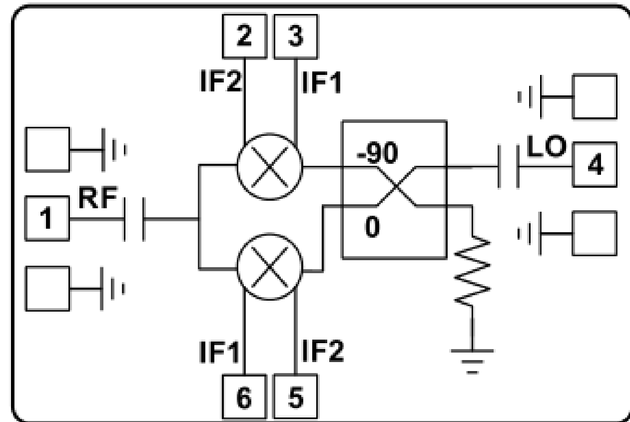
Features

- Passive Type: No DC biasing required
- RF Frequency: 8.5-13.5 GHz
- Conversion Loss: 9 dB
- Image Rejection: 25 dB
- LO/RF Isolation: 40 dB
- IF Bandwidth: DC-3.5 GHz
- P1dB: +13 dBm
- Die Size: 1.49 x 1.14 x 0.1 mm

Functional Block Diagram



Typical Applications

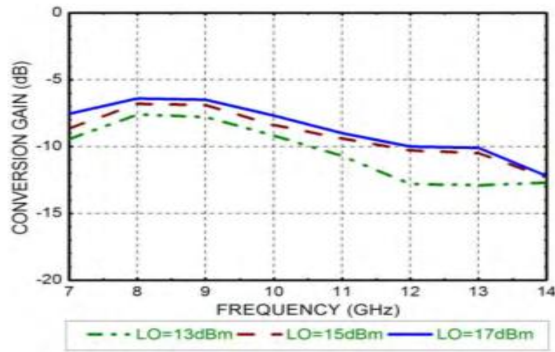
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications
TA = +25°C, IF = 100MHz, LO = +15 dBm

Parameters	Min.	Typ.	Max.	Units
RF Frequency (RF/LO)		8.5-13.5		GHz
IF Frequency (IF)		DC-3.5		GHz
Conversion Loss		9		dB
Image Rejection		25		dB
Isolation “LO to RF”		40		dB
Isolation “LO to IF”		20		dB
Isolation “RF to IF”		40		dB
Input 1dB Compression		13		dBm
Input Third Order Intercept (IIP3)		24		dBm

MMIQ001
IQ Mixer - MMIC 8.5-13.5GHz

Conversion Gain vs. LO Drive



Isolation

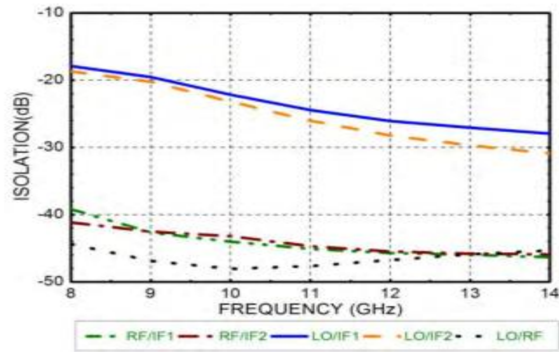
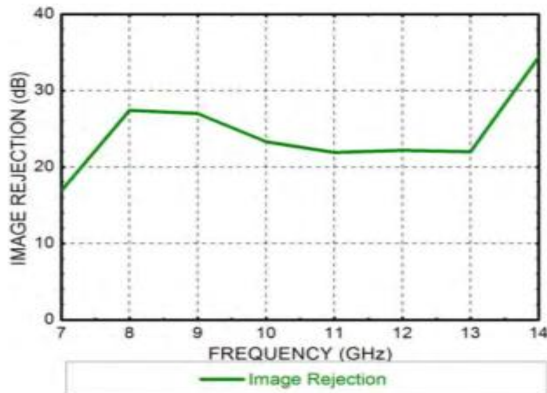
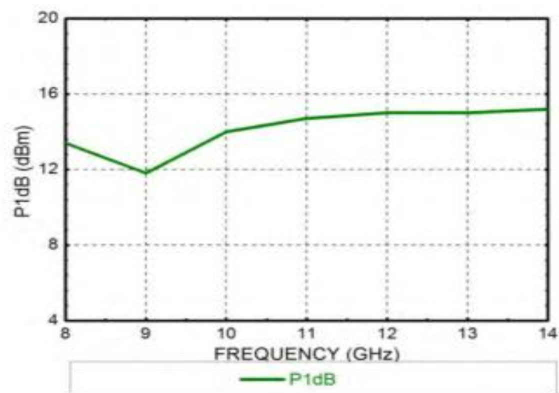


Image Rejection

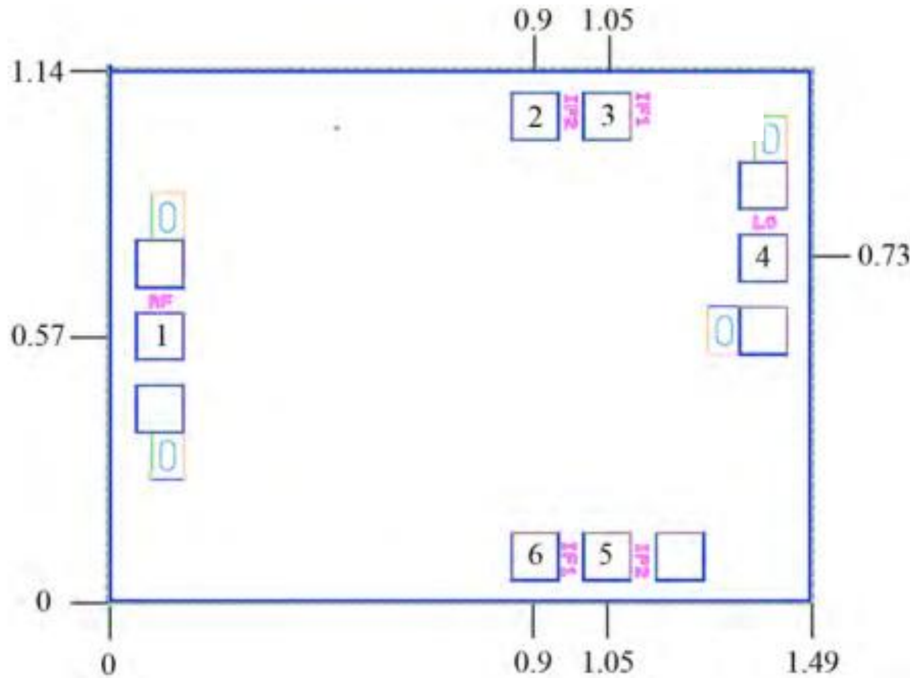


Input Power P1dB



Outline Drawing:

All Dimensions in mm



Pad Description

Pad Number	Function	Description
1	RF	AC coupling 50Ω Impedance
2,3,5,6	IF1, IF2	DC coupling 50Ω Impedance
4	LO	AC coupling 50Ω Impedance
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die is grounded
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. RF/IF input power: +21dBm
2. Local oscillator drive power: +27dBm
3. Storage temperature: -65℃ to +150℃
4. Operating temperature: -55℃ to +85℃