



Features

- Frequency: 12-16GHz
- Small Signal Gain: 26dB
- P-1dB: 34.5dBm
- Psat: 35.5dBm
- OIP3: 40.5dBm@14GHz
- Power Supply: +7V/1120mA
- Input/Output: 50Ω
- Die Size: 3.06 x 2.0 x 0.1 mm

Typical Applications

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

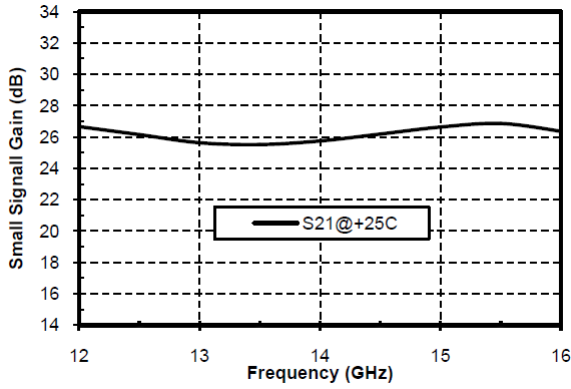
Electrical Specifications

TA = +25°C, Vd = +7V, Vg=-1.0V, Ids=1120mA

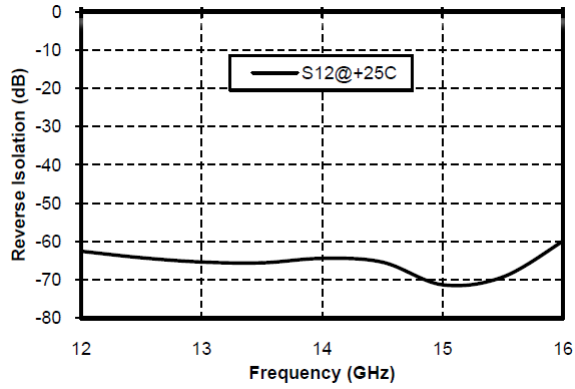
Parameters	Min.	Typ.	Max.	Units
Frequency	12-16			GHz
Small Signal Gain	25.5	26	26.5	dB
Gain Flatness	±0.5			dB
P-1dB	-	34.5	-	dBm
Psat	-	35.5	-	dBm
PAE	-	42	-	%
OIP3@14GHz	-	40.5	-	dBm
Input Return Loss	9	11	-	dB
Output Return Loss	10.5	16	-	dB
Quiescent Current		1120		mA

* Adjust VG (-2V-0V), Recommended gate voltage -1.0V.

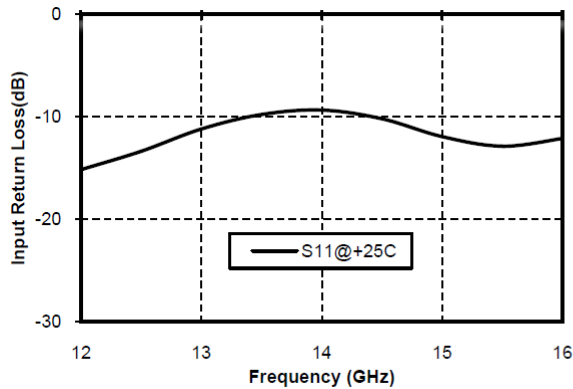
Gain vs. Frequency



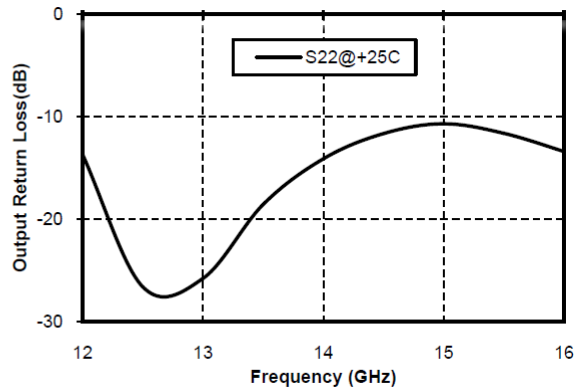
Isolation vs. Frequency



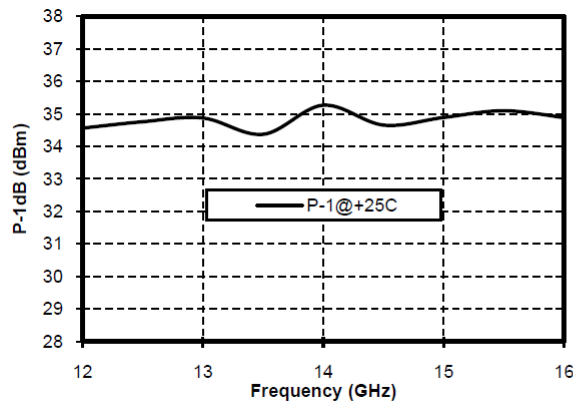
Input Return Loss vs. Frequency



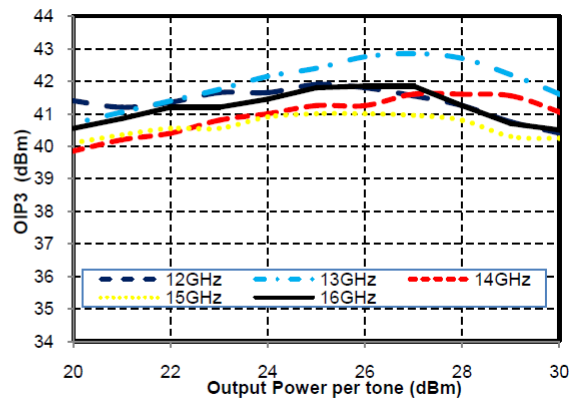
Output Return Loss vs. Frequency



P-1dB vs. Frequency

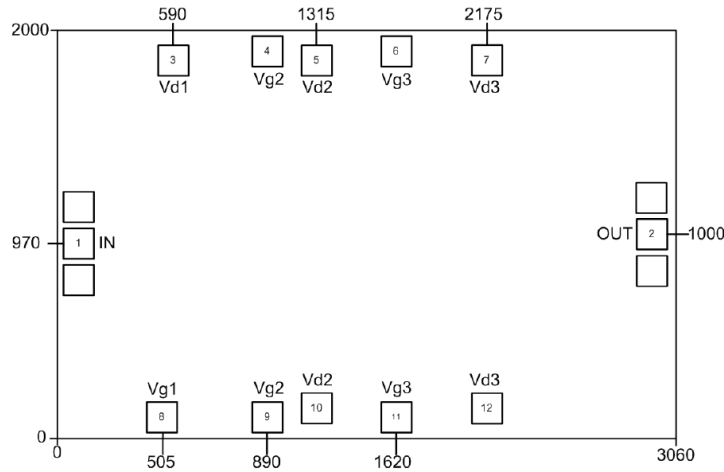


OIP3 vs. Frequency





Outline Drawing:
All Dimensions in μm

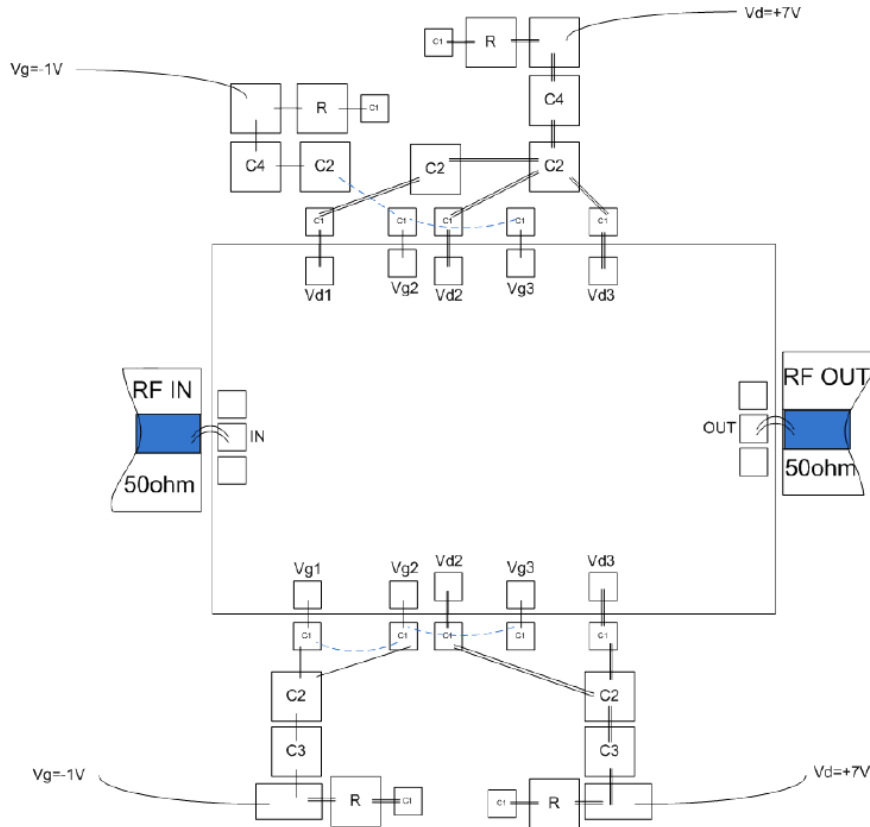


Pad Description

Pad	Function	Description
1	RF IN	Signal input terminal, connected to 50 Ω circuit; no blocking capacitor required.
2	RF OUT	Signal output terminal, connected to 50 Ω circuit; no blocking capacitor required.
3, 5, 7, 10, 12	VD1-4	Amplifier drain bias; external 50pF, 1000pF, 0.01uF, 4.7uF bypass capacitor required.
4, 6, 8, 9, 11	VG1-2	Amplifier gate bias; external 50pF, 1000pF, 0.01uF, 4.7uF bypass capacitor required.
Die bottom	GND	Die bottom must be connected to RF/DC ground.



Assembly Drawing



Note:

- C1 50pF
- C2 1000pF
- C3 0.01uF
- R 10Ω

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 (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:

1. Maximum drain voltage: +9V
2. Maximum gate bias: -3V
3. Maximum input power: +25dBm
4. Operating temperature: -55°C to +85°C
5. Storage temperature: -65°C to +150°C