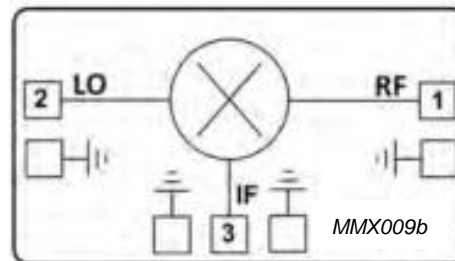
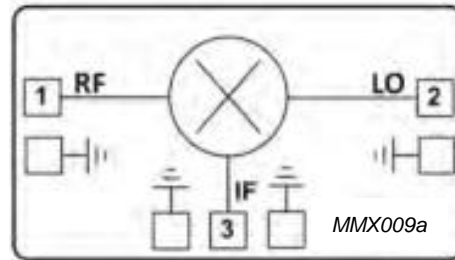


### Features

- Passive Type: No DC biasing required
- RF Frequency: 12-27 GHz
- IF Bandwidth: DC-13 GHz
- Conversion Loss: 9 dB
- LO/RF Isolation: 30 dB
- Input P1dB: +12 dBm
- Die Size: 1.0 x 0.75 x 0.1 mm

### Functional Block Diagram



### Typical Applications

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

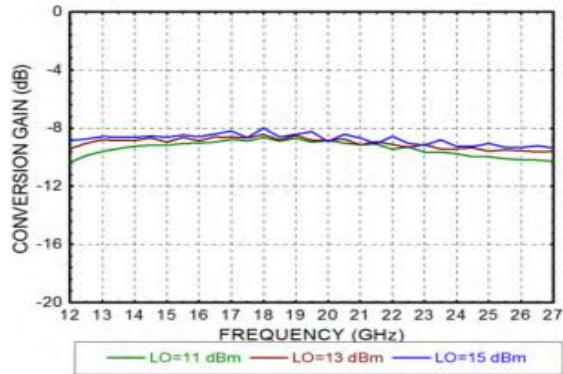
### Electrical Specifications

TA = +25°C, IF = 100MHz, LO = +13dBm

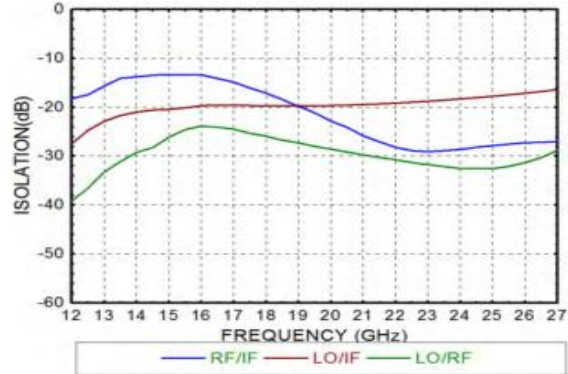
Parameters	Min.	Typ.	Max.	Units
RF Frequency (RF/LO)		12-27		GHz
IF Frequency (IF)		DC-13		GHz
Conversion Loss		9		dB
Isolation "LO to RF"		30		dB
Isolation "LO to IF"		20		dB
Isolation "RF to IF"		20		dB
Input 1dB Compression		12		dBm

Note: MMX009a and MMX009b are mutually mirrored versions.

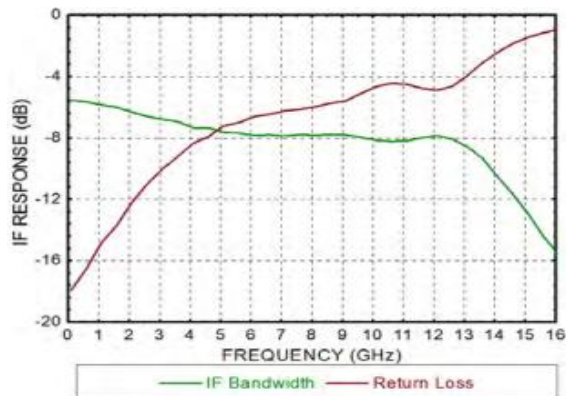
Conversion Gain vs. LO Drive



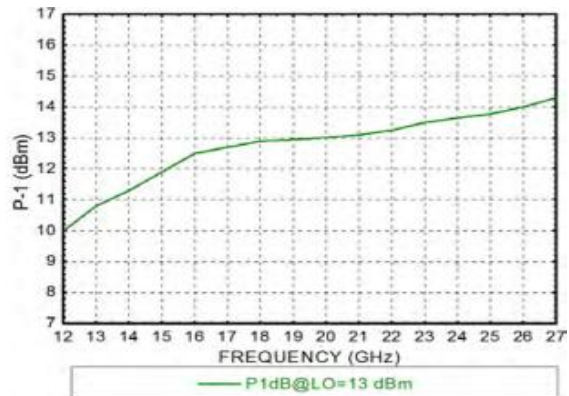
Isolation



IF Bandwidth



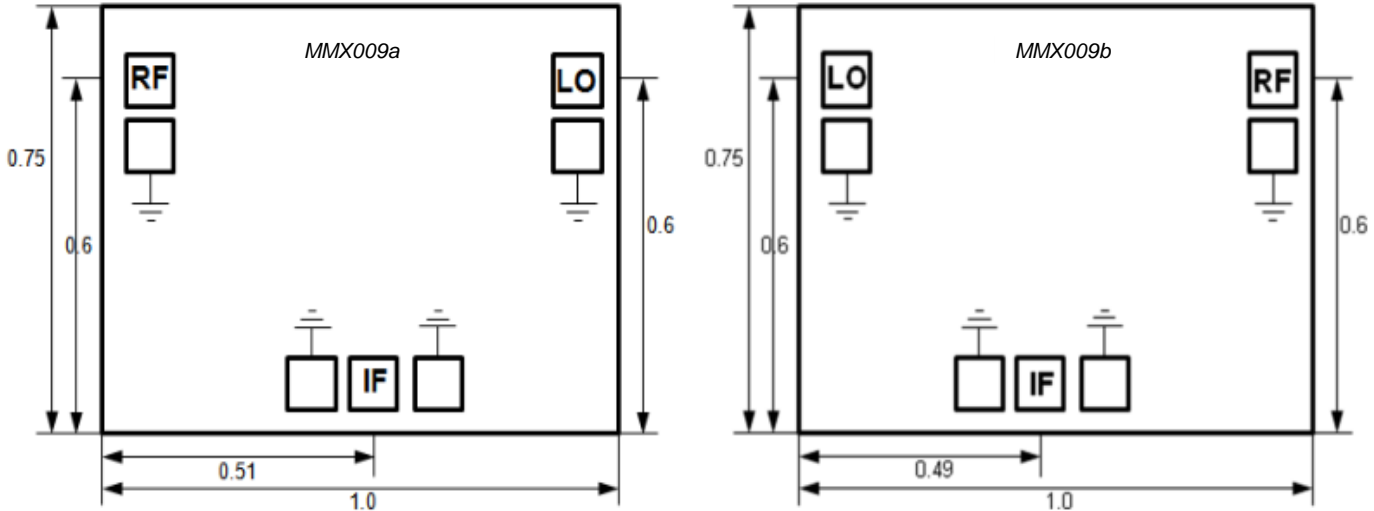
Input Power P1dB





### Outline Drawing:

All Dimensions in mm



MMX009

MIXER - MMIC 12-27GHz

### 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<sup>2</sup>
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: +24dBm
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C