

### Features

- **Passive Type:** No DC biasing required
- **RF Frequency:** 12-18 GHz
- **Fixed local oscillator:** 23.5 GHz
- **IF Bandwidth:** 5.5-11.5 GHz
- **Conversion Loss:** 8.5 dB
- **LO/RF Isolation:** 47 dB
- **P1dB:** +9 dBm
- **Die Size:** 1.5 x 1.2 x 0.1 mm

### Typical Applications

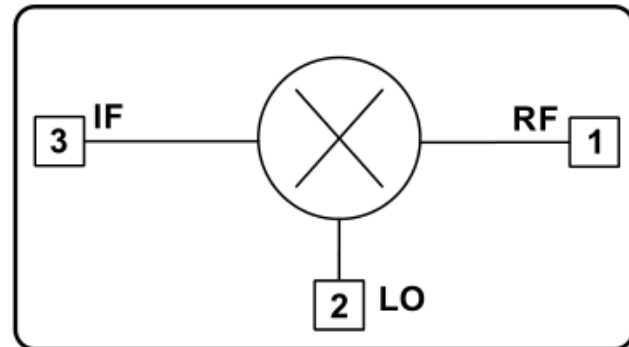
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

### Electrical Specifications

TA = +25°C, LO = +12dBm

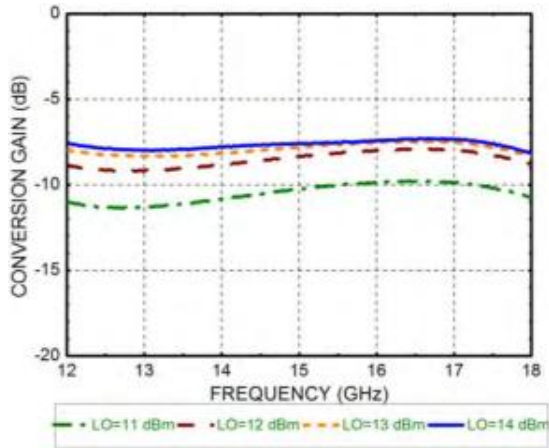
Parameters	Min.	Typ.	Max.	Units
RF Frequency (RF)		12-18		GHz
Local Oscillator Frequency (LO)		23.5		GHz
IF Frequency (IF)		5.5-11.5		GHz
Conversion Loss		8.5		dB
Isolation "LO to RF"		47		dB
Isolation "LO to IF"		45		dB
Isolation "RF to IF"		30		dB
Input 1dB Compression		9		dBm
Input Third Order Intercept (IIP3)		20		dBm

### Functional Block Diagram

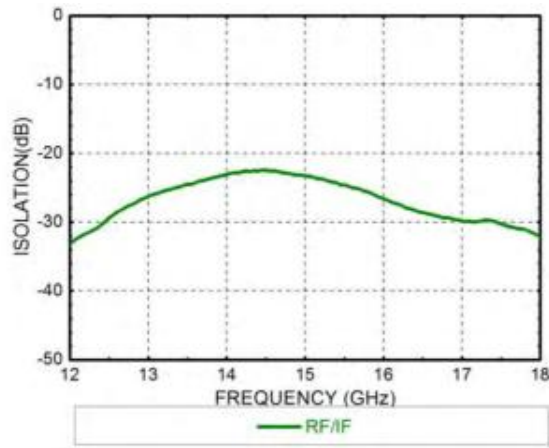




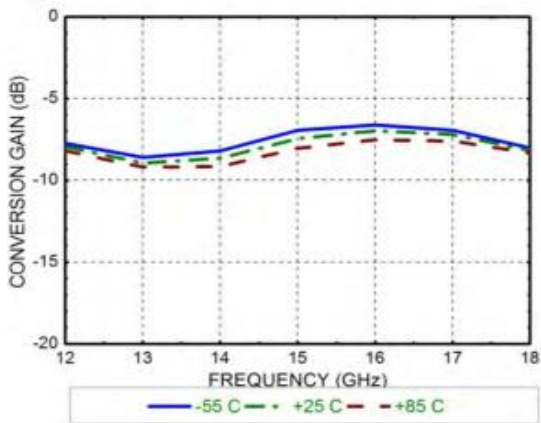
### Conversion Gain vs. LO Drive



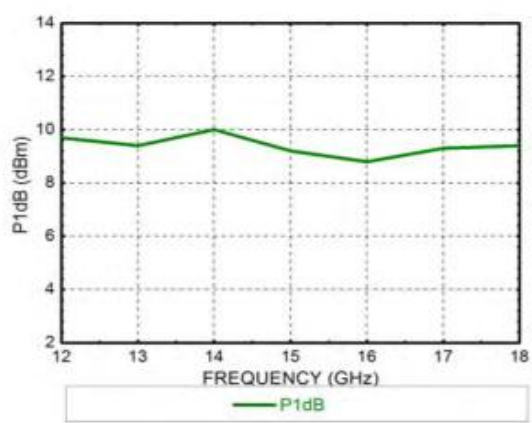
### Isolation



### Conversion Gain vs. Temperature



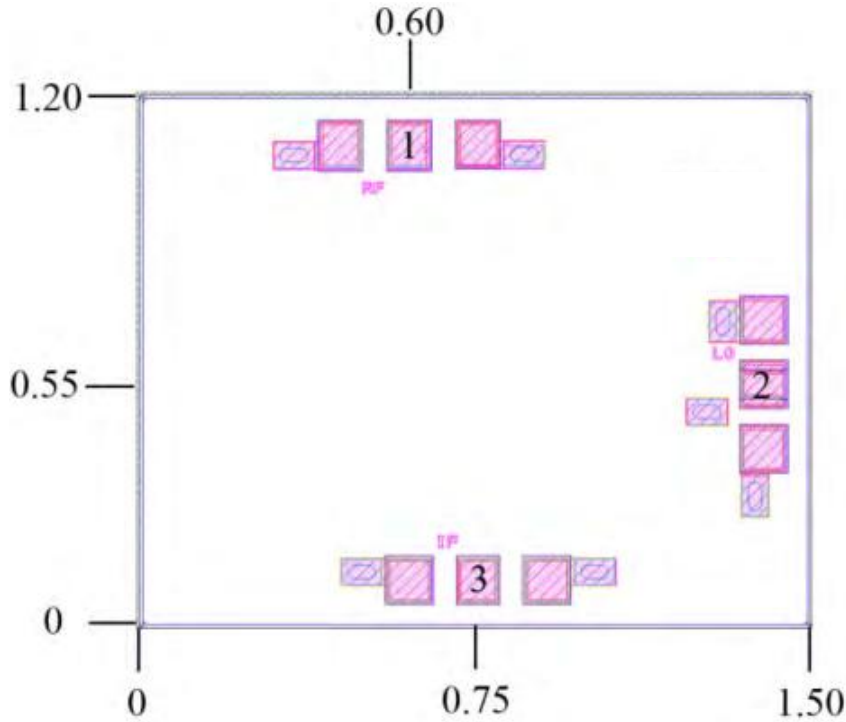
### Input Power P1dB





### Outline Drawing:

All Dimensions in mm



### Pad Description

Pad Number	Function	Description
1	RF	AC 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: +24dBm
2. Local oscillator drive power: +24dBm
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C