Features

RF&LO Frequency: 38～54GHz
IF Frequency: DC～15GHz
LO Input Power: 12dBm
Conversion Loss: 8dB
LO/RF Isolation: 25dB
Chip Size: 1.38mm×1.21mm×0.1mm

General Description

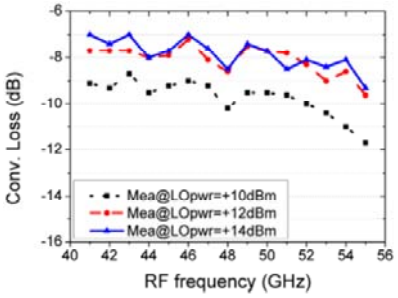
The HG129H is a GaAs pHEMT MMIC passive double-balanced mixer that can be used as an upconverter or downconverter between 38 and 54GHz. This mixer LO input power is 12dBm. Conversion loss is 8 dB.

Electrical Specification(T_A=25℃)

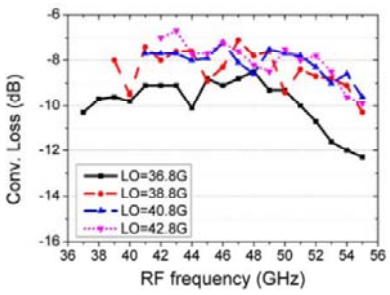
Parameter	Min.	Typ.	Max.
Freq. RF&LO(GHz)	38～54		
Freq. IF (GHz)	DC～15		
Conversion Loss(dB)	—	8	—
LO~RF Isolation(dB)	—	25	—
Input Return Loss	—	15	—

Measured Performance

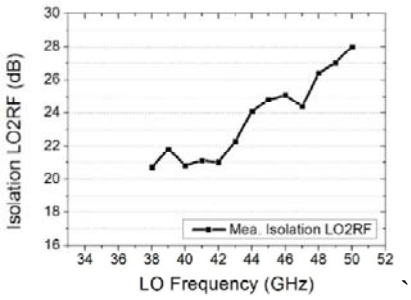
Conversion Loss vs. LO Power



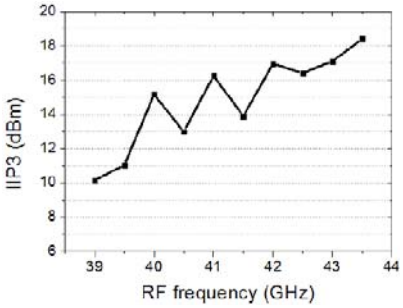
Conversion Loss vs. LO Freq.



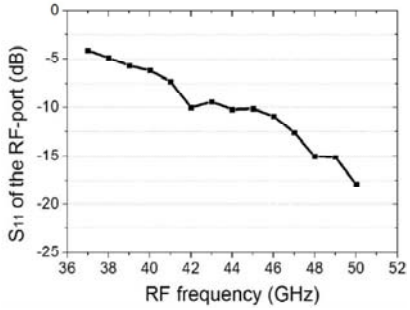
LO-RF Isolation



IIP3



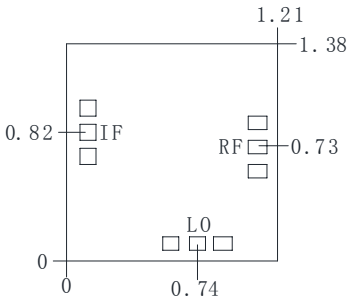
Input Return Loss



Absolute Maximum Ratings

RF Input Power	+20dBm
Operating Temperature	-55℃～125℃
Storage Temperature	-65℃～150℃

Outline Drawing (mm)



Notes:

1. The chip should be stored in a dry and nitrogen environment, and used in a clean environment.
2. GaAs material is brittle, can not touch the surface of the chip, must be careful when using.
3. The chip is welding with conductive adhesive or alloy (alloy temperature should not exceed 300℃, and no more than 30 sec.), and should make it fully grounded.
4. The chip microwave port and substrate gap is not exceeding 0.05mm, with Φ25μm double gold wire bonding, suggested length of gold wire 250～400μm.
5. Chip microwave port without DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.