

GaAs monolithic integrated passive double-balanced mixer chip
2.0~6.0GHz

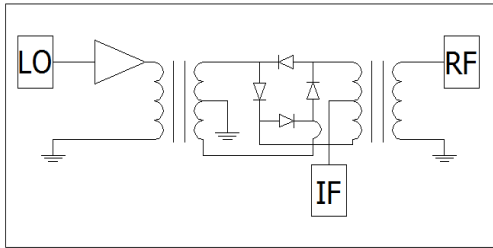
key indicator

- RF/LO frequency band: 2.0~6.0GHz
- IF frequency band: DC ~ 2GHz
- Conversion loss: 8dB
- Local oscillator power: +0dBm
- Chip size: 1.24mm×2.26mm×0.1mm

typical application

- Radar and electronic countermeasures
- RF/Microwave Circuit
- Military and aerospace
- test instrument
- Instrumentation

Functional block diagram



Product Introduction

AY1263 is a GaAs MMIC passive double balance Mixer frequency conversion chip, chip RF frequency coverage 2.0~6.0GHz, local oscillator frequency covers 2.0~6.0GHz, intermediate frequency The rate covers DC~2GHz, and the up-down conversion loss is less than 8dB, The input power of the typical local oscillator is 0dBm.

Electrical properties

($T_A=25$, LO=+0dBm , $V_D=+5V$, $I_D=42mA$, up-conversion)

index	Minimum	Typical value	Max	unit
RF/Local Oscillator Frequency	2.0 ~ 6.0			GHz
IF frequency	DC~2			GHz
Conversion loss	-	-7	-	dB
IF end return loss	-	-10	-	dB
RF end return loss	-	-10	-	dB
LO end return loss	-	-12	-	dB
Local Oscillator-RF Isolation	-	-25	-	dB
Local Oscillator-Intermediate Frequency Isolation	-	-20	-	dB
RF-IF isolation	-	-15	-	dB

($T_A=25$, LO=+0dBm , $V_D=+5V$, $I_D=42mA$, up-conversion)

index	Minimum	Typical value	Max	unit
RF/Local Oscillator Frequency	2.0 ~ 6.0			GHz
IF frequency	DC~2			GHz
Conversion loss	-	-8	-	dB
IF end return loss	-	-10	-	dB
RF end return loss	-	-10	-	dB
LO end return loss	-	-12	-	dB
Local Oscillator-RF Isolation	-	-30	-	dB
Local Oscillator-Intermediate Frequency Isolation	-	-25	-	dB
RF-IF isolation	-	-15	-	dB

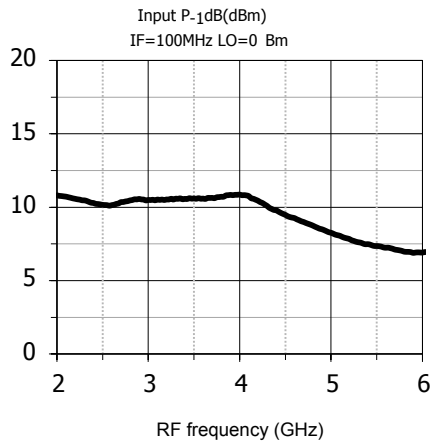
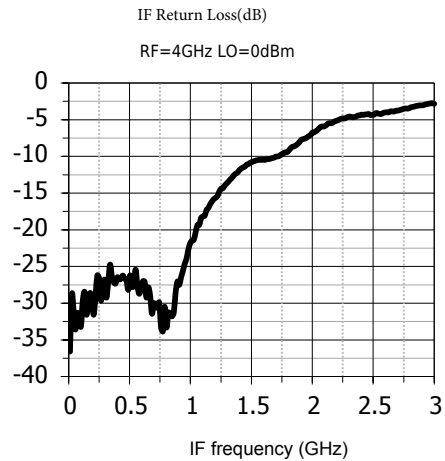
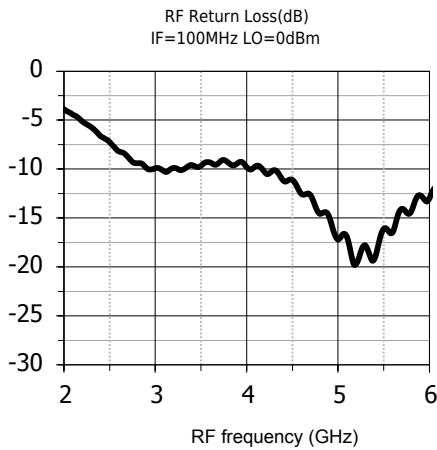
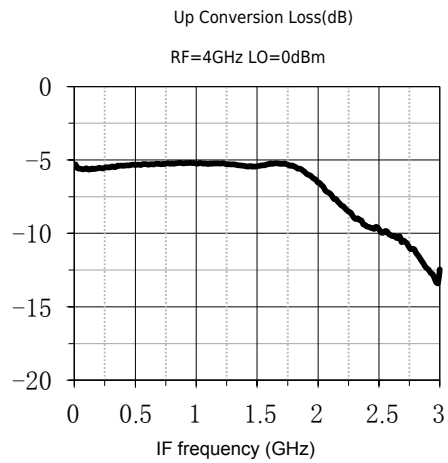
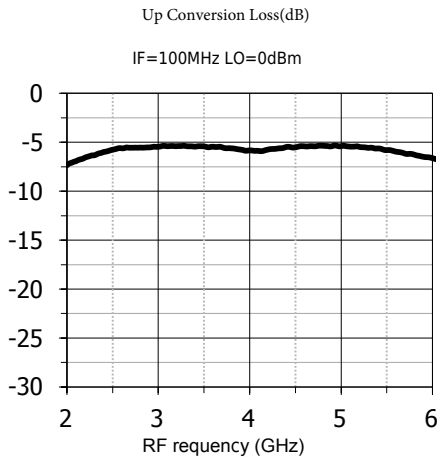
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Absolute maximum rating

RF maximum input power	+20dBm	Operating temperature	-55 °C ~ + 85 °C
Maximum input power of local oscillator	+10dBm	storage temperature	-65 °C ~ + 150 °C
		Maximum power supply voltage	+8V

Typical test curve

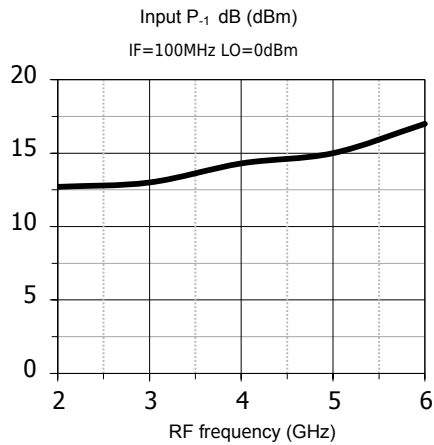
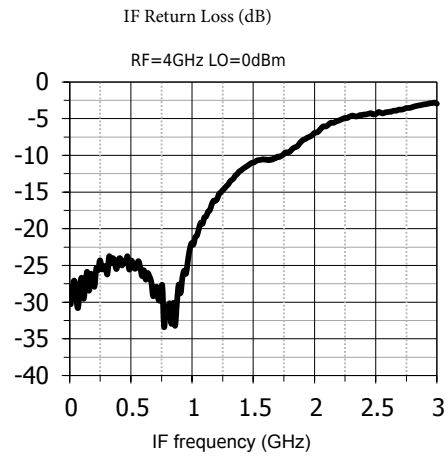
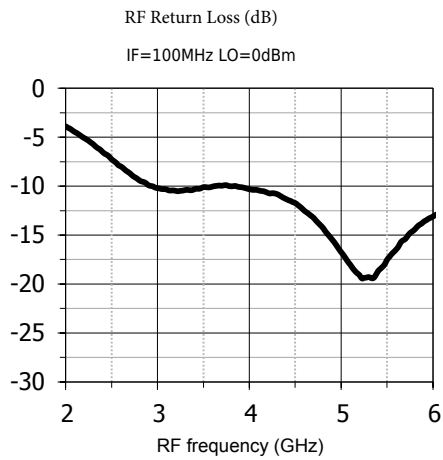
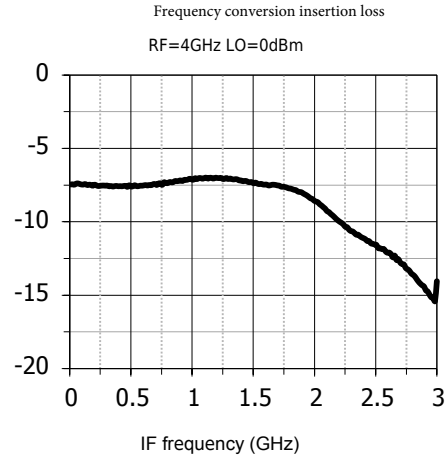
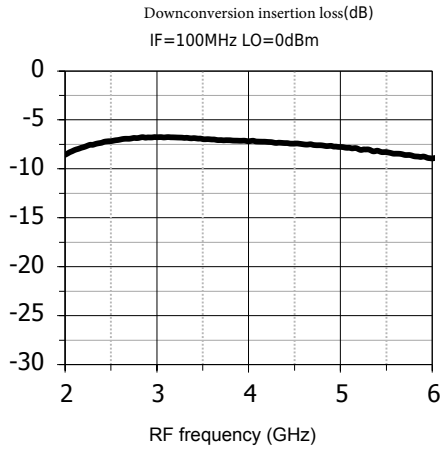
(Upconversion)



2.0~6.0GHz

Typical test curve

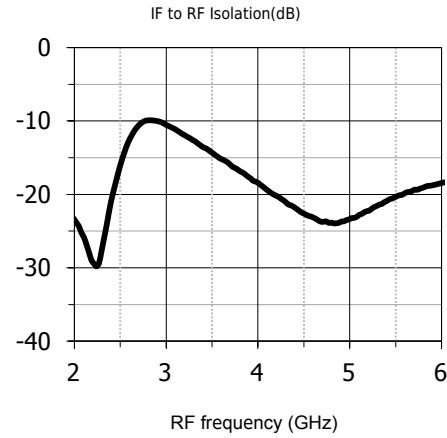
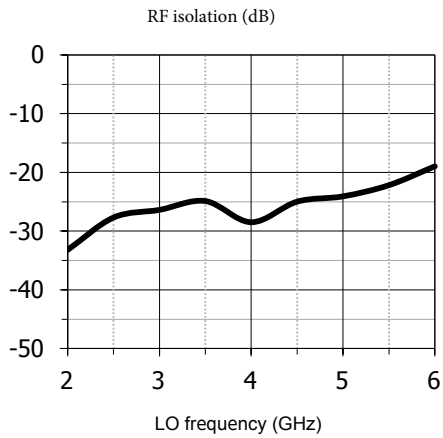
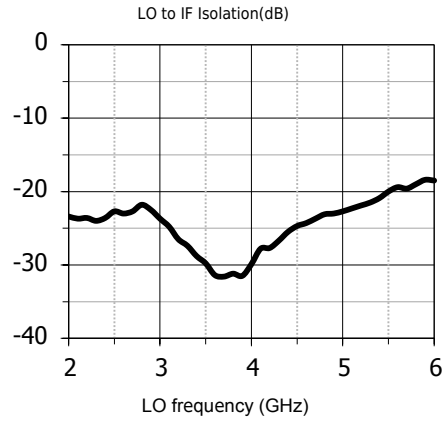
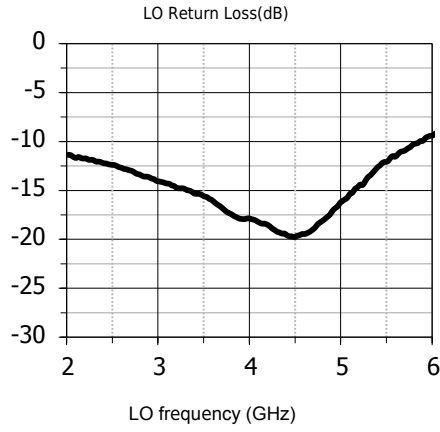
(Down conversion)



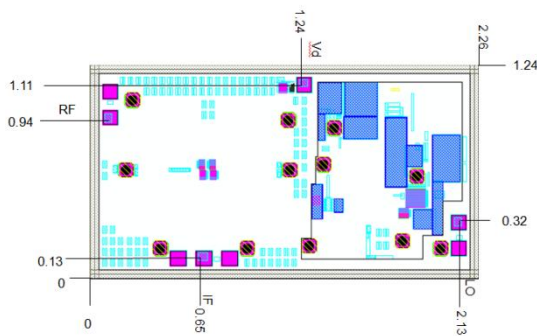
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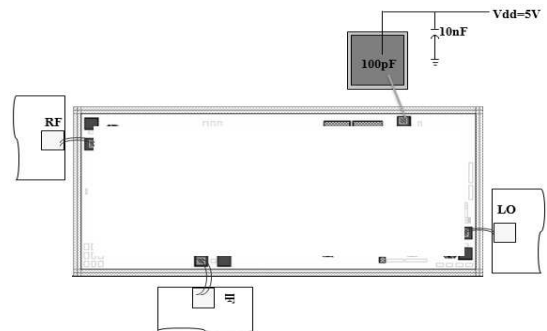
(Isolation)



Shape and port size (mm)



Recommended assembly drawing



Precautions

Gallium arsenide MMIC devices are susceptible to damage from electrostatic discharge. Precautions should be taken during transportation, assembly and testing.