MILLER MMIC

MMX010

V1.0.0

GaAs pHEMT MMIC Mixer 18-40GHz

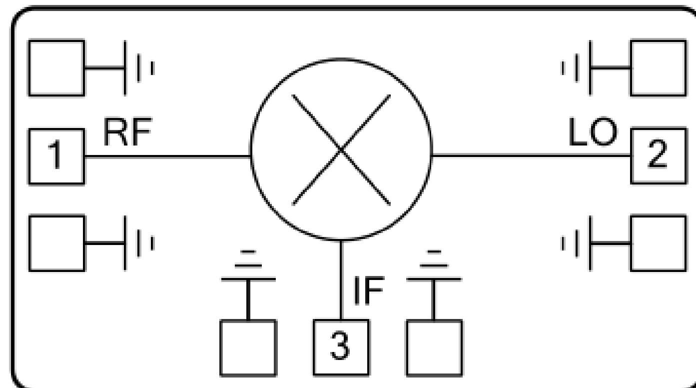
MMX010

MIXER - MMIC 18-40GHz

Features

- Passive Type: No DC biasing required
- RF Frequency: 18-40 GHz
- IF Bandwidth: DC-18 GHz
- Conversion Loss: 10 dB
- LO/RF Isolation: 30 dB
- P1dB: +11 dBm
- Die Size: 1.5 x 1 x 0.1 mm

Functional Block Diagram



Typical Applications

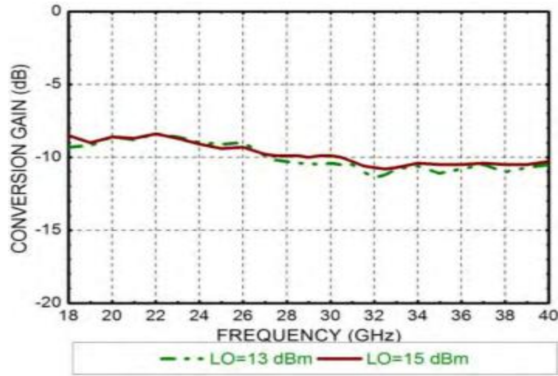
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

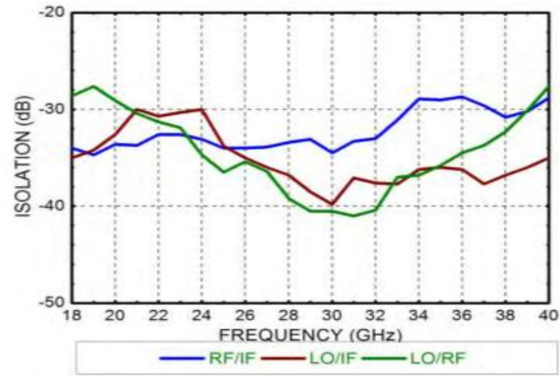
TA = +25°C, IF = 100MHz, LO = +15dBm

Parameters	Min.	Typ.	Max.	Units
RF Frequency (RF/LO)		18-40		GHz
IF Frequency (IF)		DC-18		GHz
Conversion Loss		10		dB
Isolation "LO to RF"		30		dB
Isolation "LO to IF"		35		dB
Isolation "RF to IF"		32		dB
Input 1dB Compression		11		dBm
Input Third Order Intercept (IIP3)		18		dBm

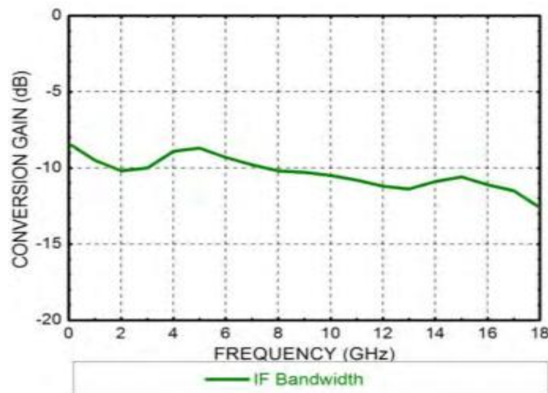
Conversion Gain vs. LO Drive



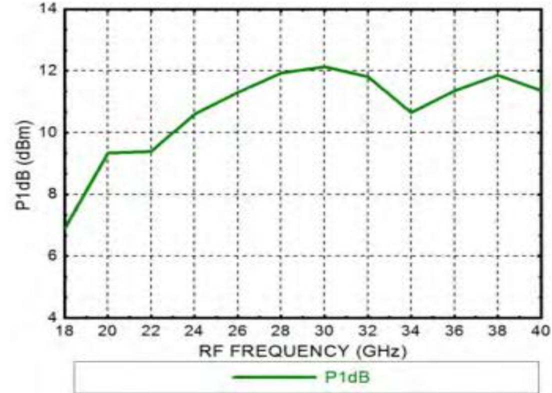
Isolation



IF Bandwidth

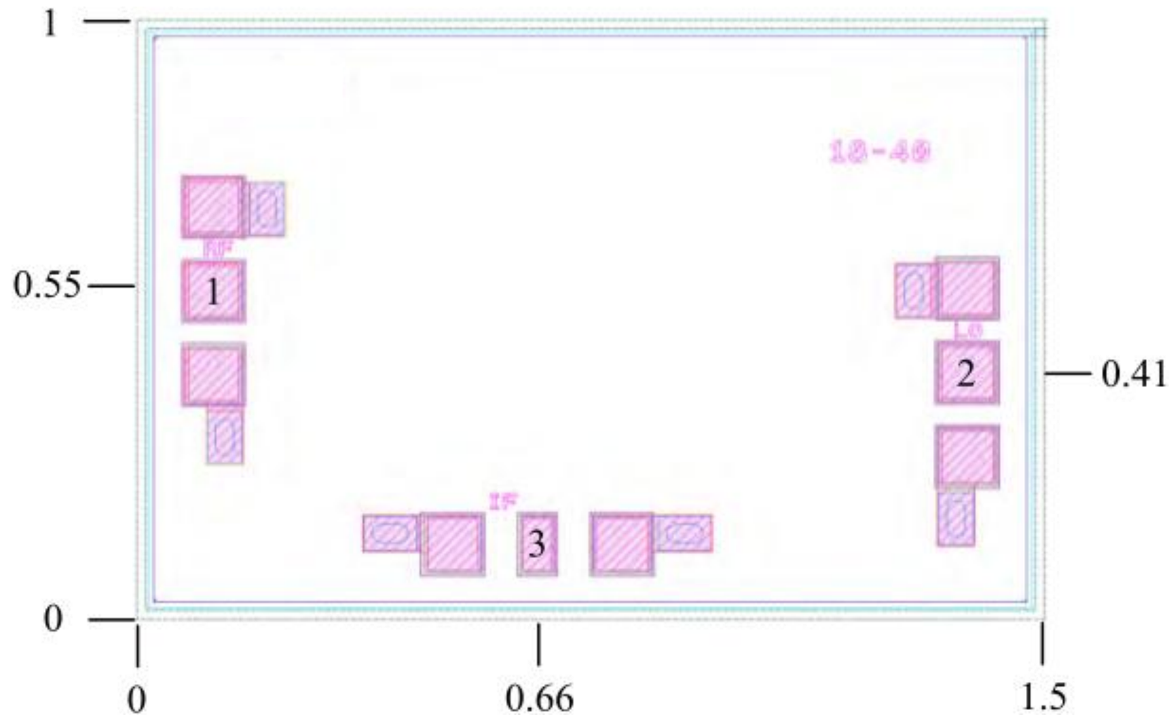


Input Power P1dB



Outline Drawing:

All Dimensions in mm



Pad Description

Pad Number	Function	Description
1	RF	DC coupling 50Ω Impedance
2	LO	DC coupling 50Ω Impedance
3	IF	DC 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 μm^2
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: +24dBm
2. Local oscillator drive power: +24dBm
3. Storage temperature: -65℃ to +150℃
4. Operating temperature: -55℃ to +85℃