



Features

- Frequency: 12-19GHz
- Small Signal Gain: 28.5dB
- P-1dB: 30.5dBm
- Psat: 31.5dBm
- PAE: 36%
- OIP3: 36dBm @ Pin/Tone = -10dBm
- Power Supply: +7V@400mA
- Input/Output: 50Ω
- Die Size: 2.4 x 1.2 x 0.1 mm

Typical Applications

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

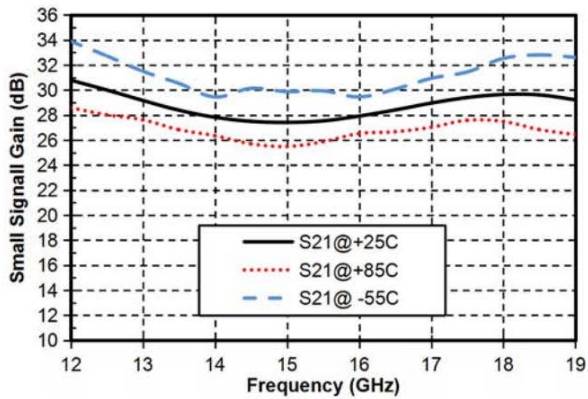
Electrical Specifications

TA = +25°C, Vd = +7V, Ids=400mA

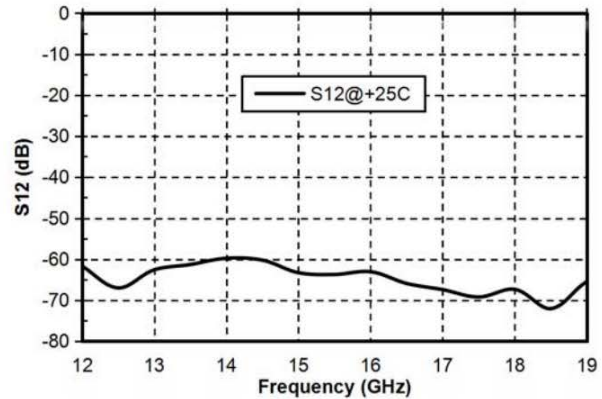
Parameters	Min.	Typ.	Max.	Units
Frequency	12-19			GHz
Small Signal Gain	27.5	28.5	30.5	dB
Gain Flatness	±1.5			dB
P-1dB	30	30.5	-	dBm
Psat	30.5	31.5	-	dBm
Input Return Loss	-	18	-	dB
Output Return Loss	-	15	-	dB

* Adjust VG (-2V-0V), Recommended gate voltage -0.9V.

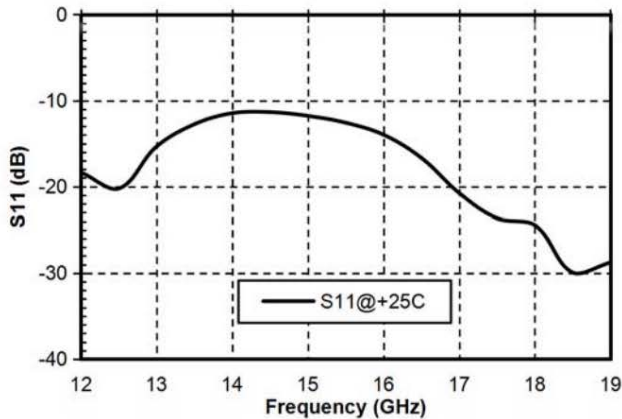
Gain vs. Frequency



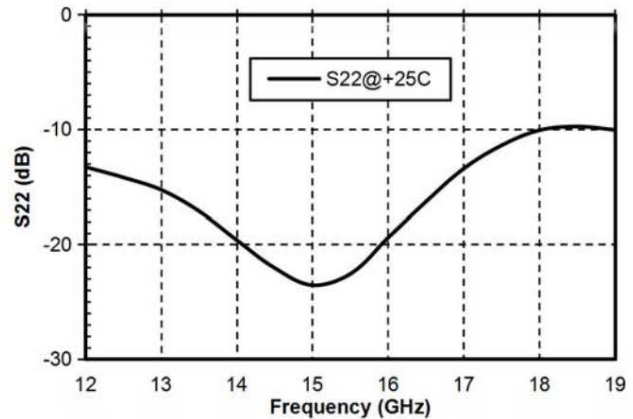
Isolation vs. Frequency



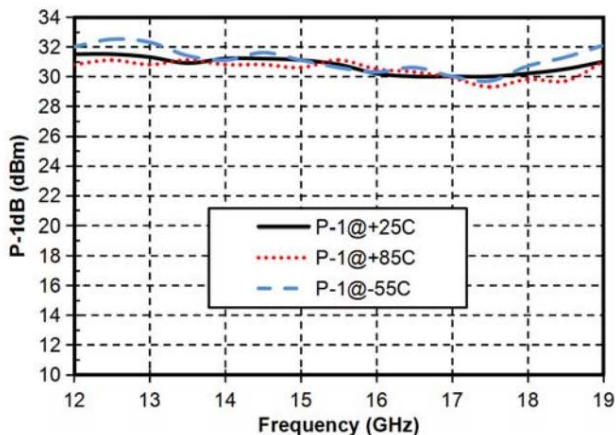
Input Return Loss vs. Frequency



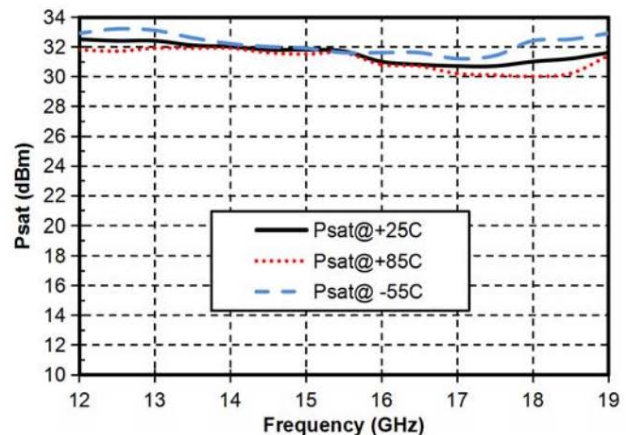
Output Return Loss vs. Frequency



P-1dB vs. Frequency

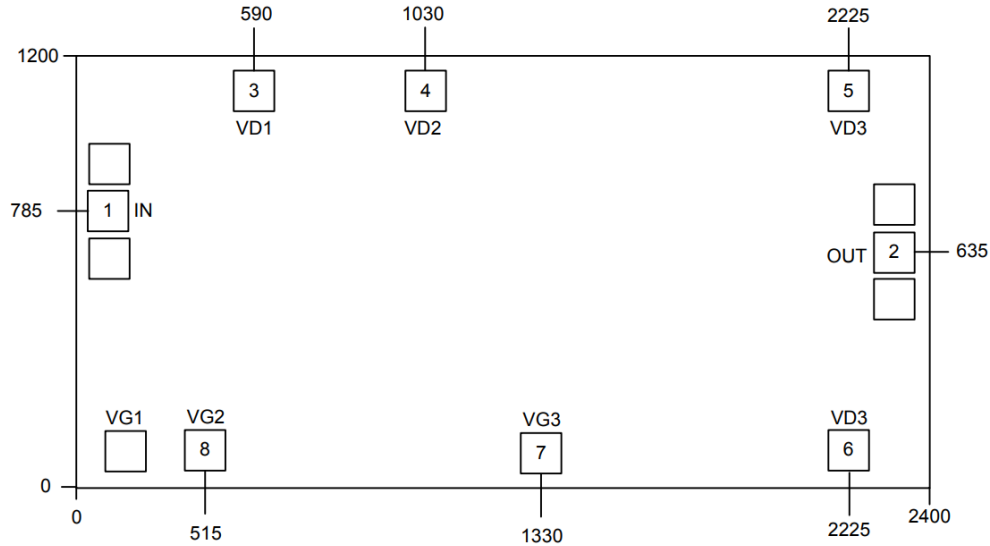


Psat vs. Frequency





Outline Drawing:
All Dimensions in μm

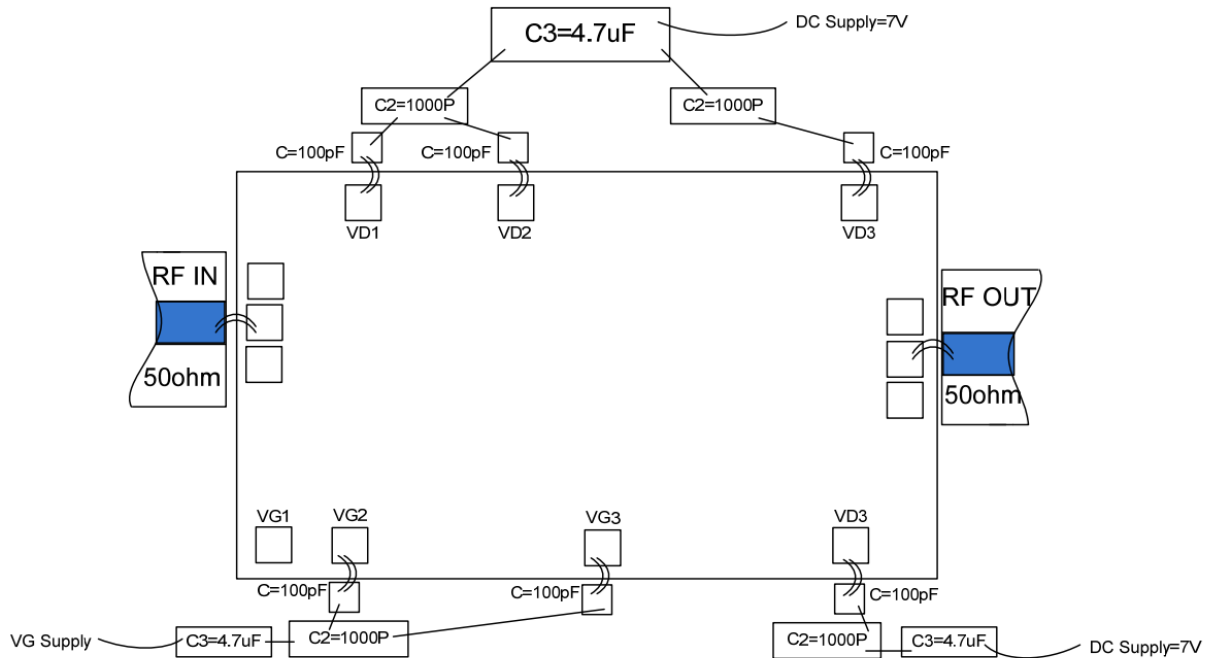


Pad Description

Pad	Function	Description
1	RF IN	Signal input terminal, connected to 50Ω circuit; no blocking capacitor required.
2	RF OUT	Signal output terminal, connected to 50Ω circuit; no blocking capacitor required.
3, 4, 5, 6	VD1-3	Amplifier drain bias; external 100pF, 1000pF, 4.7uF bypass capacitor required.
7, 8	VG	Amplifier gate bias; external 100pF, 1000pF, 4.7uF bypass capacitor required.
Die bottom	GND	Die bottom must be connected to RF/DC ground.



Assembly Drawing



Note:

- C1 100pF
- C2 1000pF
- C3 4.7uF

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: +8V
2. Maximum gate bias: -3V
3. Maximum input power: +10dBm
4. Operating temperature: -55°C to +85°C
5. Storage temperature: -65°C to +150°C