

Performance Characteristics:

- RF/LO frequency band: 6GHz-18GHz
- IF band: DC-6GHz
- Frequency conversion loss: 7dB
- RF-IF isolation: 15dB
- LO-IF isolation degree: 45dB
- LO-RF isolation degree: 48dB
- Local vibration power: 20dBm
- Chip size: 1.274mm×0.822mm×0.1mm

Product profile:

CW-MX141 is a GaAs MMIC passive double balanced mixer with RF/local frequency covering 6-18GHz, IF frequency covering DC-6GHz, conversion loss less than 8dB, Rf to if isolation greater than 11dB, local vibration to if isolation greater than 41dB, local vibration to radio frequency isolation greater than 45dB, typical local input power is 20dBm.

Electrical parameters: (TA=25°C,IF=0.1GHz,LO=20dBm)

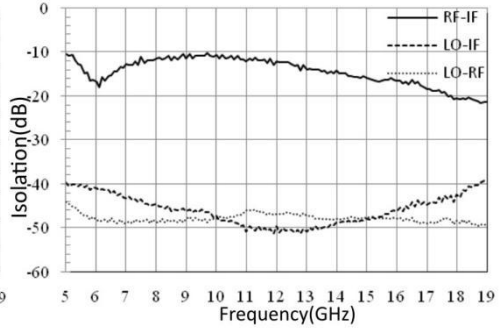
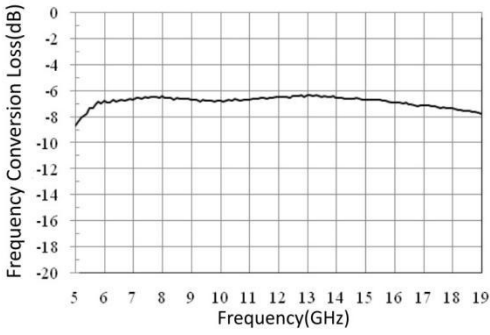
Indicators	Minimum	Typical value	Maximum value	Units
Radio frequency	6-18			GHz
Local frequency	6-18			GHz
If frequency	DC-6			GHz
Frequency conversion loss	6.5	7	8	dB
RF-IF isolation	11	15	22	dB
LO-IF isolation	41	45	51	dB
LO-RF isolation	45	48	50	dB
P1dB(input)	11	12	13	dBm

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

Rf/IF power	20 dBm
Local oscillator power	27 dBm
Storage temperature	-65°C~150°C
Service temperature	-55°C~125°C

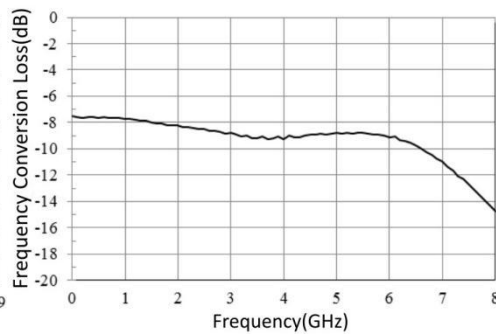
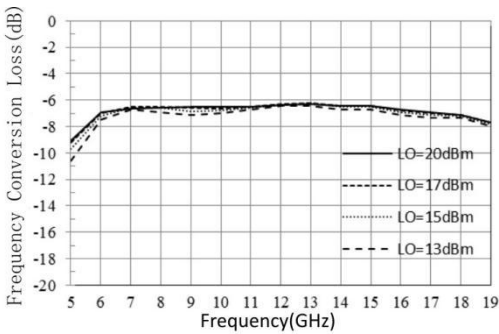
Typical curve:

Frequency conversion loss curve @LO=20dBm, IF frequency 0.1GHz isolation @LO=20dBm, if frequency 0.1GHz



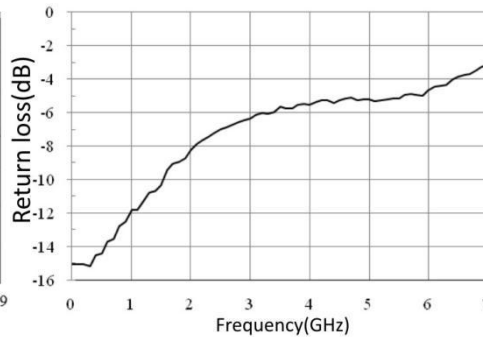
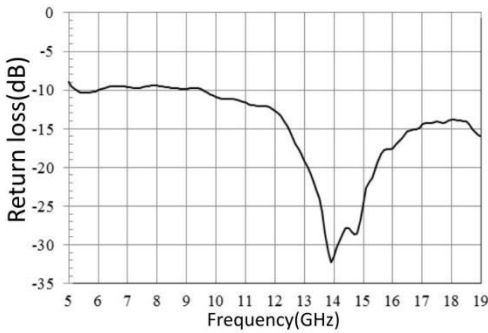
Frequency conversion loss @IF frequency 0.1GHz

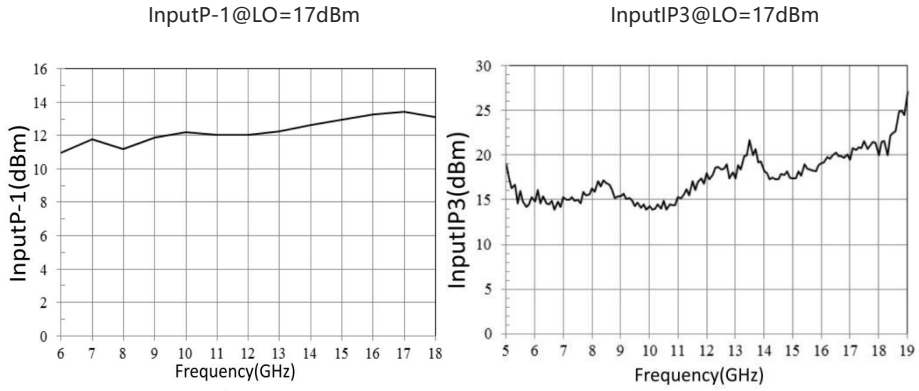
IF bandwidth @LO=18GHz, LO=20dBm



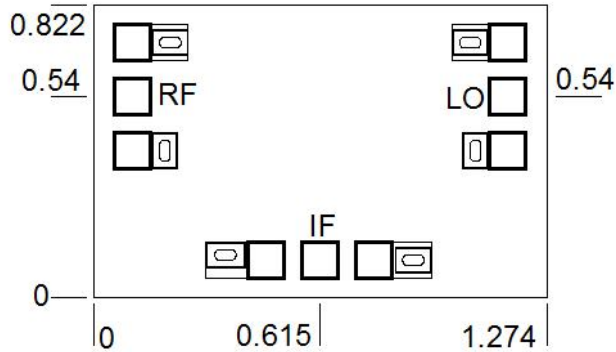
RF return loss

Intermediate frequency return loss

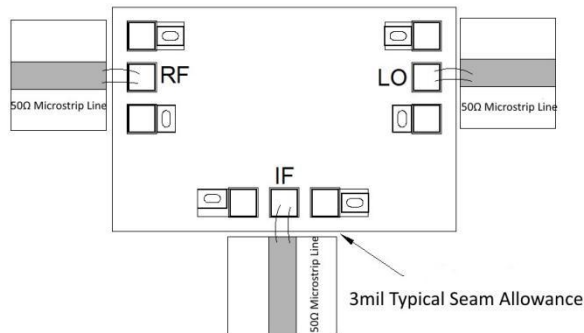




Dimensional drawing: (unit mm)



Suggested assembly drawing:



Instructions:

Note: I/O has straight capacitance.

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 remove 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).