

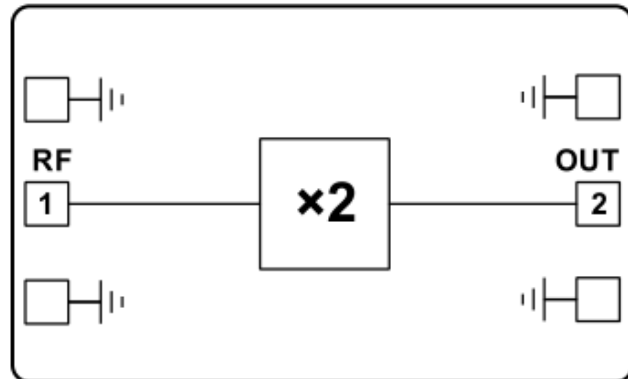
Features

- Input Frequency: 8-20 GHz
- Output Frequency: 16-40 GHz
- Conversion Loss: 12 dB
- Fundamental Wave Isolation: >40 dBc
- Passive Type: No DC supply required
- Die Size: 1.5 x 1.0 x 0.1 mm

Typical Applications

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

Functional Block Diagram



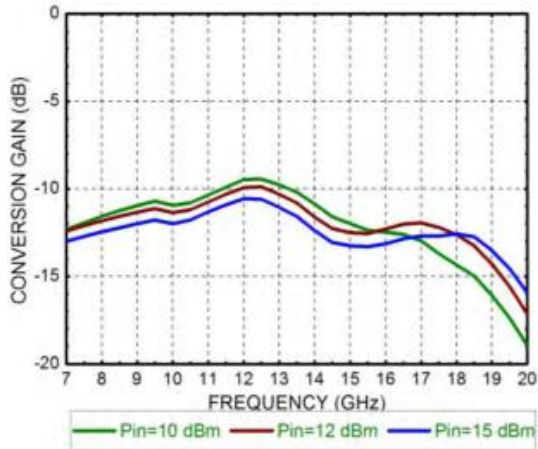
Electrical Specifications

TA = +25°C, Input = +15dBm

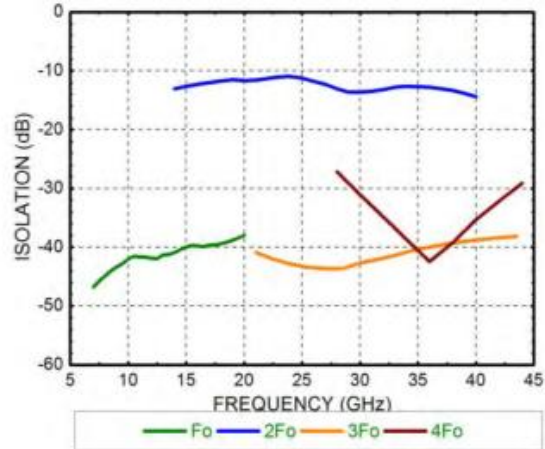
Parameters	Min.	Typ.	Max.	Units
Input Frequency Range		8-20		GHz
Output Frequency Range		16-40		GHz
Conversion Loss		12		dB
Fundamental Wave Isolation (Relative to Input Power)		40		dBc
Third-order Harmonic Isolation		40		dBc
Fourth-order Harmonic Isolation		30		dBc
Input Return Loss		-8		dB
Output Return Loss		-3		dB



Conversion Gain vs. Drive Power



Isolation@15dBm Drive Power



Outline Drawing: All Dimensions in mm





Pad Description

Pad Number	Function	Description
1	RF	RF input. AC coupling 50Ω Impedance at the frequency band 7-14GHz.
2	OUT	RF output. DC coupling 50Ω Impedance at the frequency band 14-28GHz.
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 input power: +24dBm
2. Storage temperature: -65°C to +150°C
3. Operating temperature: -55°C to +85°C