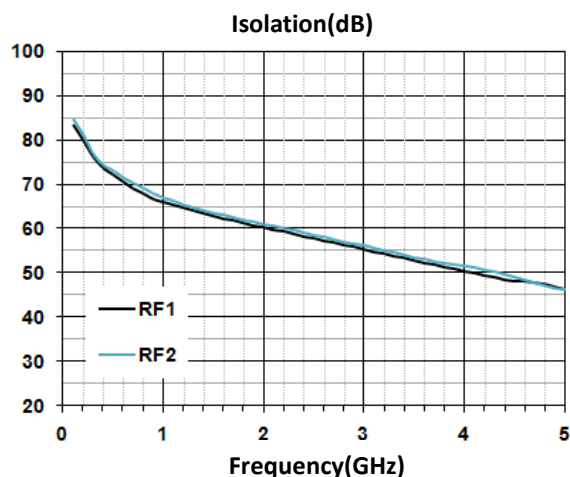
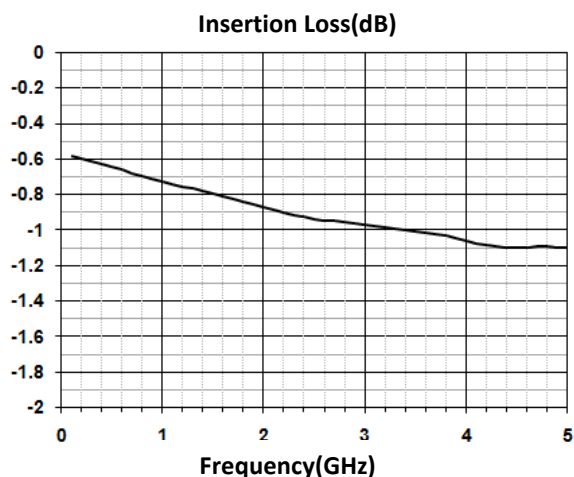
Bias Voltage & Current

V_D	I_D
5V	1.5mA

Truth Table

Ctrl 1	Ctrl 2	RFC-RF1	RFC-RF2
Low	Low	OFF	ON
High	Low	ON	OFF
Low	High	OFF	OFF
High	High	OFF	OFF

Typical Performance Curve

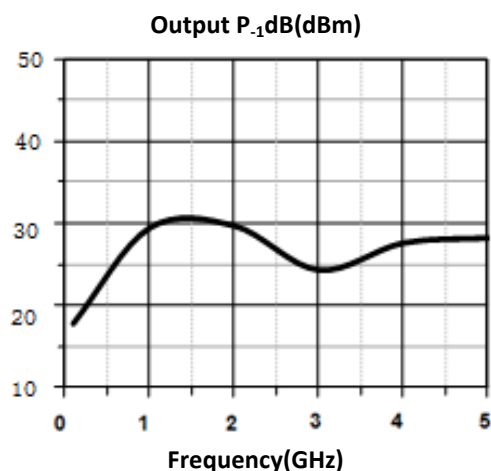


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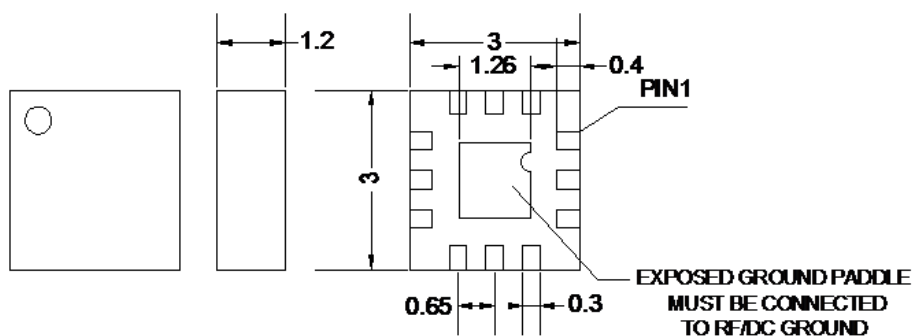


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Outline Drawing (all dimensions in mm)



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.