

Features

- **Passive Type:** No DC biasing required
- **RF Frequency:** 6-20 GHz
- **IF Bandwidth:** DC-6 GHz
- **Conversion Loss:** 8 dB
- **LO/RF Isolation:** 40 dB
- **Input P1dB:** +12 dBm
- **Die Size:** 1.5 x 1.0 x 0.1 mm

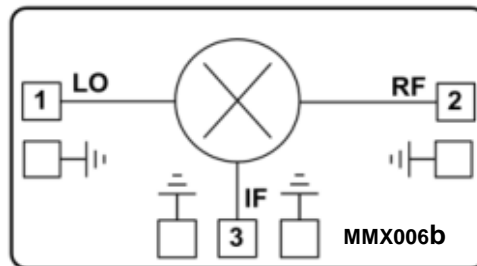
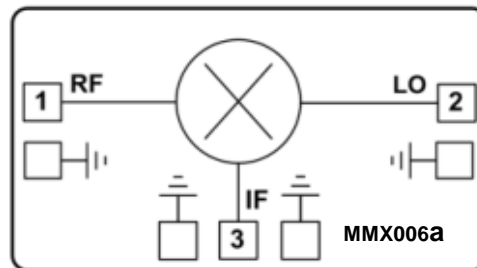
Typical Applications

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

Electrical Specifications

TA = +25°C, IF = 100MHz, LO = +13dBm

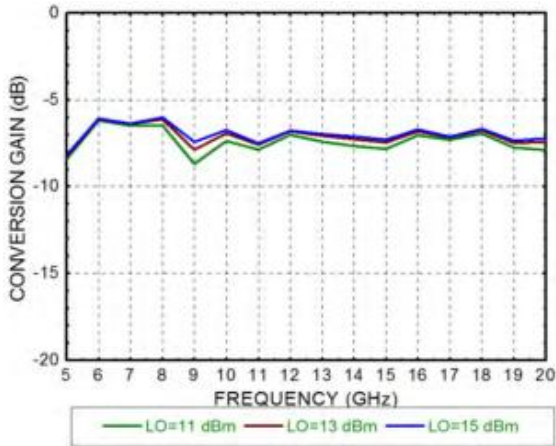
Functional Block Diagram



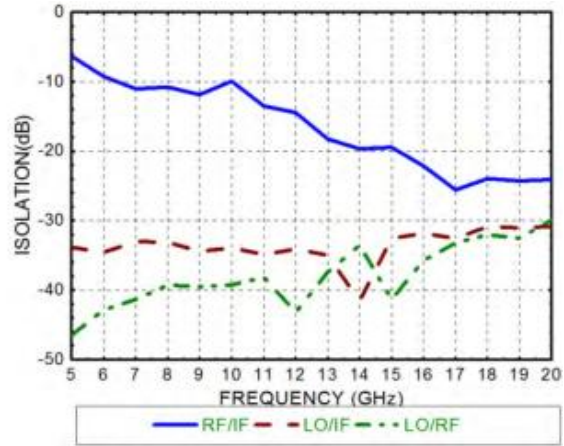
Parameters	Min.	Typ.	Max.	Units
RF Frequency (RF/LO)		6-20		GHz
IF Frequency (IF)		DC-6		GHz
Conversion Loss		8		dB
Isolation "LO to RF"		40		dB
Isolation "LO to IF"		35		dB
Isolation "RF to IF"		20		dB
Input P1dB		12		dBm



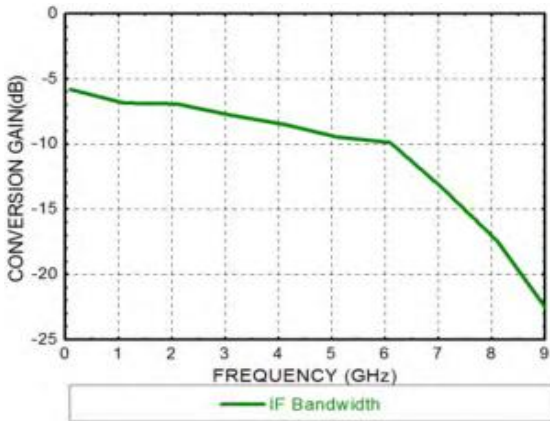
Conversion Gain vs. LO Driver



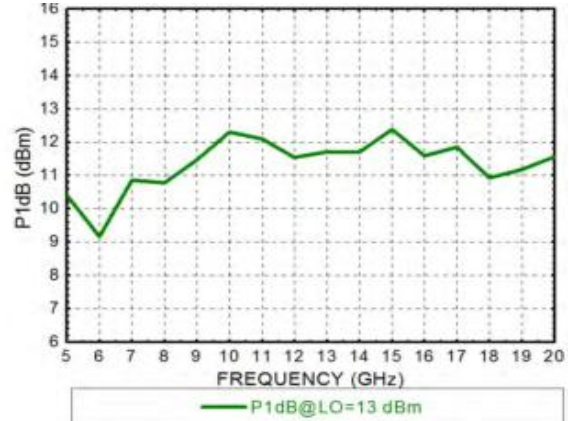
Isolation



IF Bandwidth

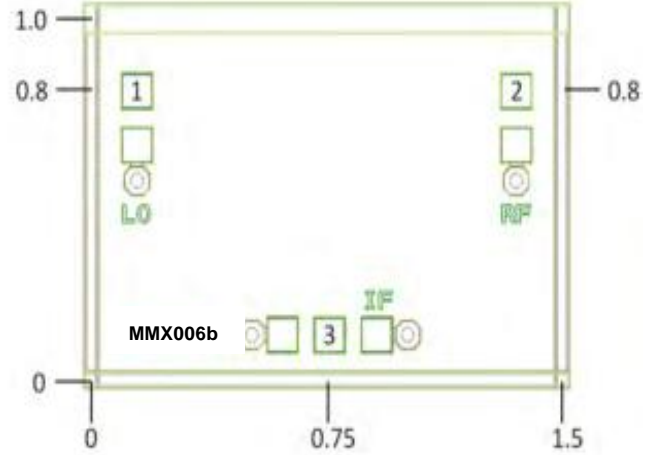
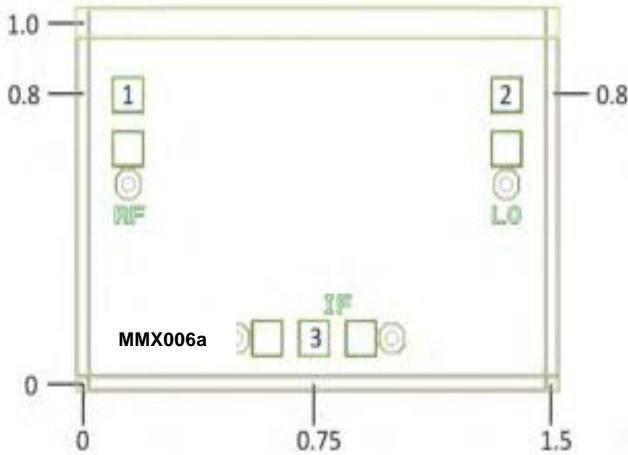


Input P1dB





Outline Drawing: All Dimensions in mm



Pad Description

Pad Number	Function	Description
1	RF(MMX006a)/ LO(MMX006b)	DC coupling 50Ω Impedance
2	LO(MMX006a)/ RF(MMX006b)	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 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. LO drive power: +24dBm
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C