

Features

- Frequency: 12-20GHz
- Small Signal Gain: 19dB
- Gain Flatness: ± 0.8 dB
- Psat: 25.5dBm
- Efficiency: 50%
- Power Supply: +5V@150mA
- Input/Output: 50 Ω
- Die Size: 1.85 x 1.2 x 0.1 mm

Functional Block Diagram
Typical Applications

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

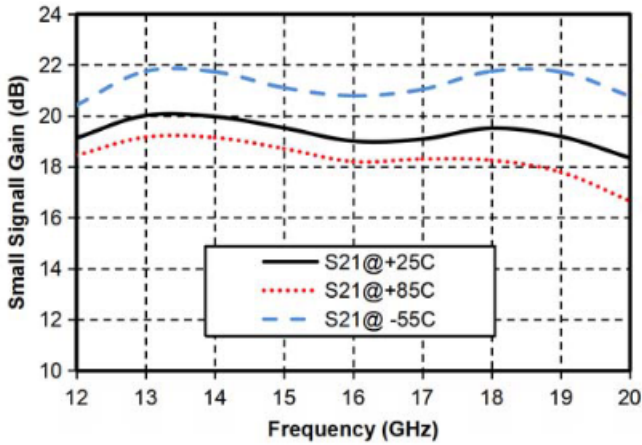
Electrical Specifications

TA = +25°C, Vd = +5V, Vg=-0.8, Ids=150mA

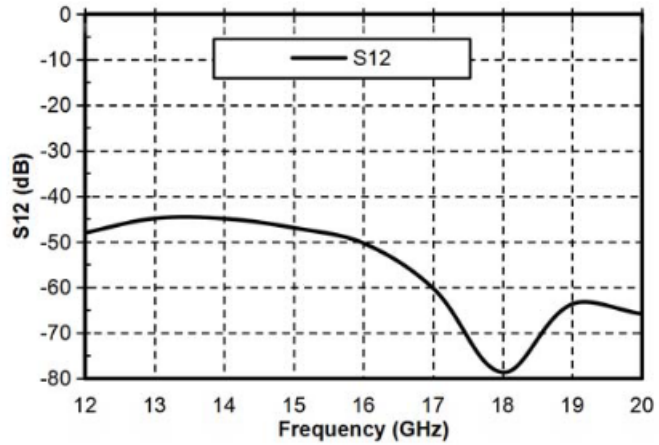
Parameters	Min.	Typ.	Max.	Units
Frequency		12-20		GHz
Small Signal Gain		19		dB
Gain Flatness		± 0.8		dB
P1dB		25		dBm
Psat		25.5		dBm
Efficiency		50		%
Input Return Loss		23		dB
Output Return Loss		16		dB
Quiescent Current		150		mA

By tuning the Vg terminal voltage -2V~0V, the recommended gate voltage is -0.8V.

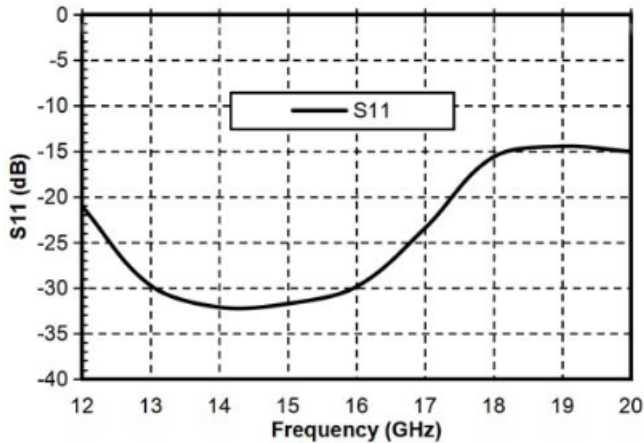
Gain vs. Frequency



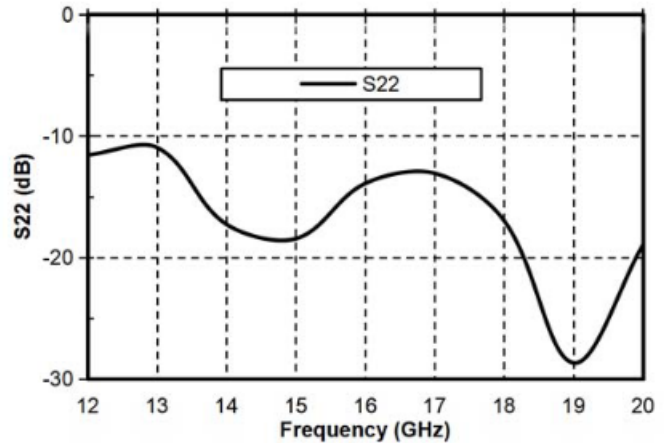
Reverse Isolation vs. Frequency



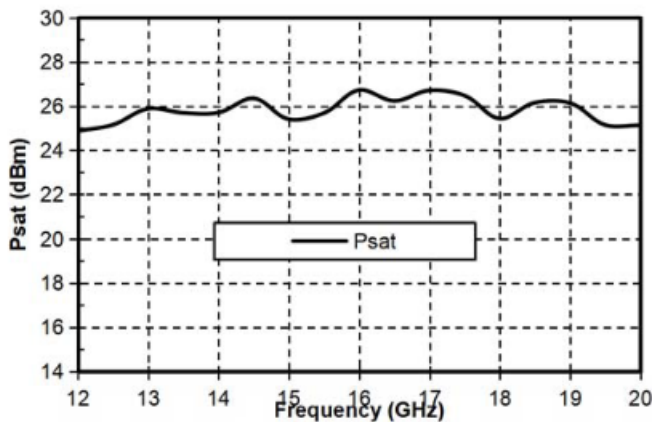
Input Return Loss vs. Frequency



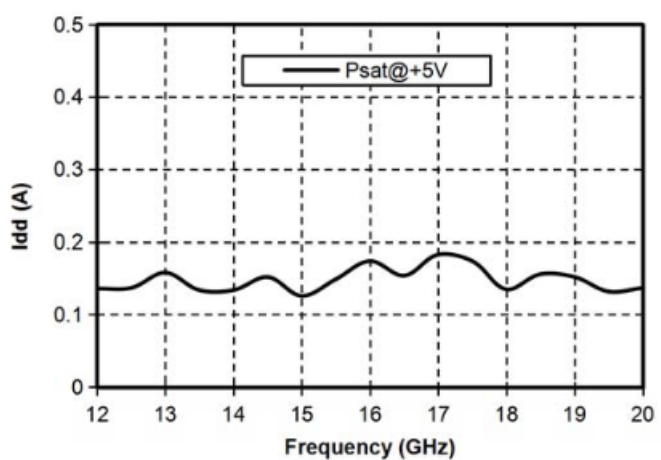
Output Return Loss vs. Frequency



Psat vs. Frequency

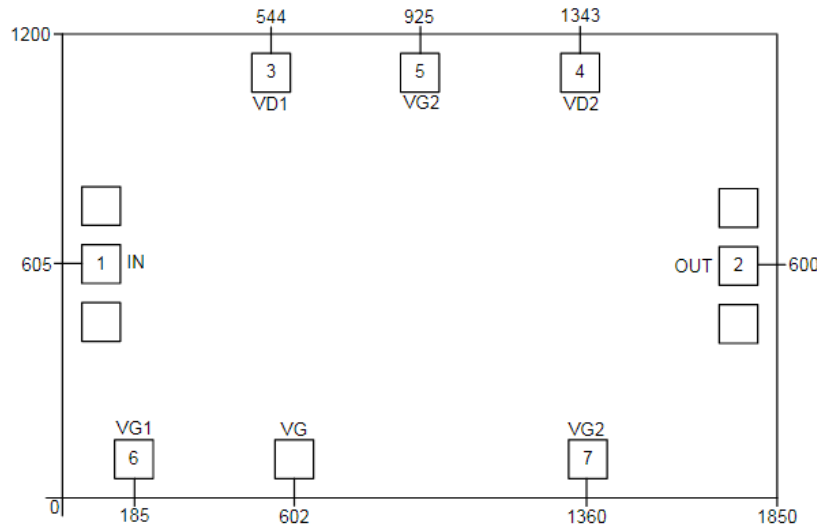


Idd vs. Frequency





Outline Drawing:
All Dimensions in μm

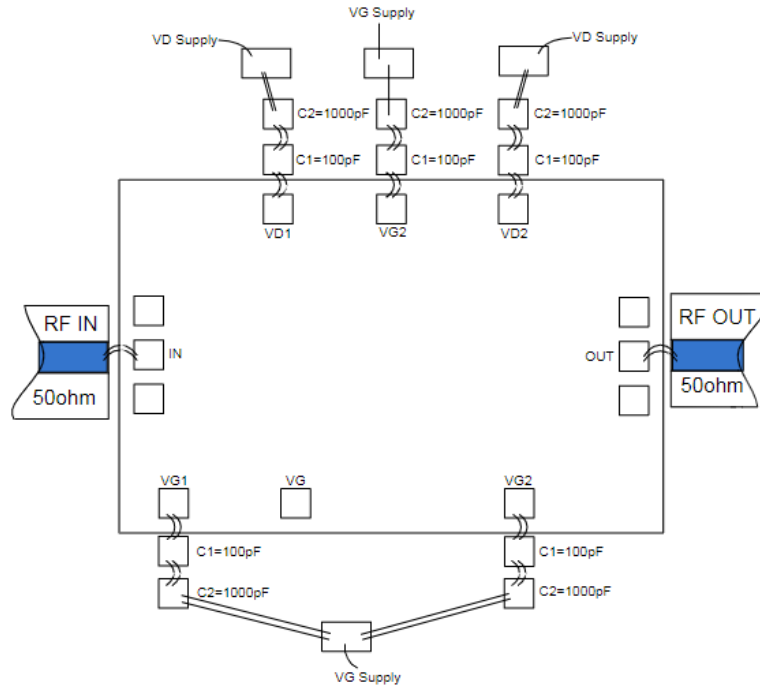


Pad Description

PAD	Function	Description
1	RF IN	RF signal input terminal, no blocking capacitor required
2	RF OUT	RF signal output terminal, no blocking capacitor required
3, 4	Vd1,Vd2	Amplifier drain bias, connected to external 100pF 1000pF bypass capacitor.
5,6,7	Vg1-Vg2	Amplifier gate bias, connected to external 100pF 1000pF bypass capacitor.
Die Bottom	GND	Die bottom must be connected to RF/DC ground



Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^2
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: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C