



Features

- Frequency: 13.5-14.5GHz
- Operating Wide Voltage: +5V~+7V
- Small Signal Gain: 22dB@+5V, 21dB@+6V, 20dB@+7V
- Gain Flatness: ± 0.5 dB
- P-1dB: 30dBm@+5V, 31dBm@+6V, 32dBm@+7V
- Psat: 31dBm@+5V, 32dBm@+6V, 33dBm@+7V
- PAE: $\geq 45\%$ @Psat
- Power Supply: +5V/430mA, +6V/450mA, +7V/480mA
- Input/Output: 50 Ω
- Die Size: 1.85 x 1.15 x 0.1 mm

Typical Applications

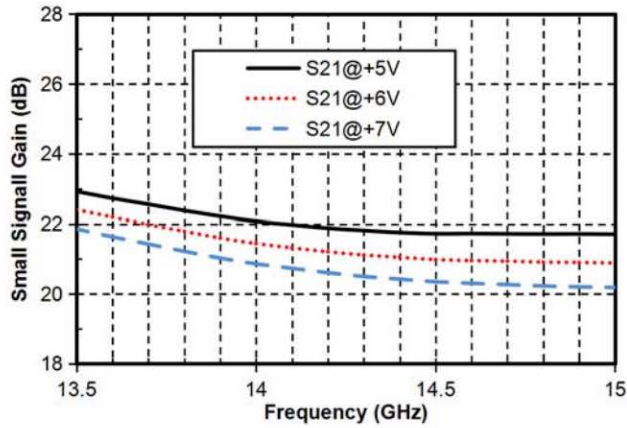
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

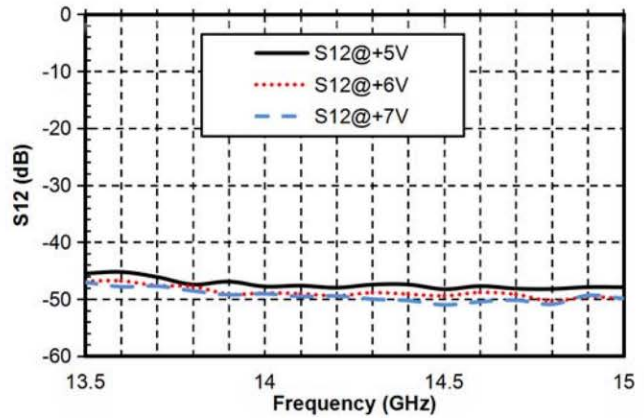
TA = +25°C, Vd = +5V, +6V, +7V

Parameters	Min.	Typ.	Max.	Units
Frequency	13.5-14.5			GHz
Small Signal Gain	20~22@+5V~+7V			dB
Gain Flatness		± 0.5		dB
P-1dB	30~32@+5V~+7V			dBm
Psat	31~33@+5V~+7V			dBm
Input Return Loss	10.5	12~13		dB
Output Return Loss		15~18		dB
Quiescent Current	+5V~+7V @ 430~480			mA
* Adjust VG (-2V-0V), Recommended Vg -0.9V.				

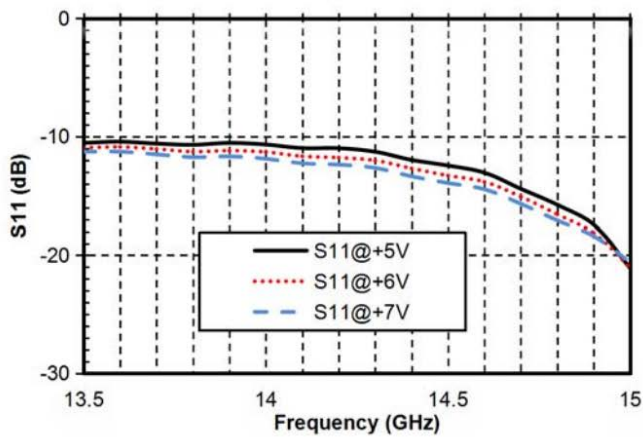
Gain vs. Frequency



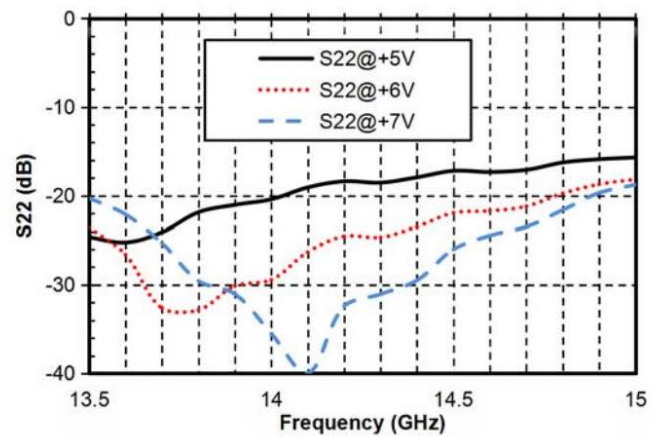
Isolation vs. Frequency



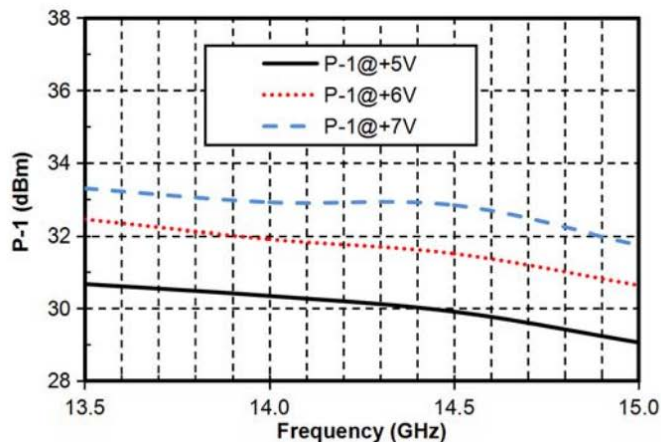
Input Return Loss vs. Frequency



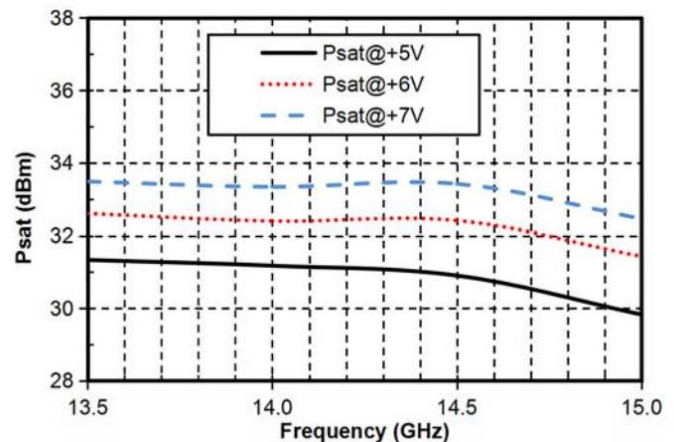
Output Return Loss vs. Frequency



P-1dB vs. Frequency

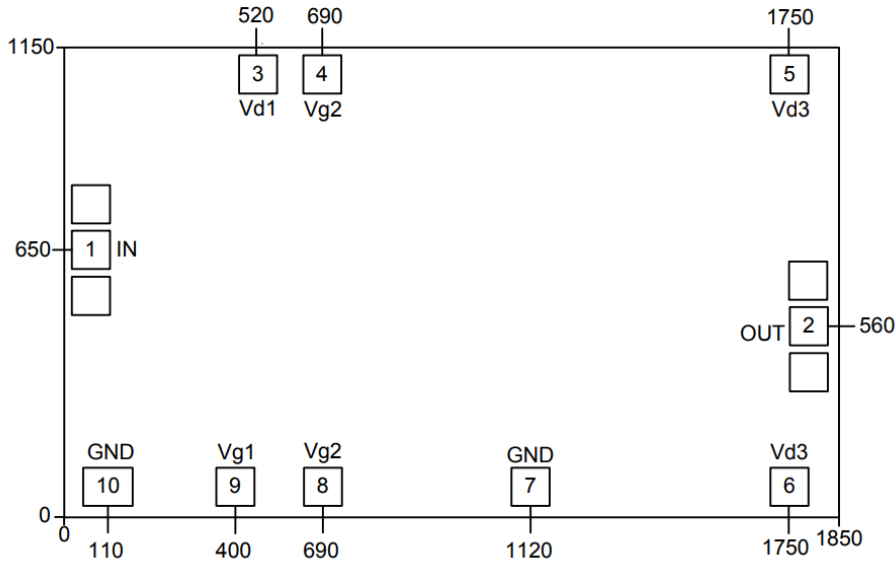


Psat vs. Frequency





Outline Drawing:
All Dimensions in μm

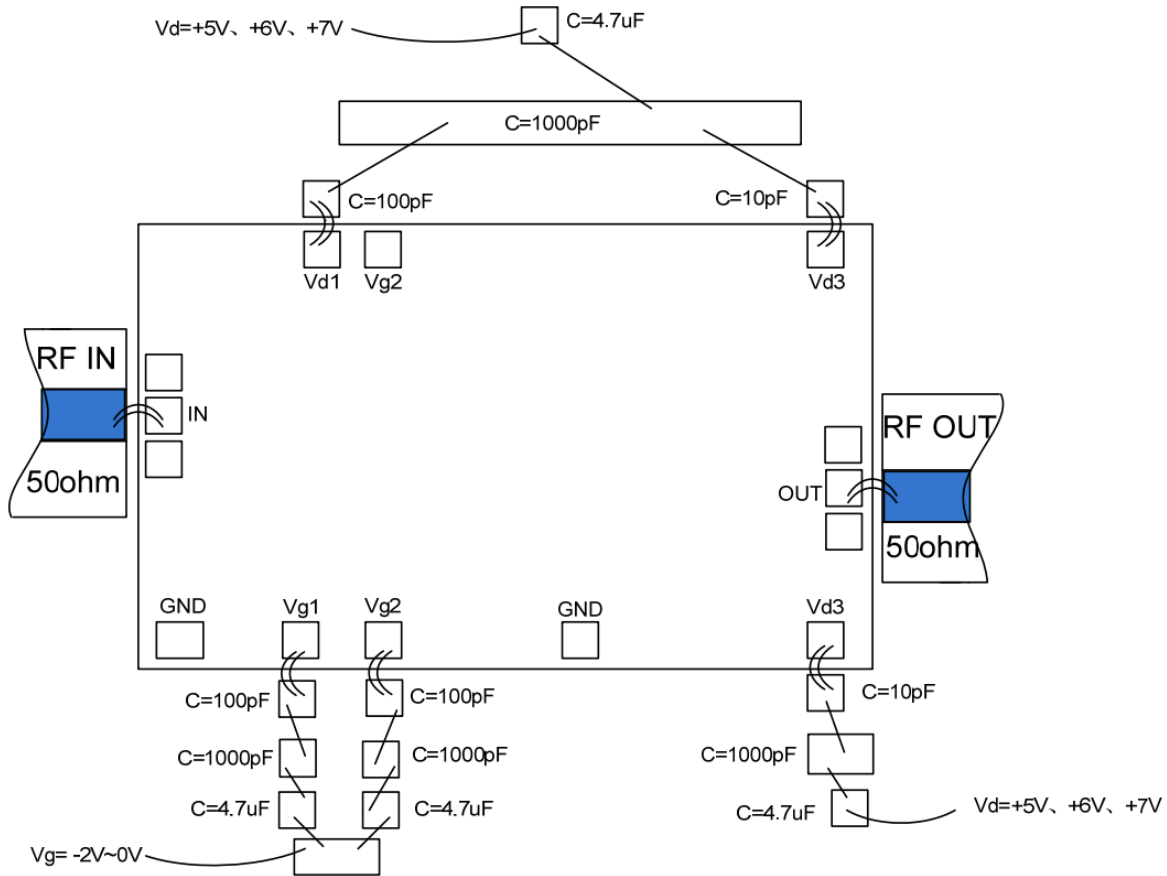


Pad Description

Pad	Function	Description
1	RF IN	Signal input terminal; no blocking capacitor required.
2	RF OUT	Signal output terminal; no blocking capacitor required.
3	Vd1	Amplifier drain bias; external 100pF, 1000pF, 4.7uF bypass capacitor required.
4, 8	Vg2	Pin suspension
5	Vd3	Amplifier drain bias; external 10pF, 1000pF, 4.7uF bypass capacitor required.
6	Vd3	Amplifier drain bias; external 10pF, 1000pF, 4.7uF bypass capacitor required.
7, 10	GND	Pin suspension
9	Vg1	Amplifier gate bias; external 10pF, 1000pF, 4.7uF bypass capacitor required.
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: +8V
2. Maximum input power: +20dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C