

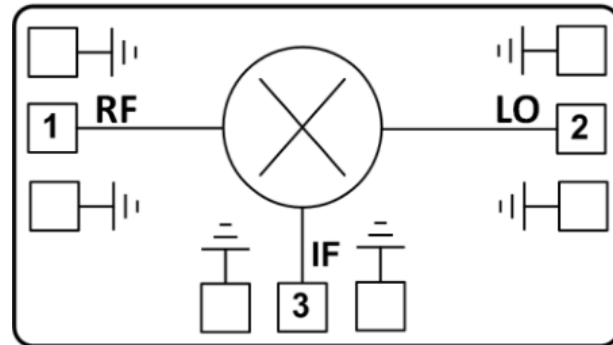
### Features

- **Passive Type:** No DC biasing required
- **RF Frequency:** 3-14 GHz
- **IF Bandwidth:** DC-3 GHz
- **Conversion Loss:** 8 dB
- **LO/RF Isolation:** 35 dB
- **Input P1dB:** +12 dBm
- **Die Size:** 1.485 x 1.5 x 0.1 mm

### Typical Applications

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

### Functional Block Diagram



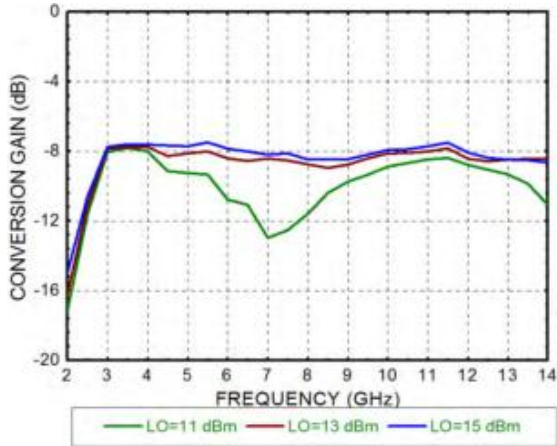
### Electrical Specifications

TA = +25°C, IF = 100MHz, LO = +13dBm

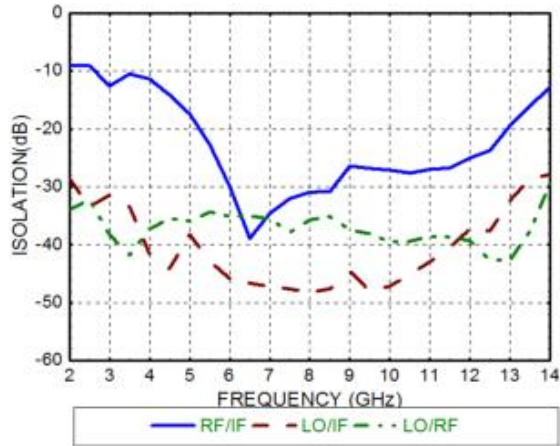
| Parameters                         | Min. | Typ. | Max. | Units |
|------------------------------------|------|------|------|-------|
| RF Frequency (RF/LO)               |      | 3-14 |      | GHz   |
| IF Frequency (IF)                  |      | DC-3 |      | GHz   |
| Conversion Loss                    |      | 8    |      | dB    |
| Isolation "LO to RF"               |      | 35   |      | dB    |
| Isolation "LO to IF"               |      | 40   |      | dB    |
| Isolation "RF to IF"               |      | 20   |      | dB    |
| Input 1dB Compression              |      | 12   |      | dBm   |
| Input Third Order Intercept (IIP3) |      | 22   |      | dBm   |



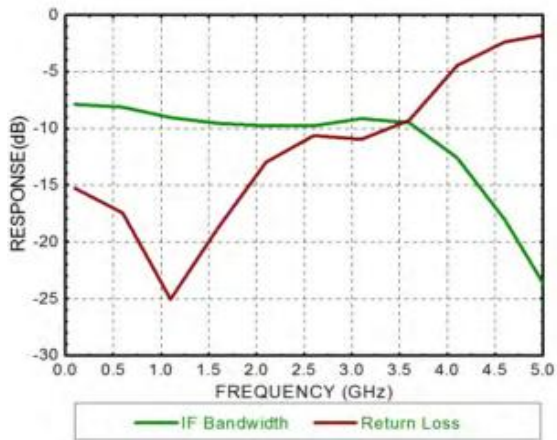
### Conversion Gain vs. LO Driver



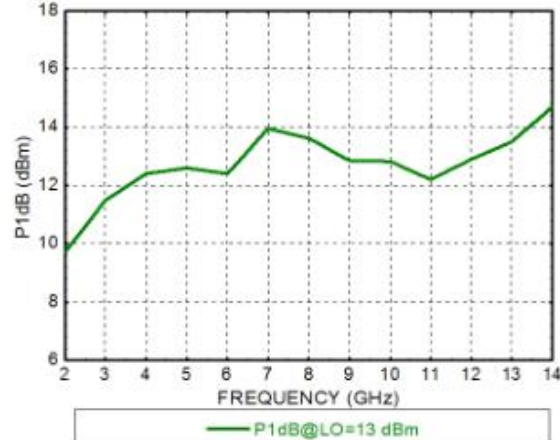
### Isolation



### IF Bandwidth

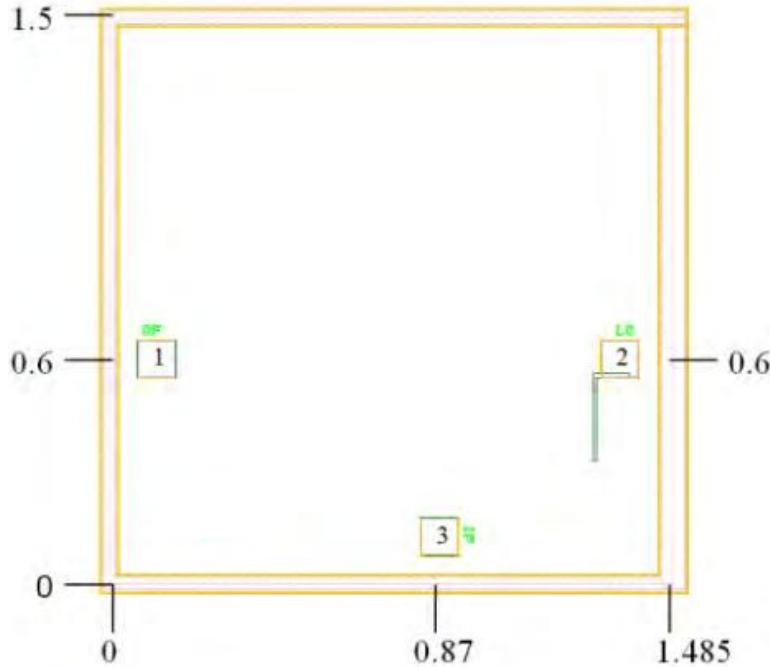


### Input P1dB





### Outline Drawing: All Dimensions in mm



### Pad Description

| Pad Number | Function | Description                                   |
|------------|----------|---|
| 1          | RF       | 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