SAC3512

GaAs MMIC Double Balanced Mixer
24~40GHz

Rev 2.0

Features

- RF/LO Frequency：24～40GHz
- IF Frequency：DC～10
- Conversion Loss：-8.5dB
- LO Power：13dBm
- Die Size：0.61mmX0.92mmX0.1mm

Typical Applications

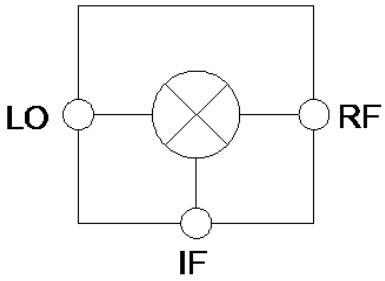
- Microwave radio including point to point communication
- Telecommunication
- Weather radar
- Optical communication
- Test instrumentation
- SatCom
- VSAT
- Military and Aerospace

General Description

SAC3512 is general-purpose double balanced mixer. This MMIC mixer is fabricated in a GaAs process and requires no external components or matching circuitry. The device can be used as both up-converter and down-converter.

The chip offers full passivation for increased reliability and moisture protection.

Functional Diagram



Electrical Performance
(T_A=25℃, LO=13dBm)

Parameter	Min.	Typ.	Max.	Units
RF/LO Frequency Range		24～40		GHz
IF Frequency Range		DC～10		GHz
Conversion Loss	—	-8.5	-12	dB
IF Return Loss	—	-8	—	dB
RF Return Loss	—	-10	—	dB
LO Return Loss	—	-10	—	dB
LO to RF Isolation	-25	-40	—	dB
LO to IF Isolation	-20	-30	—	dB
RF to IF Isolation	-20	-30	—	dB
Input P_{-1}dB	10	15	—	dBm

Absolute Maximum Ratings

Maximum RF/IF Input	20dBm	Operating Temperature	-55℃～+85℃
Maximum LO Input	20dBm	Storage Temperature	-65℃～+150℃

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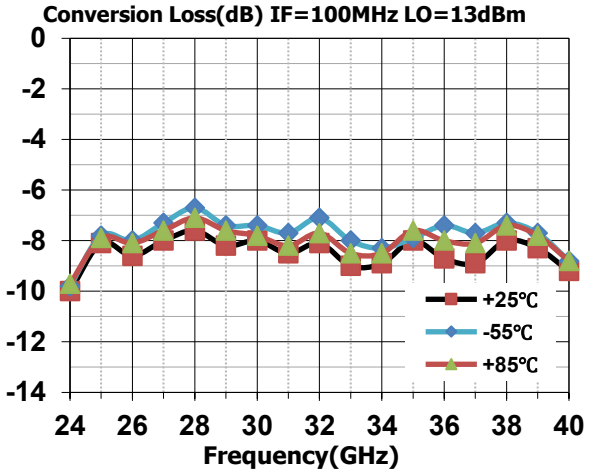
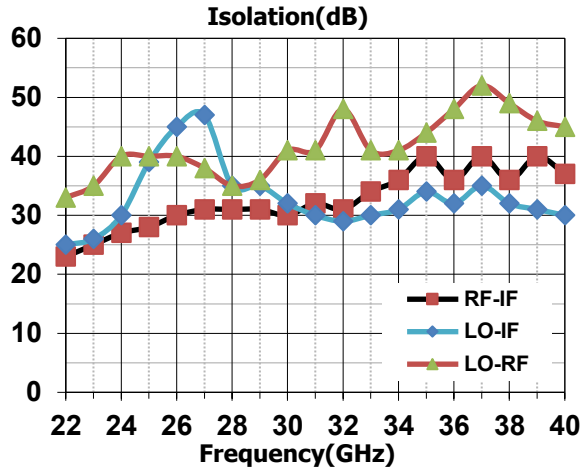
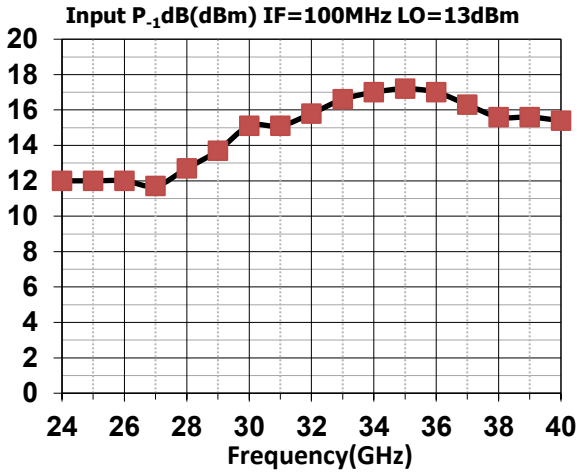
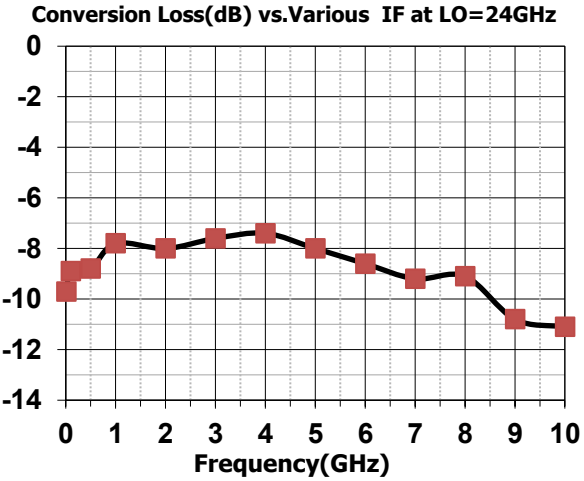
Typical Performance Curve









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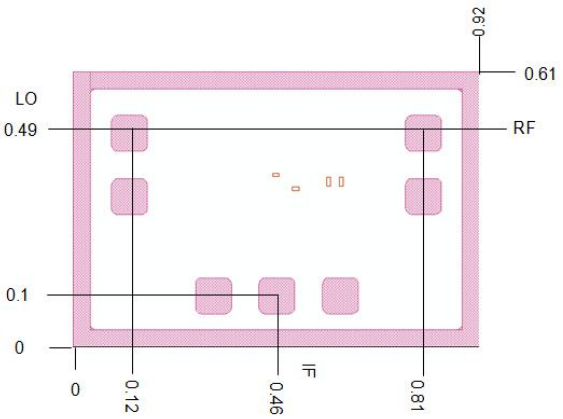
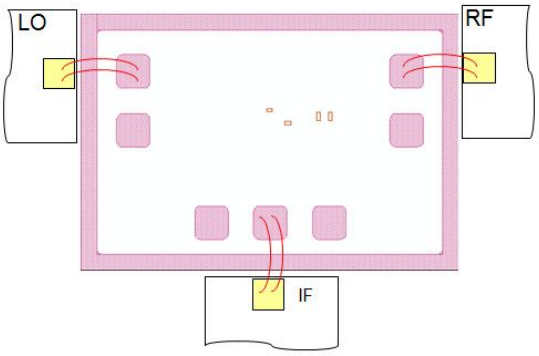
Die Outline
(All dimensions in mm)



Assembly Diagram



Attention:

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

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