

GaAs monolithic integrated passive double-balanced mixer chip

11~20GHz

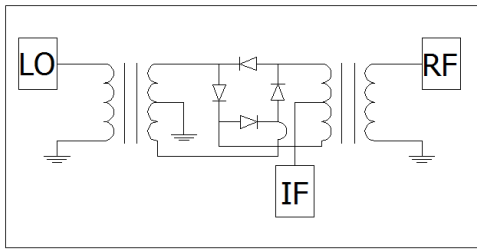
key indicator

- RF/LO frequency band: 11.0~20GHz
- IF frequency band: DC~4GHz
- Conversion loss: 8dB
- Local oscillator power: +13dBm
- Chip size: 1.24mm×0.82mm×0.1mm

typical application

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

Functional block diagram



Product Introduction

AY1264 is a GaAs MMIC passive double-balanced mixer frequency conversion chip. The chip's RF frequency covers 11-20GHz, the local oscillator frequency covers 11-20GHz, the intermediate frequency covers DC-4GHz, the up-down conversion loss is less than 8dB, and the typical local oscillator input power It is +13dBm.

Electrical performance (T_A=25°C, LO=+13dBm, V_{dd}=+5V, up-conversion)

index	Minimum	Typical value	Max	unit
RF frequency/local oscillator frequency	11 ~ 20			GHz
IF frequency	DC~4			GHz
Conversion loss	-	-	-5	dB
Enter P ₋₁ Compression point	-	5	-	dBm

Electrical performance (T_A=25°C, LO=+13 dBm, V_{dd}=+5V, down conversion)

index	Minimum	Typical value	Max	unit
RF frequency/local oscillator frequency	11 ~ 20			GHz
IF frequency	DC~4			GHz
Conversion loss	-	-	-8	dB
Enter P ₋₁ Compression point	-	10	-	dBm

Electrical performance (T_A=25°C, LO=+13dBm, V_{dd}=+5V,)

index	Minimum	Typical value	Max	unit
Local Oscillator-Intermediate Frequency Isolation	-27	-	-	dB
Local Oscillator-RF Isolation	-30	-	-	dB
RF-IF isolation	-18	-	-	dB
LO end return loss	-	-15	-	dB
IF end return loss	-	-7	-	dB
RF end return loss	-	-10	-	dB

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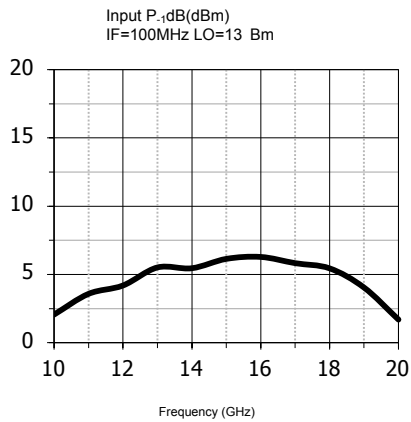
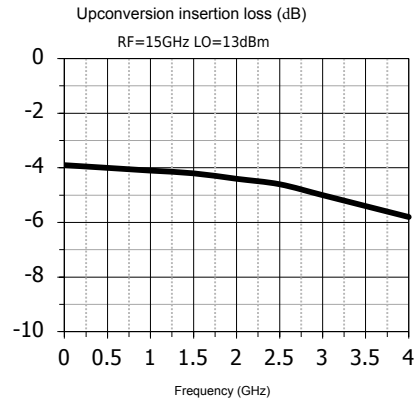
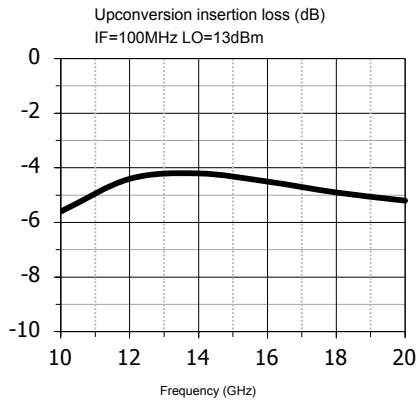
11~20GHz

Absolute maximum rating

RF maximum input power	+20dBm	Operating temperature	-55 °C ~ + 85 °C
Maximum input power of local oscillator	+24dBm	storage temperature	-65 °C ~ + 150 °C
		Maximum power supply voltage	+8V

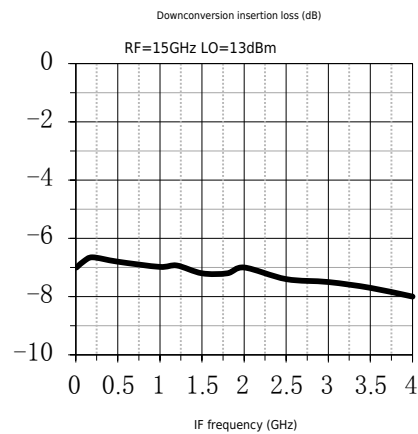
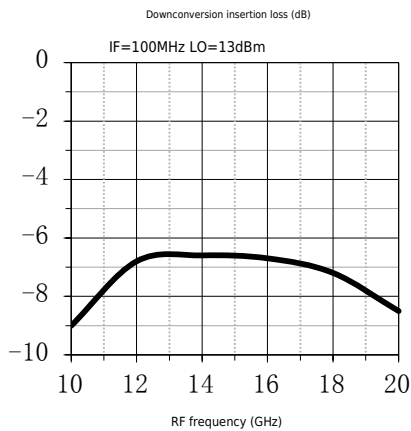
Typical test curve

(Upconversion)



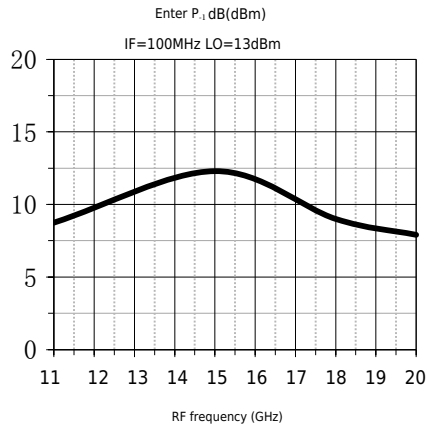
Typical test curve

(Down conversion)



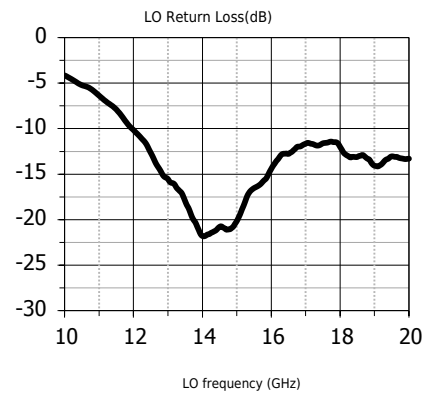
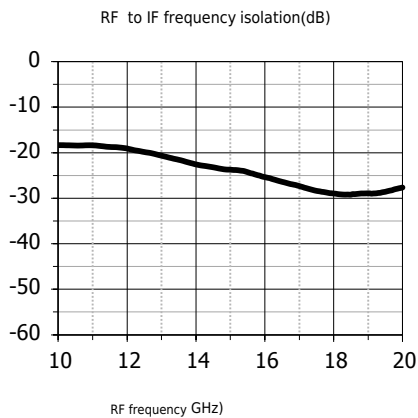
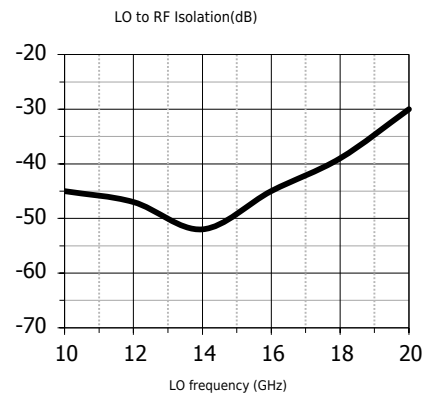
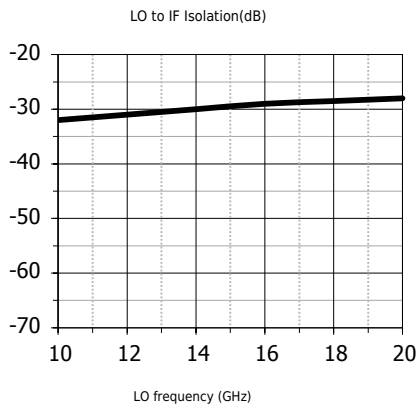
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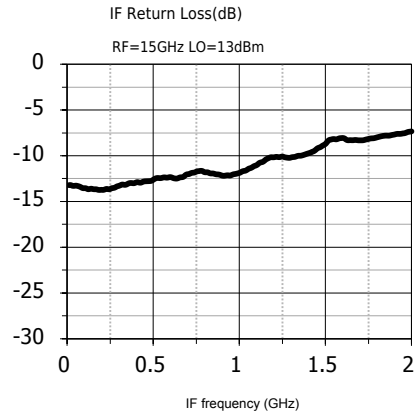
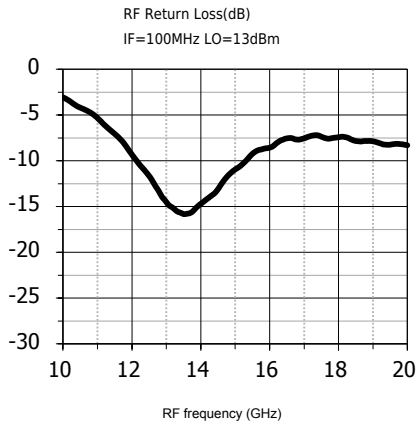


Typical test curve

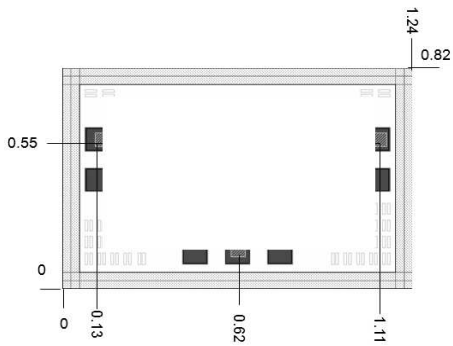
(Isolation)



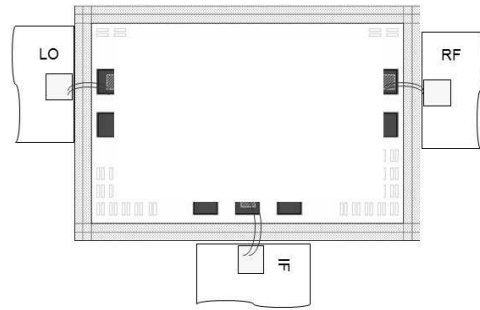
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Shape and port size (mm)



Recommended assembly drawing



Precautions

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