

Features

- RF/LO Frequency: 2.0~3.5GHz
- IF Frequency: 10~600MHz
- Conversion Gain: 13dB
- Noise Figure: 6.5dB
- LO Power: +0dBm
- Supply Voltage: 85mA@5V
- Output P₁dB: +4.5dBm

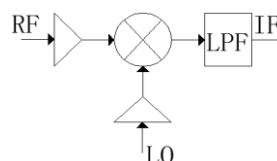
Typical Applications

- EW
- Military Radar and Weather Radar
- SATCOM
- Beamforming

General Description

XT3502 is a general-purpose down-converter. This monolithic MMIC mixer is fabricated in GaAs process and requires no external components or matching circuitry.

Functional Diagram



Electrical Performance

(T_A=25°C, LO=+0dBm, V_D=+5V, LSB)

Parameter	Min.	Typ.	Max.	Units
RF Frequency Range	2.0~3.5			GHz
LO Frequency Range	2.6~3.5			GHz
IF Frequency Range	10~600			MHz
Conversion Gain	—	13	—	dB
Noise Figure	—	5.5	—	dB
Output P ₁ dB	—	3	—	dBm
RF Return Loss	—	-15	—	dB
IF Return Loss	—	-22	—	dB

Electrical Performance

(T_A=25°C, LO=+0dBm, V_D=+5V, USB)

Parameter	Min.	Typ.	Max.	Units
RF Frequency Range	2.0~3.5			GHz
LO Frequency Range	2.0~2.9			GHz
IF Frequency Range	10~600			MHz
Conversion Gain	—	13	—	dB
Noise Figure	—	5.5	—	dB
Output P ₁ dB	—	3	—	dBm
RF Return Loss	—	-15	—	dB
IF Return Loss	—	-22	—	dB

Absolute Maximum Ratings

Maximum RF Input	+10dBm	Operating Temperature	-55°C~+85°C
Maximum LO Input	+10dBm	LO Power	-3~+3dBm
Maximum Input Voltage	+8V	Storage Temperature	-65°C~+150°C

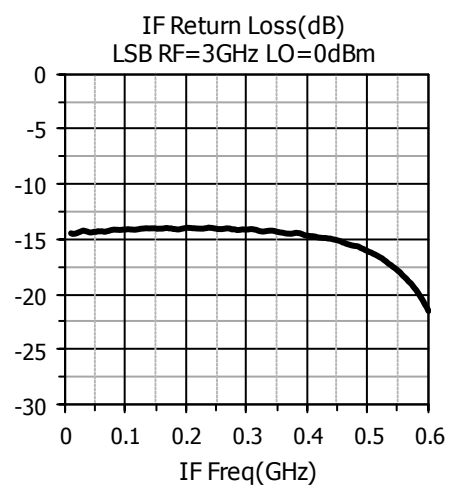
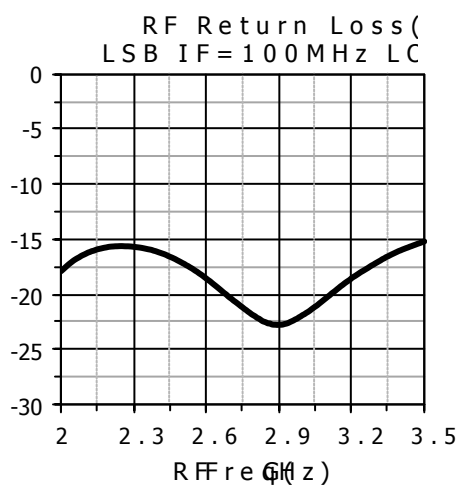
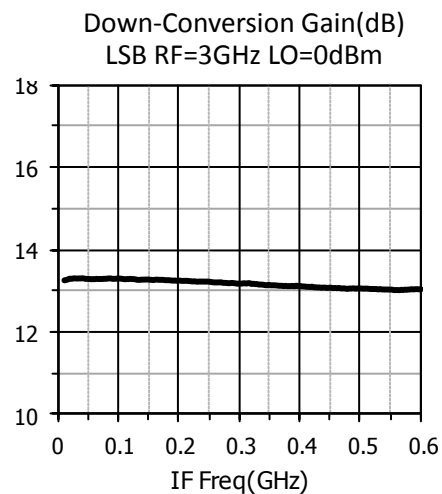
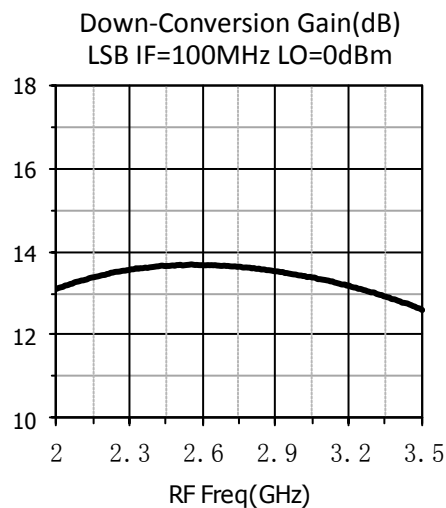
Electrical Performance

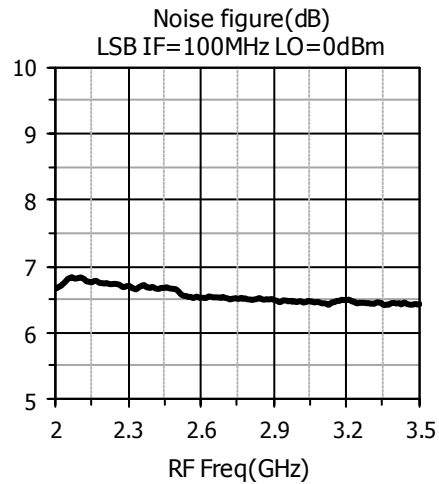
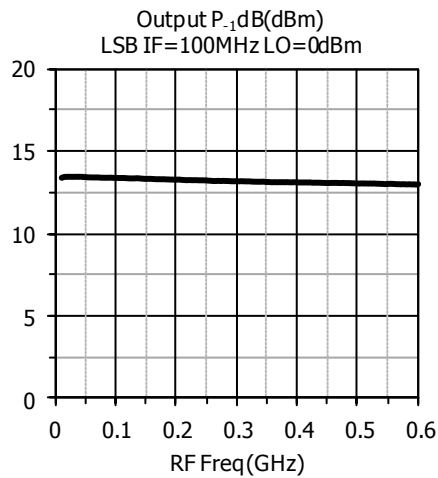
($T_A=25^{\circ}\text{C}$, LO=+0dBm, $V_D=+5\text{V}$, USB)

Parameter	Min.	Typ.	Max.	Units
LO Frequency Range	2.6~3.5			GHz
LO to RF Isolation	—	-45	—	dB
LO to IF Isolation	—	-47	—	dB
RF to IF Isolation	—	-38	—	dB
LO Return Loss	—	-16	—	dB
Supply Current(I_D)	—	85	—	mA

Typical Performance Curve

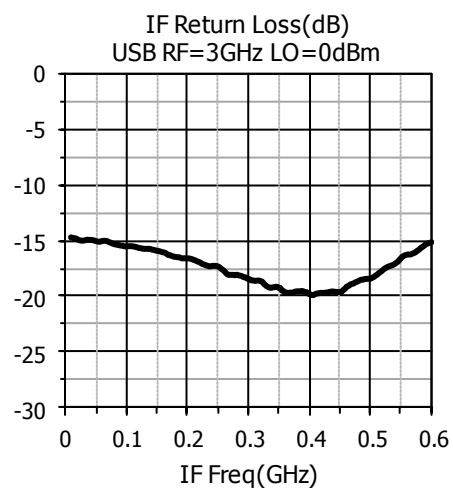
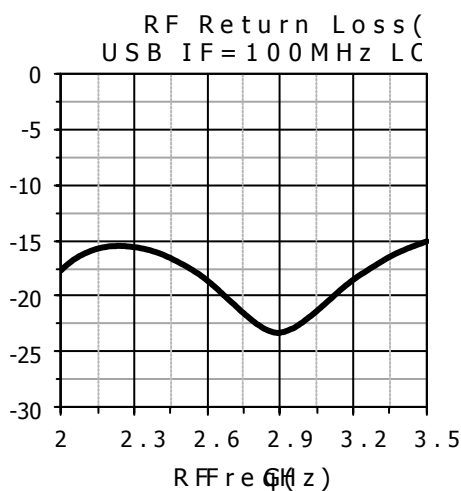
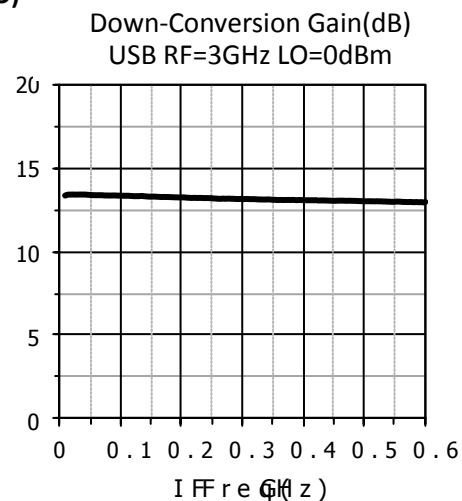
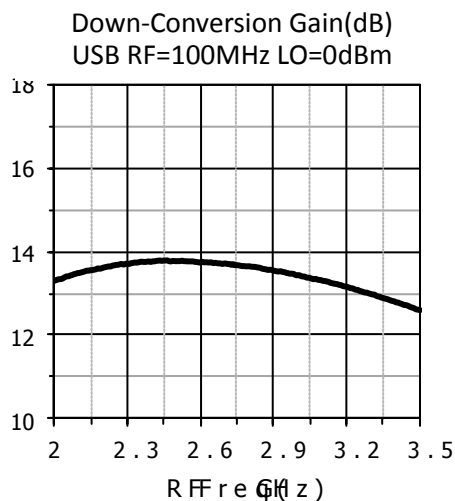
(RF<LO)





Typical Performance Curve

(RF>LO)

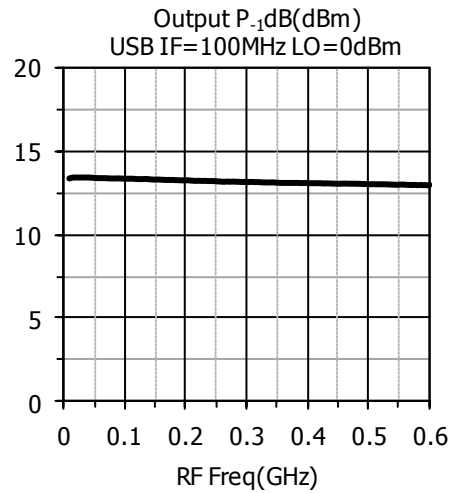
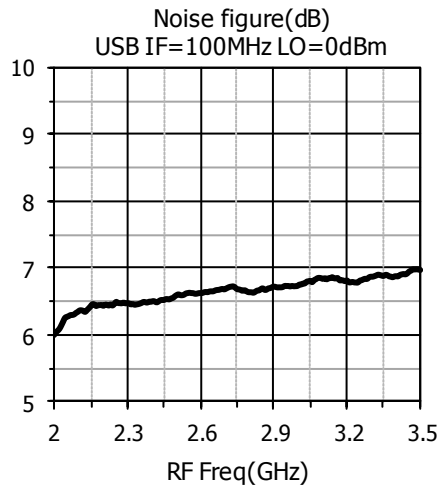


XT3502

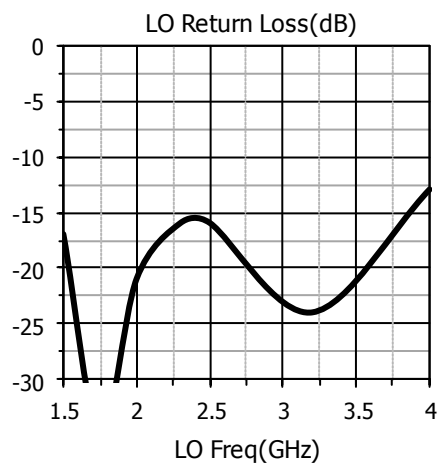
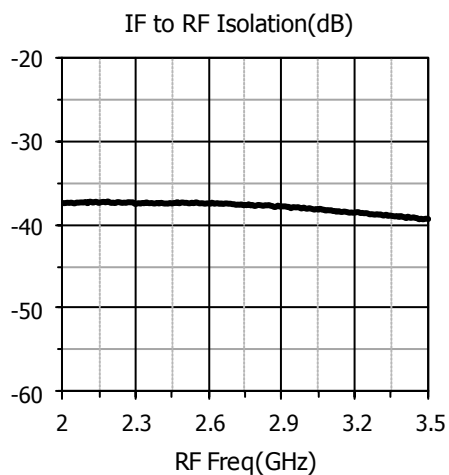
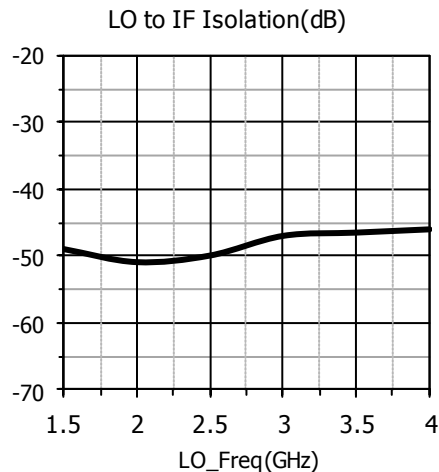
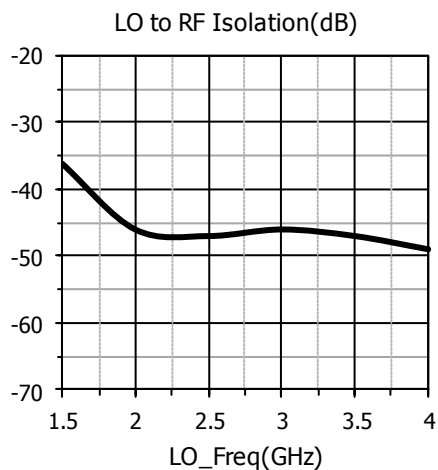


GaAs MMIC Down-converter Mixer
2.0~3.5GHz

Rev 2.0



Typical Performance Curve (Isolation)



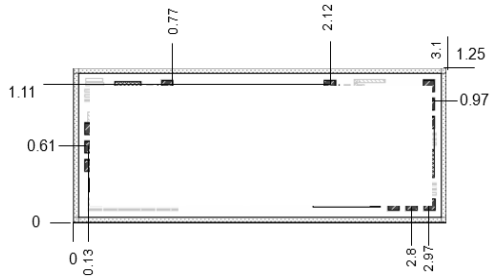
XT3502



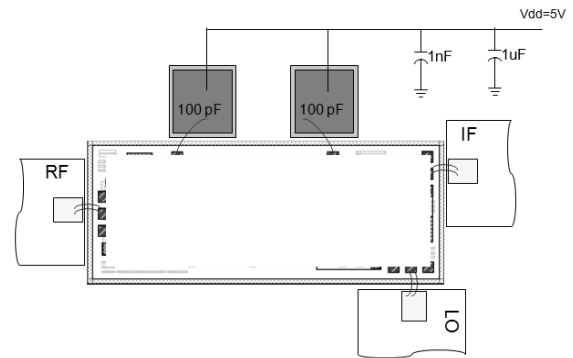
GaAs MMIC Down-converter Mixer
2.0~3.5GHz

Rev 2.0

Die Outline
(all dimensions in mm)



Assembly Diagram



Attention:

GaAs MMIC devices are susceptible to damage from electrostatic discharge. Proper precautions should be observed during handling, assembly and test.