

Performance Characteristics:

- RF/LO frequency band: 7GHz-14GHz
- IF band: DC-5GHz
- Frequency conversion loss: 7dB
- RF-IF isolation: 23dB
- LO-IF isolation: 40dB
- LO-RF isolation degree: 45dB
- Local vibration power: 13dBm
- Chip size: 1.192mm×0.822mm×0.1mm

Product profile:

CW-MX553 is a GaAs MMIC passive double balanced mixer with RF/local frequency covering 7-14GHz, IF frequency covering DC-5GHz, conversion loss less than 9dB, Rf to if isolation greater than 20dB, local vibration to if isolation greater than 38dB, local vibration to radio frequency isolation greater than 40dB, typical local input power is 13dBm.

Electrical parameters: (TA=25°C,IF=0.1GHz,LO=13dBm)

Indicators	Minimum	Typical value	Maximum value	Units
Radio frequency	7-14			GHz
Local frequency	7-14			GHz
If frequency	DC-5			GHz
Frequency conversion loss	6.5	7	9	dB
RF-IF isolation	20	23	25	dB
LO-IF isolation	38	40	44	dB
LO-RF isolation	40	45	48	dB
P1dB(input)	10	12	14.5	dBm

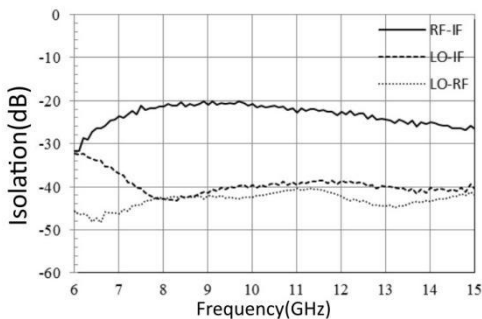
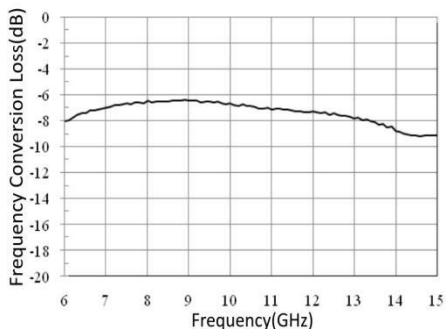
Use limit parameters: (Exceeding any of the above maximum limits is likely to cause permanent damage.)

Rf/IF power	25dBm
Local oscillator power	25dBm
Storage temperature	-65°C-150°C
Service temperature	-55°C-125°C

Typical curve:

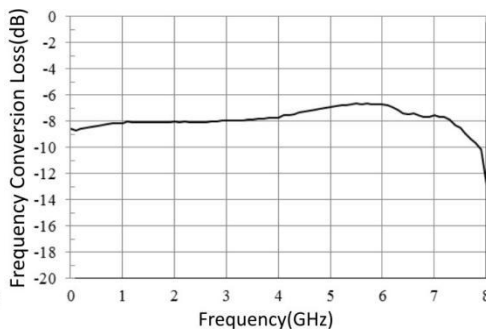
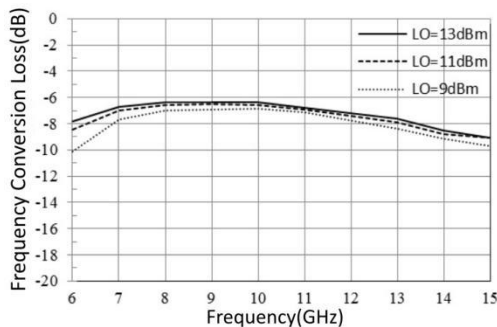
Frequency conversion loss curve @LO=13dBm, IF frequency 0.1GHz

isolation @LO=13dBm, if frequency 0.1GHz



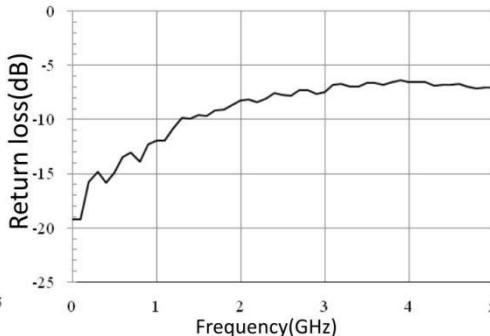
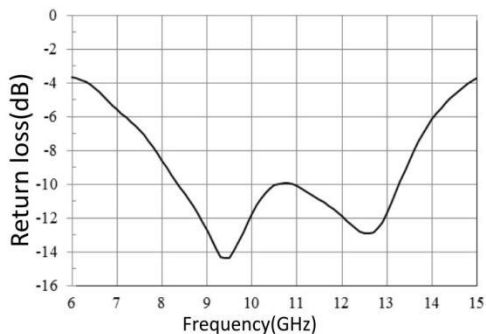
Frequency conversion loss curve @IF frequency 0.1GHz

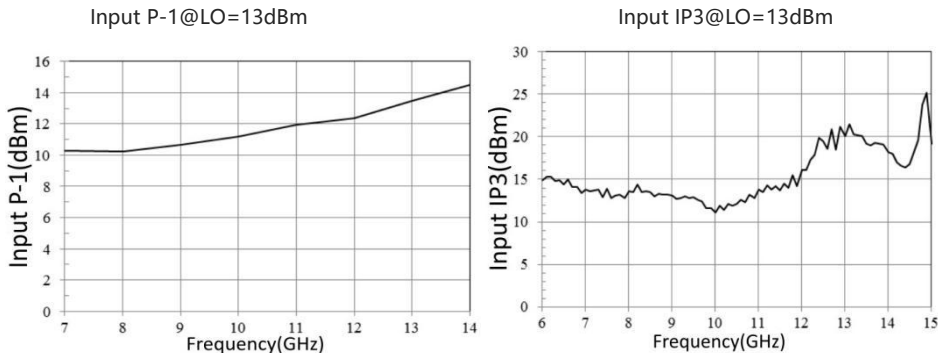
IF bandwidth@LO=14GHz,LO=13dB



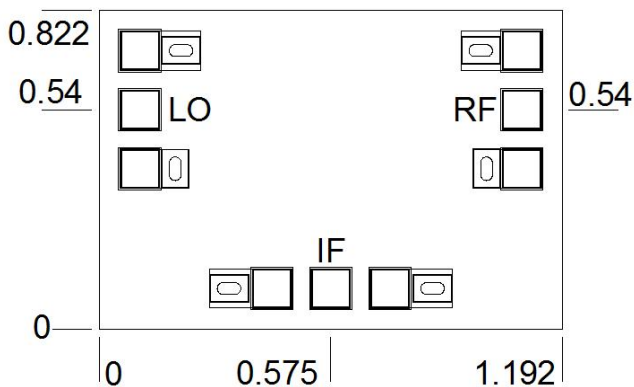
Rf return loss

IF return loss

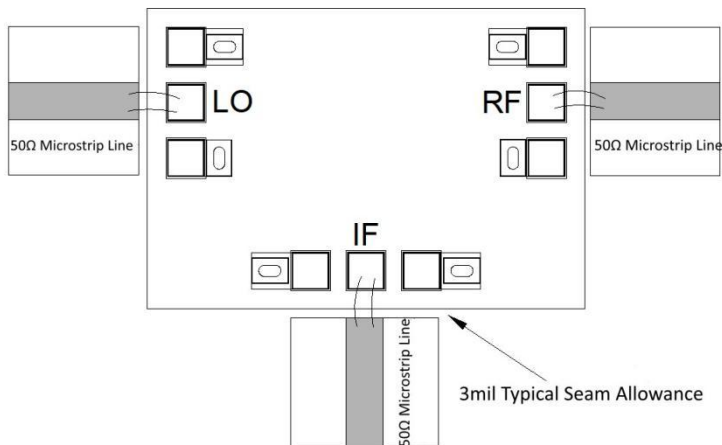




Dimensional drawing: (unit mm)



Suggested assembly drawing:



Instructions:

Storage: The chip must be placed in a container with electrostatic protection and stored in a nitrogen environment.

Cleaning treatment: The bare chip must be operated and used in a purified environment. It is forbidden to use liquid cleaning agent to clean the chip.

Electrostatic protection: Strictly comply with the ESD protection requirements to avoid electrostatic damage to the components.

General operation: Use vacuum chuck or precision pointed tweezers to pick up the chip. Avoid touching the surface of the chip with tools or fingers during handling.

Mounting operation: The chip can be installed using AuSn solder eutectic welding or conductive adhesive bonding process. The mounting surface must be clean and flat.

Bonding operation: Input and output with 2 (recommended diameter of 25um gold wire) bonding wire, bonding wire length less than 250um is optimal. It is recommended to use the smallest possible ultrasonic energy. Bonding begins at the pressure point on the chip and ends at the package (or substrate).